

Optoelectronics

Optocouplers



E 1

MOSFET and SSR Relays



E 3

IR Emitters/Receivers



E 6

Optical Sensors



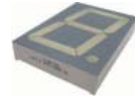
E 7

LED's



E 8

LED Displays



E 22

LCD Modules



E 25

Incandescent Lamps



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Camera Modules



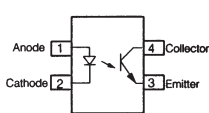
E 40

Optocouplers with Transistor Output

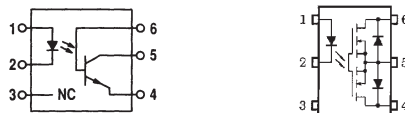
| Part No. | Ord. No. | Ch. | CTR[%] | I_F [mA] | I_{CEO} [V] | U_{ISOL} [V] | Package | Img. Note |
|--------------------|----------|-----|---------|------------|---------------|----------------|---------|--------------|
| S 4 N 25 | 20268 | 1 | min.20 | 80 | 30 | 2500 | DIP6 | 2 |
| S 4 N 35 | 13444 | 1 | 100 | 60 | 30 | 2500 | DIP6 | 2 |
| S CNY 17/II | 13434 | 1 | 63-125 | 90 | 70 | 5300 | DIP6 | 2 |
| S CNY 17/III | 19315 | 1 | 100-200 | 90 | 70 | 5300 | DIP6 | 2 |
| S CNY 17/IV | 19316 | 1 | 160-320 | 90 | 70 | 5300 | DIP6 | 2 |
| S CNY 74-4H | 2446 | 4 | 50-600 | 50 | 70 | 2500 | DIP16 | 7 |
| S LTV 814 | 24088 | 1 | 20-300 | 50 | 35 | 5000 | DIP4 | 9 AC input |
| S LTV 816 | 3568 | 1 | 50-600 | 50 | 70 | 5000 | DIP4 | 1 |
| S PC 817 XJ0000F | 9926 | 1 | 50-600 | 50 | 35 | 5000 | DIP4 | 1 |
| S LTV 826 | 4756 | 2 | 50-600 | 50 | 80 | 5000 | DIP8 | 5 |
| S LTV 827 | 23769 | 2 | 50-600 | 50 | 35 | 5000 | DIP8 | 5 |
| S LTV 844 | 24089 | 4 | 20-300 | 50 | 35 | 5000 | DIP16 | 8 AC input |
| S LTV 846 | 24092 | 4 | 50-600 | 50 | 80 | 5000 | DIP16 | 6 |
| S LTV 847 | 23771 | 4 | 50-600 | 50 | 35 | 5000 | DIP16 | 6 |
| S PC 3 H 5 J00000F | 69406 | 1 | min.600 | 50 | 80 | 2500 | MFP4 | 1 |
| S PC 357 N3T | 41084 | 1 | 200-400 | 50 | 35 | 3750 | MFP4 | 1 |
| S PC 357 NTJ000F | 22856 | 1 | 50-600 | 50 | 35 | 2500 | MFP4 | 1 |
| O SFH 615A-3 | 49709 | 1 | 100-200 | 60 | 70 | 5300 | DIP4 | 1 |
| S TLP 112 SMD | 33017 | 1 | min.10 | 25 | 15 | 2500 | MFP5 | 4 |
| S TLP 121 SMD | 3329 | 1 | 100-600 | 50 | 80 | 3750 | MFP4 | 1 |
| O TLP 598 GA | 49252 | 1 | - | 50 | 400 | 2500 | DIP6 | 3 FET output |
| S TLP 621 | 33011 | 1 | 50-600 | 60 | 55 | 5000 | DIP4 | 1 |

CTR - Transfer Ratio
 I_F - Average Forward Current

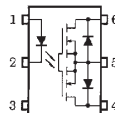
U_{CEO} - Collector-Emitter Voltage
 U_{ISOL} - Isolation Voltage input/output



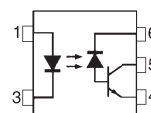
Img.1



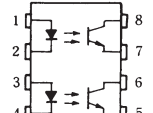
Img.2



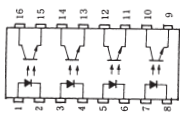
Img.3



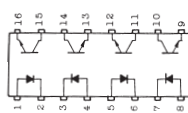
Img.4



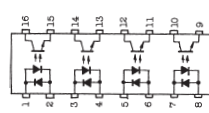
Img.5



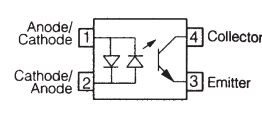
Img.6



Img.7



Img.8



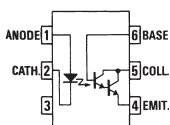
Img.9

Optocouplers with Darlington Output

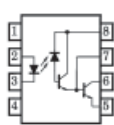
| Part No. | Ord. No. | Ch. | CTR[%] | I_F [mA] | U_{CEO} [V] | $t_{on/off}$ [usV] | U_{ISOL} [V] | Package | Img. |
|-----------------|----------|-----|----------|------------|---------------|--------------------|----------------|---------|------|
| S 4 N 33 | 19317 | 1 | 500 | 80 | 30 | 5/100 | 2500 | DIP6 | 10 |
| S 6 N 139 | 20273 | 1 | min.400 | - | 18 | 60/25 | 2500 | DIP8 | 10a |
| S LTV 352 T | 49255 | 1 | min.1000 | 1 | 300 | - | 3750 | MFP4 | 13 |
| S LTV 815 | 24090 | 1 | 1600 | 50 | 35 | 60 | 5000 | DIP4 | 12 |
| S LTV 845 | 24091 | 4 | 1600 | 50 | 35 | 60 | 5000 | DIP16 | 11 |
| S PC 355NTJ000F | 22854 | 1 | 600-7500 | 50 | 35 | 60 | 3750 | MFP4 | 12 |

CTR - Transfer Ratio
 I_F - Average Forward Current

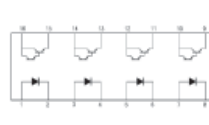
U_{CEO} - Collector-Emitter Voltage
 U_{ISOL} - Isolation Voltage input/output



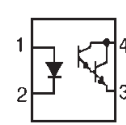
Img.10



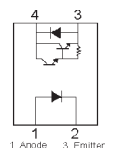
Img.10a



Img.11



Img.12

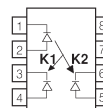


Img.13

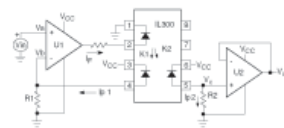


Linear Optocouplers

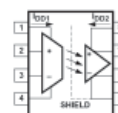
A unique optocoupler using two separate isolated photodiodes with matched characteristics, one of which is used as a feedback element. The combination of the linear photodiodes and the feedback concept enables construction of simple but accurate linear isolating circuits. Applications include switch mode power supply feedback and isolation of process control transducers. IL 300 has transfer gain (K3) of between 0,56 (min.) and 1,56 (max.).



Img.14



Img.15 Application circuit



Img.16

| Part No. | Ord. No. | Freq. resp. | Non-linearity | I_f [mA] | t_r [μ s] | U_{ISOL} [V] | Pack. | Img. |
|------------------|----------|-------------|---------------|------------|------------------|----------------|-------|-------|
| S HCPL 7840-000E | 6988 | 100kHz | < 0,004% | - | 2-10 | 3750 | DIP8 | 14 |
| S IL 300 | 36038 | 200kHz | < 0,01% | 60 | 1,75 | 5300 | DIP8 | 15,16 |

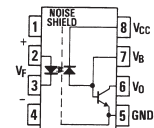
Digital Optocouplers

| Part No. | Ord. No. | Ch. | BR[Mbps] | I_f [mA] | U_{CC} [V] | U_{ISOL} [V] | Note | Pack. | Img. |
|-------------------|----------|-----|----------|------------|--------------|----------------|------------------|-------|------|
| S 6 N 136 | 20269 | 1 | 1 | 25 | 15,1 | 2500 | noise shield | DIP8 | 17 |
| S 6 N 137 | 33968 | 1 | 10 | 20 | 5,5 | 2500 | ultra high speed | DIP8 | 18 |
| S H 11 L 1 - M | 35812 | 1 | 1 | 60 | 15 | 5300 | Schmitt výstup | DIP6 | 19 |
| O HCPL 0453-000E | 4368 | 1 | 1 | - | - | 1500 | LSTTL/TTL | SO8 | 17 |
| S HCPL 0600 | 40830 | 1 | 10 | 50 | 7 | 2500 | LSTTL/TTL | SO8 | 18 |
| S HCPL 0601 | 40831 | 1 | 10 | 50 | 7 | 2500 | LSTTL/TTL | SO8 | 18 |
| S HCPL 0630 | 41220 | 2 | 10 | 15 | 7 | 2500 | LSTTL/TTL | SO8 | 21 |
| S HCPL 2531 | 27282 | 2 | 1 | 25 | 30 | 2500 | LSTTL/TTL | DIP8 | 20 |
| S HCPL 2630 | 27283 | 2 | 10 | 15 | 5,5 | 2500 | noise shield | DIP8 | 21 |
| S HCPL 2631 | 36796 | 2 | 10 | 15 | 5,5 | 2500 | noise shield | DIP8 | 21 |
| O HCPL 2731 | 31984 | 2 | 10 | 0,5 | 5,5 | 2500 | LSTTL/TTL | DIP8 | 21 |
| O HCPL 7710 | 6416 | 1 | 12 | 10 | 5,5 | 3750 | CMOS, 40ns | DIP8 | 23 |
| S PC 400 TJ 0000F | 2948 | 1 | 1 | 50 | 16 | 3750 | OPIC | SO6 | 22 |
| S PC 900 V0NSZXF | 22334 | 1 | 1 | 50 | 16 | 5000 | TTL/LSTTL | DIP6 | 22 |

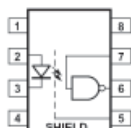
BR - Baud Rate

I_f - Average Forward Current

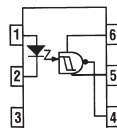
U_{ISOL} - Isolation Voltage input/output



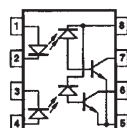
Img.17



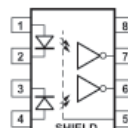
Img.18



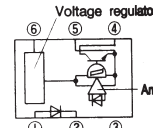
Img.19



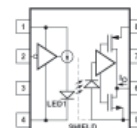
Img.20



Img.21



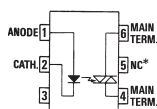
Img.22



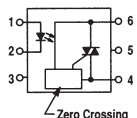
Img.23

Optotriacs

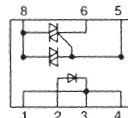
| Part No. | Ord. No. | U_{OUT} [V] | I_{OUT} [mA] | I_{FT} [mA] | Rate [V/ μ s] | Zero switch. | U_{ISOL} [V] | Pack. | Img. |
|--------------------|----------|---------------|----------------|---------------|-------------------|--------------|----------------|-------|------|
| S MOC 3020 | 27286 | 400 | 1000 | 30 | 100 | - | 5300 | DIP6 | 24 |
| S MOC 3021-M | 27287 | 400 | 1000 | 15 | 100 | - | 5300 | DIP6 | 24 |
| O MOC 3031 | 49225 | 250 | 1000 | 10 | 2000 | + | 7500 | DIP6 | 25 |
| S MOC 3041 | 29851 | 400 | 1000 | 15 | 2000 | + | 7500 | DIP6 | 25 |
| O MOC 3051 | 49226 | 600 | 1000 | 15 | 2000 | - | 7500 | DIP6 | 24 |
| O MOC 3061 | 45882 | 600 | 1000 | 15 | 1500 | + | 7500 | DIP6 | 25 |
| S MOC 3063 | 5504 | 600 | 1000 | 5 | 1500 | + | 5000 | DIP6 | 25 |
| O MOC 3081 | 49227 | 800 | 1000 | 15 | 1500 | + | 7500 | DIP6 | 25 |
| O MOC 3082 M | 2057 | 800 | 1000 | 10 | 1500 | + | 7500 | DIP6 | 25 |
| O MOC 3083 | 2804 | 800 | 1000 | 5 | 1500 | + | 7500 | DIP6 | 25 |
| S PR 36 MF 12 NSZF | 51207 | 600 | 600 | 10 | 100 | - | 4000 | DIP8 | 26 |
| S PR 36 MF 22 NSZ | 50901 | 600 | 600 | 10 | 100 | + | 4000 | DIP8 | 27 |



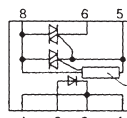
Img.24



Img.25



Img.26



Img.27

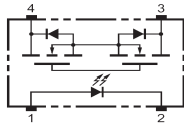
Alternative optotriacs: MOC 30xx = TLP 30xx = K 30xx

MOSFET Relays

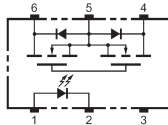
G3VM Series



G3VM-61A1



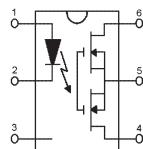
G3VM-61B1



| Part No. | IF [mA] | I _{OUT} [mA] | U _{OUT} [V] | U _{ISOL} [V] | Package |
|-----------|---------|-----------------------|----------------------|-----------------------|---------|
| G3VM-61A1 | 50 | 500 | 60 | 2500 | DIP4 |
| G3VM-61B1 | 50 | 1000 | 60 | 2500 | DIP6 |

| Part No. | Ord. No. |
|-------------|----------|
| o G3VM-61A1 | 57131 |
| o G3VM-61B1 | 57132 |

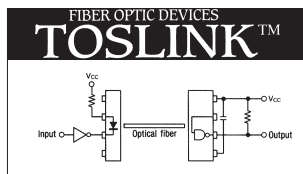
PVG and PVT Series



| Part No. | IF [mA] | I _{OUT} [mA] | U _{OUT} [V] | U _{ISOL} [V] | Package |
|-------------|---------|-----------------------|----------------------|-----------------------|---------|
| PVG 612 PBF | 5 | 2000 | 60 | 4000 | DIP6 |
| PVT 312 | 2 | 320 | 250 | 4000 | DIP6 |
| PVT 412 LS | 3 | 210 | 400 | 4000 | SO6 |
| PVT 412 PBF | 3 | 210 | 400 | 4000 | DIP6 |

| Part No. | Ord. No. |
|---------------|----------|
| o PVG 612 PBF | 44052 |
| o PVT 312 | 49230 |
| o PVT 412 LS | 44960 |
| o PVT 412 PBF | 49231 |

Optocable Components



TOSLINK or Toshiba - LINK is a connection standard for digital audio streams. It is a standard which uses fiber optic cables.

The important feature of fiber optic cables is that they convert audio signals into light impulses as opposed to electric signals. TOSLINK cables usually transmit their signals as the red LED lights. The TOSLINK standard

was first developed by Toshiba to provide connections in its CS players. It soon caught on and became the most popular connection format for audio signals. It is mainly used to connect CD player, DVD players, satellite dish receivers and other equipment which require reliable means of transporting audio signals. An important difference between TOSLINK and other audio cable formats is that since TOSLINK uses fiber optic cables, it is not susceptible to electromagnetic disturbance and line noise.

TORX 173

TOTX 173



| Part No. | Description |
|----------|----------------------------------|
| TORX 173 | Receiver PCB mount 6Mbps 660nm |
| TOTX 173 | Trasmitter PCB mount 6Mbps 660nm |

| Part No. | Ord. No. |
|------------|----------|
| s TORX 173 | 33997 |
| s TOTX 173 | 33986 |

SSR - Solid State Relays

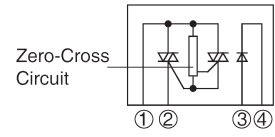
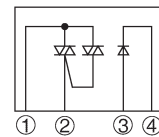
A solid state relay (SSR) is an electronic switch, which, unlike an electromechanical relay, contains no moving parts. The types of SSR are photo-coupled SSR, transformer-coupled SSR, and hybrid SSR. A photo-coupled SSR is controlled by a low voltage signal which is isolated optically from the load. The control signal in a photo-coupled SSR typically energizes a LED which activates a photo-sensitive diode. The diode turns on a back-to-back SCR, or MOSFET transistor to switch the load.

SSRs are faster than electromechanical relays; their switching time is dependent on the time needed to power the LED on and off, on the order of microseconds to milliseconds, Increased lifetime due to the fact that there are no moving parts, and thus no wear. Can be used in explosive environments where a spark must not be generated during turn-on. SSR has totally silent operation and it is smaller than a corresponding mechanical relay.

S202 Series



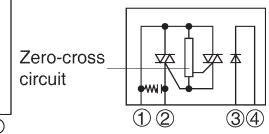
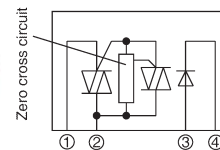
"S" package S202 S01 S202 S02, S216 S02, S216 SE2



"T" package

S202 T02

S202 S12



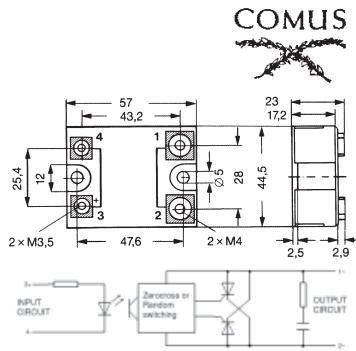
| Part No. | U _{OUT} [V] | I _{MAX} [mA] | I _{OUT} [A] | I _{FT} [mA] | tr/ts | Polarity | U _{ISOL} [V] |
|--------------|----------------------|-----------------------|----------------------|----------------------|-------|----------|-----------------------|
| S 202 S 01 F | 600 | 50 | 8 | 8 | 1/10 | - | 4000 |
| S 202 S 02 F | 600 | 50 | 8 | 8 | 1/10 | + | 4000 |
| S 202 S 12 F | 600 | 50 | 8 | 8 | 1/10 | + | 4000 |
| S 202 T 02 F | 600 | 50 | 2 | 8 | 1/10 | + | 3000 |
| S 216 S 02 F | 600 | 50 | 16 | 8 | 1/10 | + | 4000 |
| S 216 SE 2 F | 600 | 50 | 16 | 8 | 1/10 | + | 4000 |

U_{OUT} - Output voltage
U_{ISOL} - Isolation voltage
I_{OUT} - Output current
I_{MAX} - Max. input current

I_{FT} - Min. Trigger current
tr/ts - Turn ON/OFF time

| Part No. | Ord. No. |
|----------------|----------|
| s S 202 S 01 F | 5387 |
| s S 202 S 02 F | 10120 |
| o S 202 S 12 F | 6983 |
| s S 202 T 02 F | 7072 |
| s S 216 S 02 F | 44673 |
| o S 216 SE 2 F | 7468 |

WG480 Series

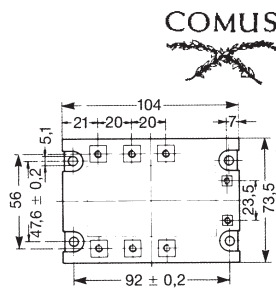


COMUS

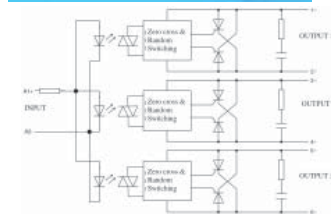
| Part No. | Ch. | U_s [V] | U_R [V] | I_{MAX} [A] | Polarity | Switching |
|---------------|-----|-----------|-----------|---------------|----------|-----------|
| WG 480 D 25 Z | 1 | 48-530 | 3-32 | 25 | + | thyristor |
| WG 480 D 50 Z | 1 | 48-530 | 3-32 | 50 | + | thyristor |
| WG 480 D 90 Z | 1 | 48-530 | 3-32 | 90 | + | thyristor |

| Part No. | Ord. No. |
|-----------------|----------|
| S WG 480 D 25 Z | 2773 |
| S WG 480 D 50 Z | 7948 |
| O WG 480 D 90 Z | 49238 |

WG A3 Series



COMUS

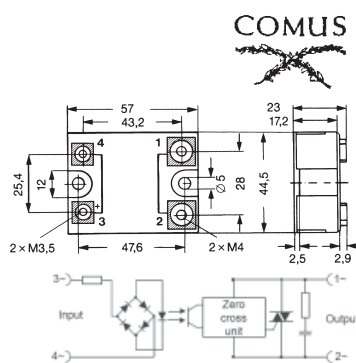


| Part No. | Ch. | U_s [V] | U_R [V] | I_{MAX} [A] | Polarity | Switching |
|---------------|-----|-----------|-----------|---------------|----------|-----------|
| WG A3 12D 45Z | 3 | 48-530 | 3-32 | 10 | - | thyristor |

U_s - Switching voltage, U_R - Triggered voltage, I_{MAX} - Max. switching current

| Part No. | Ord. No. |
|-----------------|----------|
| S WG A3 12D 45Z | 2792 |

WG A5 Series



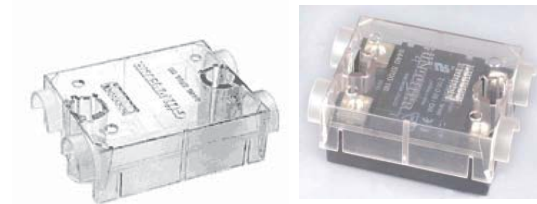
COMUS

U_s - Switching voltage, U_R - Triggered voltage, I_{MAX} - Max. switching current

| Part No. | Ch. | U_s [V] | U_R [V] | I_{MAX} [A] | Polarity | Switching |
|---------------|-----|-----------|-----------|---------------|----------|-----------|
| WG A5 6D 10 Z | 1 | 24-280 | 3-32 | 10 | + | triac |
| WG A5 6D 25 Z | 1 | 24-280 | 3-32 | 25 | + | triac |
| WG A5 6D 40 Z | 1 | 24-280 | 3-32 | 40 | + | triac |
| WG A5 6A 40 Z | 1 | 24-280 | 90-280 | 40 | + | triac |

| Part No. | Ord. No. |
|-----------------|----------|
| O WG A5 6D 10 Z | 2787 |
| S WG A5 6D 25 Z | 2788 |
| S WG A5 6D 40 Z | 2789 |
| O WG A5 6A 40 Z | 1210 |

WG-KAPPE Series



COMUS

Plastic cover for relays

Version 3F is suitable for 3-phase relays

| Part No. | Ord. No. |
|-----------------|----------|
| S WG - KAPPE | 2819 |
| S WG - KAPPE 3F | 62307 |

ZG3-NC Series

ECONOMIC

NEW!



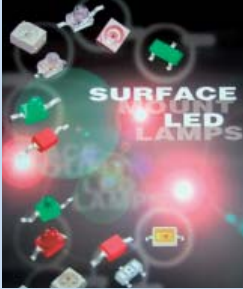
Max. switching current: 40A
 Max. switching voltage: 1200V_{AC}
 Triggered voltage: 3-32V
 Triggered current: DC3~25mA
 Voltage ON: ≤ 1.5V
 Leakage current OFF: ≤ 2mA
 Time ON-OFF: ≤ 10ms
 Dielectric strength: 2500VAC
 Insulating resistance: 1000mΩ / 500VDC
 Working temperature: -30~75°C
 Dimensions: 58x44x32mm
 Weight: 135g

| Part No. | Ord. No. |
|--------------|----------|
| S ZG3NC-240B | 59959 |

Kingbright

Kingbright is a professional supplier of light emitting diodes (LEDs) and related products. We have been a steadily growing force in solid-state lighting ever since the company was founded in Taiwan in 1980. For more than 25 years, Kingbright has delivered product and technological innovations to benefit customers around the world.

SMD LEDs



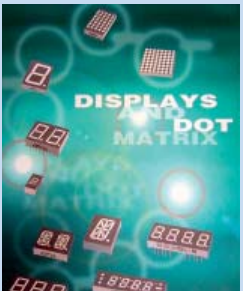
- different packages (0402, 0603, 0805, 1206, SOT23, PLCC2,4, Xpower(10x10mm), TopLED and other with height 0,65mm to 1,9mm)
- different emitting colours (red, orange, yellow, green, blue)
- special types (with lens, side emitting, dual and multicolour LED, IR emitters and phototransistors, ultra slim types)

LED Lamps



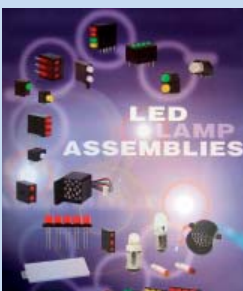
- standard PCB mounting LEDs
- IR emitters and phototransistors
- low consumption LED
- high power LED, HiFlux LED
- Series with high precision luminous intensity

LED Displays



- single digit displays
- alphanumeric displays 14 and 16 segments
- DOTmatrix displays 5x7, 5x8 and 8x8 points (also dual colours)
- versions with common anode or cathode
- light bars
- bar graph arrays

Industry packages and components

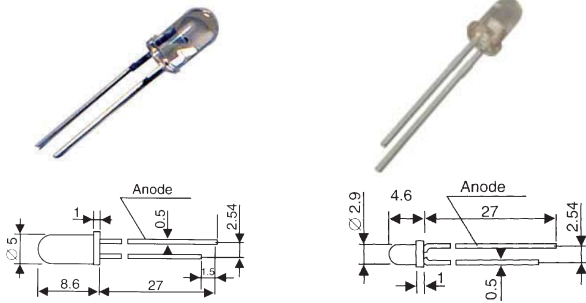


- LED indicators
- LED bulbs
- light guides
- accessories – holders, sockets

IR Emitters/Receivers

IR Emitting Diodes

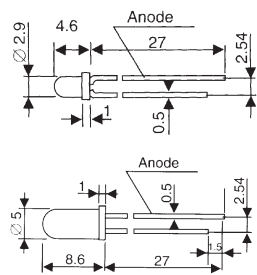
Kingbright



| Part No. | Description |
|------------|----------------------------------|
| L-934 F3BT | 940nm, LED 3mm, blue, clear, 30° |
| L-934 F3C | 940nm, LED 3mm, clear, 30° |
| L-53 F3BT | 940nm, LED 5mm, blue, clear, 30° |
| L-53 F3C | 940nm, LED 5mm, clear, 30° |

| Part No. | Ord. No. |
|--------------|----------|
| S L-934 F3BT | 12397 |
| S L-934 F3C | 12377 |
| S L-53 F3BT | 12338 |
| S L-53 F3C | 12378 |

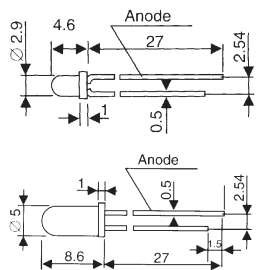
IR Photodiodes



| Part No. | Description |
|------------|---|
| SFH 203 | PIN 850nm, 40° viewing angle, 5/5ns, LED 5mm |
| SFH 203 FA | PIN 900nm, with IR filters, 5/5ns, LED 5mm |
| SFH 203 P | PIN 850nm, 150° viewing angle, 5/5ns, LED 5mm |
| SFH 229 FA | PIN 900nm, with IR filters, 34°, 10/10ns, LED 3mm |

| Part No. | Ord. No. |
|--------------|----------|
| S SFH 203 | 40081 |
| S SFH 203 FA | 40082 |
| O SFH 203 P | 48678 |
| S SFH 229 FA | 40084 |

IR Phototransistors

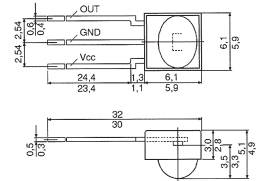


| Part No. | Description |
|--------------|---|
| BPW 96 C | 850nm, IR receiver, LED 5mm, clear, 20° |
| L-53 P3BT | 940nm, IR receiver, LED 5mm, blue, clear, 30° |
| L-53 P3C | 940nm, IR receiver, clear, LED 5mm, 30° |
| L-932 P3BT | 940nm, IR receiver, LED 3mm, blue, clear, 30° |
| L-932 P3C | 940nm, IR receiver, clear, LED 3mm, 30° |
| SFH 309 FA-5 | 900nm, with IR filters, 12° angle, LED 3mm |
| SFH 309-4 | 860nm, 12° angle, Uce=35V, Ic=15mA, LED 3mm |

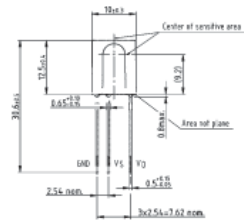
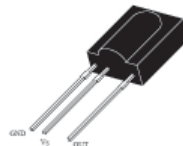
| Part No. | Ord. No. |
|----------------|----------|
| S BPW 96 C | 8948 |
| S L-53 P3BT | 12337 |
| S L-53 P3C | 12401 |
| S L-932 P3BT | 12347 |
| S L-932 P3C | 12326 |
| S SFH 309 FA-5 | 55724 |
| S SFH 309-4 | 36443 |

IR Receivers

SFH 5110



TSOP 1736

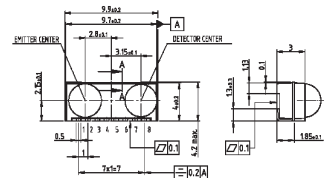


| Part No. | Description |
|-------------|---|
| SFH 5110-36 | (=SFH506-36), IR receiver+demodul., 950nm, 36kHz, TTL out |
| SFH 5110-38 | IR receiver + demodulator 38kHz |
| TSOP 1736 | IR receiver+demodul., 36 kHz, TTL output |

| Part No. | Ord. No. |
|---------------|----------|
| S SFH 5110-36 | 5788 |
| S SFH 5110-38 | 7290 |
| S TSOP 1736 | 6001 |

IRDA Components

TFDU 4100

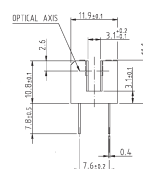
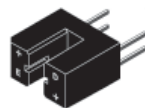


| Type | Description |
|-----------|---|
| TFDU 4100 | Hybrid IR Transceiver 115,2kBd SMD horizontal or vertical |

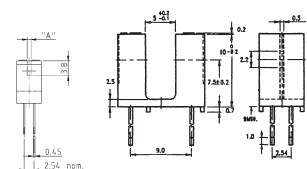
| Part No. | Ord. No. |
|-------------|----------|
| S TFDU 4100 | 5788 |

Transmissive Optical Sensors

TCST 1103



LTH 301

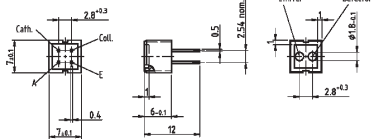


| Part No. | Description |
|--------------|-----------------------------------|
| KTIR 0221 DS | Optical sensor 3,1mm RM7,4/2,54mm |
| LTH 301-07 | Optical sensor, If=20mA, Uce0=30V |
| TCST 1103 | Optical sensor, If=60mA, Uce0=70V |

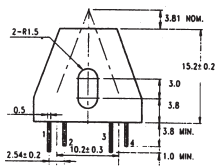
| Part No. | Ord. No. |
|----------------|----------|
| S KTIR 0221 DS | 55389 |
| S LTH 301-07 | 5840 |
| S TCST 1103 | 49910 |

Reflective Optical Sensors

CNY 70



LTH 209

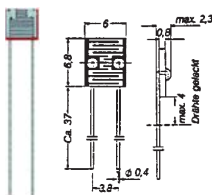


| Part No. | Description |
|------------|--|
| CNY 70 | Reflective optical sensor, If=50mA, Uce0=32V |
| LTH 209-01 | Reflective optical sensor, If=60mA, Uce0=30V |

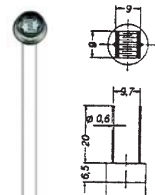
| Part No. | Ord. No. |
|--------------|----------|
| S CNY 70 | 13438 |
| S LTH 209-01 | 5841 |

Photoresistors

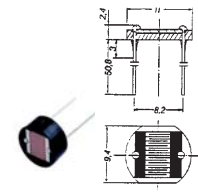
FW 150



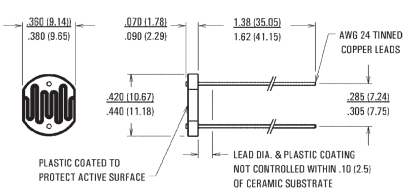
FW 200



FW 300



VT43N1



| Part No. | Description |
|-----------|--|
| FW 150 | Photoresistor 150Vmax, R10=28k, R01=1400k, R05=4200k |
| FW 200 | Photoresistor 200Vmax, R10=8.3k, R01=85k, R05=255k |
| FW 300 | Photoresistor 300Vmax, R10=8k, R01=100k, R05=300k |
| VT 43 N 1 | Photoresistor 150Vmax, R10=5-10kOhm, Rtma=300kOhm |

* R10 = resistance at 10 lux, R01= resistance 1 sec. after OFF light 10 lux, R05 = resistance after 5 sec. after OFF light 10 lux

| Part No. | Ord. No. |
|-------------|----------|
| S FW 150 | 28917 |
| S FW 200 | 28918 |
| S FW 300 | 28919 |
| S VT 43 N 1 | 50972 |

Pyroelectric Detectors



The LHI 878 pyroelectric infrared-detector series are the standard dual element design recommended for all variants of motion control. They include a dual element pyro-electric ceramic with FET in source follower connection. The LHI 878 detector is available in TO-5 housing with standard infrared filter.

| Part No. | Description |
|------------|--|
| LHI 878 RF | Pyroelectric Detector 4200V/W dual element TO5 |

| Part No. | Ord. No. |
|--------------|----------|
| S LHI 878 RF | 49304 |

online order

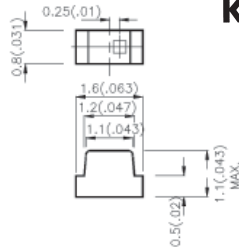
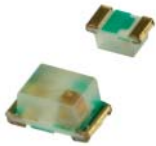


electroniconline

www.soselectronic.com

SMT LEDs

0603 Series

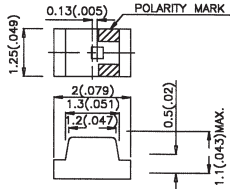
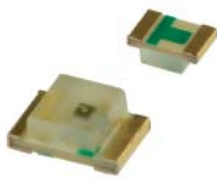


| Part No. | Colour | Viewing Angle | Luminous Intensity | U _F [V] |
|-------------|--------|---------------|--------------------|--------------------|
| KP-1608 ID | red | 120° | 12mcd/20mA | 2,0 |
| KP-1608 MBC | blue | 120° | 10mcd/20mA | 3,8 |
| KP-1608 SGD | green | 120° | 12mcd/20mA | 2,2 |
| KP-1608 YD | yellow | 120° | 8mcd/20mA | 2,1 |

| Part No. | Ord. No. |
|---------------|----------|
| S KP-1608 ID | 41171 |
| S KP-1608 MBC | 41163 |
| S KP-1608 SGD | 41172 |
| S KP-1608 YD | 41173 |

Package: 2000pcs

0805 Series



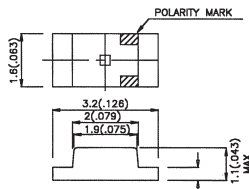
| Part No. | Colour | Viewing Angle | Luminous Intensity | U _F [V] |
|---------------|--------|---------------|--------------------|--------------------|
| KP-2012 EC | red | 120° | 12mcd/20mA | 2,0 |
| KP-2012 MBC | blue | 120° | 10mcd/20mA | 3,8 |
| KP-2012 PBC-A | blue | 120° | 45mcd/20mA | 3,65 |
| KP-2012 SGC | green | 120° | 15mcd/20mA | 2,2 |
| KP-2012 SYCK | yellow | 120° | 12mcd/20mA | 2,0 |
| KP-2012 SYC | yellow | 120° | 100mcd/20mA | 2,0 |

| Part No. | Ord. No. |
|-----------------|----------|
| S KP-2012 EC | 12660 |
| S KP-2012 SGC | 12659 |
| S KP-2012 SYCK | 59713 |
| S KP-2012 MBC | 41165 |
| O KP-2012 PBC-A | 12103 |
| S KP-2012 SYC | 47004 |

Package: 2000pcs

1206 Series

KP



| Part No. | Colour | Viewing Angle | Luminous Intensity | U _F [V] |
|---------------|--------|---------------|--------------------|--------------------|
| KP-3216 EC | red | 120° | 12mcd/20mA | 2,0 |
| KP-3216 MBCK | blue | 120° | 8mcd/20mA | 4,0 |
| KP-3216 PBC-A | blue | 120° | 10mcd/20mA | 3,8 |
| KP-3216 SGC | green | 120° | 15mcd/20mA | 2,2 |
| KP-3216 SYCK | yellow | 120° | 120mcd/20mA | 2,0 |
| KP-3216 YC | yellow | 120° | 8mcd/20mA | 2,1 |

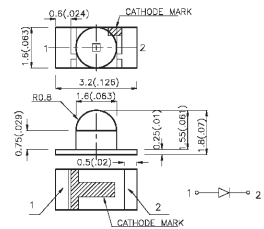
| Part No. | Ord. No. |
|-----------------|----------|
| S KP-3216 EC | 12661 |
| S KP-3216 SGC | 12671 |
| S KP-3216 YC | 12630 |
| S KP-3216 MBCK | 49820 |
| S KP-3216 PBC-A | 41166 |
| S KP-3216 SYCK | 56539 |

Package: 2000pcs

Kingbright

Kingbright

KPTD



| Part No. | Colour | Angle | Luminous Intensity | U _F [V] |
|-------------------|--------|-------|--------------------|--------------------|
| KPTD-3216 SRC-PRV | red | 50° | 300mcd/20mA | 1,85 |
| KPTD-3216 YC | yellow | 40° | 30mcd/20mA | 2,1 |

| Part No. | Ord. No. |
|---------------------|----------|
| S KPTD-3216 SRC-PRV | 45180 |
| S KPTD-3216 YC | 45181 |

Package: 2000pcs

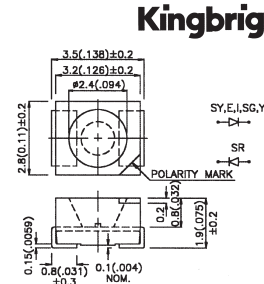
Surface Mount LEDs Kit



Ring binder surface mount LED Kit
1206 case sizes
Kit contains 4 types of SMD LEDs /270 pieces

| Part No. | Ord. No. |
|--------------------|----------|
| S SET SMD LED 1206 | 51654 |

PLCC2 Series



| Part No. | Colour | Angle | Luminous Intensity | U _F [V] |
|-----------------|--------|-------|--------------------|--------------------|
| KA-3528A LSRC | red | 120° | 8mcd/2mA | 1,65 |
| KA-3529 SES-L1 | red | 120° | 6000mcd/150mA | 2,9 |
| KA-3528A SRC | red | 120° | 150mcd/20mA | 1,85 |
| KA-3528A SURC-E | red | 120° | 280mcd/20mA | 1,9 |
| KA-3528A MBC | blue | 120° | 15mcd/20mA | 3,8 |
| KA-3528A PBC-G | blue | 120° | 200mcd/20mA | 3,2 |
| KA-3529 QB24ZS | blue | 120° | 1500mcd/150mA | 3,5 |
| KA-3528A LSGC | green | 120° | 2mcd/2mA | 1,9 |
| KA-3528A VGC-A | green | 120° | 220mcd/20mA | 3,2 |
| KA-3528A SGC | green | 120° | 25mcd/20mA | 2,2 |
| KA-3529 ZG24ZS | green | 120° | 7500mcd/150mA | 3,4 |
| KA-3529 SYS-L1 | yellow | 120° | 3000mcd/150mA | 2,8 |
| KA-3528A SYC | orange | 120° | 180mcd/20mA | 2,0 |

| | | |
|----------------|-------|-----------------|
| L-T670 LBCT-PO | blue | ECONOMIC |
| L-T670WDT-PO | white | ECONOMIC |

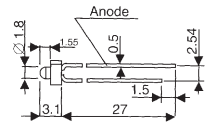
| Part No. | Ord. No. |
|-------------------|----------|
| S KA-3528A LSGC | 12116 |
| S KA-3528A LSRC | 12054 |
| S KA-3528A MBC | 12405 |
| S KA-3528A PBC-G | 59941 |
| S KA-3528A VGC-A | 64794 |
| S KA-3529 QB24ZS | 69388 |
| S KA-3529 SES-L1 | 70560 |
| S KA-3529 SYS-L1 | 70561 |
| S KA-3528A SGC | 12696 |
| S KA-3528A SRC | 12231 |
| S KA-3528A SURC-E | 48756 |
| S KA-3528A SYC | 58045 |
| S KA-3529 ZG24ZS | 69389 |
| S L-T670 LBCT-PO | 64504 |
| S L-T670WDT-PO | 64253 |

Standard LEDs

1,8mm Series



Kingbright



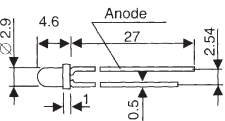
| Part No. | Colour | Viewing Angle | Luminous Intensity | U_f [V] |
|-----------|-------------|---------------|--------------------|-----------|
| L-2060 HD | red dif. | 70° | 15mcd/10mA | 2,05 |
| L-2060 GD | green dif. | 70° | 10mcd/10mA | 2,00 |
| L-2060 YD | yellow dif. | 70° | 8mcd/10mA | 1,95 |

| Part No. | Ord. No. |
|-------------|----------|
| S L-2060 HD | 12423 |
| S L-2060 GD | 12424 |
| S L-2060 YD | 12425 |

3mm Series



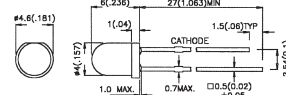
Kingbright



| Part No. | Colour | Viewing Angle | Luminous Intensity | U_f [V] |
|-----------------|-------------|---------------|--------------------|-------------------|
| L-934 HD | red dif. | 60° | 3mcd/10mA | 2,25 |
| L-934 ID | red dif. | 60° | 20mcd/10mA | 1,9 |
| L-934 SRD-C | red dif. | 60° | 100mcd/20mA | 1,85 |
| L-934 MBC | blue clear | 20° | 80mcd/20mA | 3,8 |
| L-934 MBDK | blue dif. | 60° | 25mcd/20mA | 4,0 |
| L-934 MBDL | blue dif. | 60° | 50mcd/20mA | 3,8 |
| L-934 GD | green dif. | 60° | 20mcd/10mA | 2,0 |
| L-934 SGC | green clear | 50° | 150mcd/20mA | 2,2 |
| L-934 SGD | green dif. | 60° | 40mcd/20mA | 2,2 |
| L-934 YD | yellow dif. | 60° | 15mcd/10mA | 1,95 |
| L-934 ED | orange dif. | 60° | 20mcd/10mA | 1,9 |
| L-934 ND | orange dif. | 60° | 30mcd/10mA | 1,95 |
| L-934 LC 3MM RD | red dif. | 40° | 3,2mcd | ECONOMIC - |
| L-934 LC 3MM GN | green dif. | 40° | 12mcd | ECONOMIC - |
| L-934 LC 3MM YE | yellow dif. | 25° | 9mcd | ECONOMIC - |

| Part No. | Ord. No. |
|-------------------|----------|
| S L-934 HD | 12388 |
| S L-934 ID | 12330 |
| S L-934 SRD-C | 12454 |
| S L-934 MBC | 12516 |
| S L-934 MBDK | 45959 |
| S L-934 MBDL | 12392 |
| S L-934 GD | 12389 |
| S L-934 SGC | 12287 |
| S L-934 SGD | 11990 |
| S L-934 YD | 12390 |
| S L-934 ED | 12393 |
| S L-934 ND | 12438 |
| S L-934 LC 3MM RD | 13367 |
| S L-934 LC 3MM GN | 13369 |
| S L-934 LC 3MM YE | 13368 |

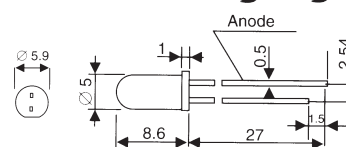
4mm Series



| Part No. | Colour | Viewing Angle | Luminous Intensity | U_f [V] |
|----------|--------|---------------|--------------------|-----------|
| L-43 HD | red | 80° | 2mcd/10mA | 2,25 |
| L-43 GD | green | 80° | 12mcd/10mA | 2,20 |
| L-43 YD | yellow | 80° | 10mcd/10mA | 1,95 |

| Part No. | Ord. No. |
|-----------|----------|
| O L-43 HD | 64754 |
| S L-43 GD | 12083 |
| S L-43 YD | 12084 |

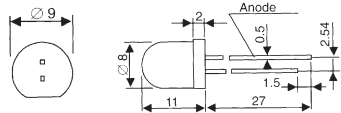
5mm Series



| Part No. | Colour | Viewing Angle | Luminous Intensity | U_f [V] |
|----------------|---------------|---------------|--------------------|-------------------|
| L-53 HD | red dif. | 60° | 5mcd/10mA | 2,05 |
| L-53 ID | red dif. | 60° | 30mcd/10mA | 1,90 |
| L-53 SRD-C | red dif. | 60° | 200mcd/20mA | 1,85 |
| L-53 SRD-D | red dif. | 60° | 250mcd/20mA | 1,85 |
| L-53 SRD-E | red dif. | 60° | 400mcd/20mA | 1,85 |
| L-53 SRD-G | red dif. | 60° | 800mcd/20mA | 1,85 |
| L-53 MBC | blue clear | 16° | 150mcd/20mA | 3,80 |
| L-53 MBDK | blue dif. | 60° | 40mcd/20mA | 4,00 |
| L-53 MBDL | blue dif. | 60° | 60mcd/20mA | 3,80 |
| L-53 GD | green dif. | 60° | 20mcd/10mA | 2,00 |
| L-53 SGC | green clear | 30° | 200mcd/20mA | 2,20 |
| L-53 SGD | green dif. | 60° | 40mcd/20mA | 2,20 |
| L-53 SYC | yellow, clear | 30° | 1200mcd/20mA | 2,00 |
| L-53 YD | yellow dif. | 60° | 20mcd/10mA | 1,95 |
| L-53 ED | orange dif. | 60° | 25mcd/10mA | 1,90 |
| L-53 ND | orange dif. | 60° | 30mcd/10mA | 1,95 |
| L-53 NT | orange | 30° | 80mcd/10mA | 1,95 |
| L-53 MWC | white clear | 30° | 200mcd/20mA | 3,8 |
| L-53 LC 5MM GN | green dif. | 25° | 20mcd/20 | ECONOMIC - |
| L-53 LC 5MM RD | red dif. | 25° | 4mcd/20 | ECONOMIC - |
| L-53 LC 5MM YE | yellow dif. | 25° | 20mcd/20 | ECONOMIC - |

| Part No. | Ord. No. |
|------------------|----------|
| S L-53 HD | 12399 |
| S L-53 ID | 12259 |
| S L-53 SRD-C | 12462 |
| S L-53 SRD-D | 12263 |
| S L-53 SRD-E | 12262 |
| S L-53 SRD-G | 12464 |
| S L-53 MBC | 12055 |
| S L-53 MBDK | 45958 |
| S L-53 MBDL | 12029 |
| S L-53 GD | 12236 |
| S L-53 SGC | 12332 |
| S L-53 SGD | 12344 |
| S L-53 SYC | 12235 |
| S L-53 YD | 12234 |
| S L-53 ED | 12339 |
| S L-53 ND | 12439 |
| S L-53 NT | 12033 |
| S L-53 MWC | 12515 |
| S L-53 LC 5MM GN | 13374 |
| S L-53 LC 5MM RD | 13372 |
| S L-53 LC 5MM YE | 13373 |

8mm Series

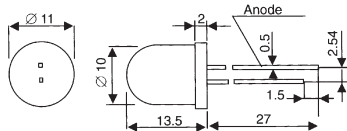


Kingbright

| Part No. | Colour | Viewing Angle | Luminous Intensity | U _F [V] |
|-------------|--------|---------------|--------------------|--------------------|
| L-793 ID | red | 60° | 100mcd/20mA | 2,00 |
| L-793 SRD-B | red | 60° | 200mcd/20mA | 1,85 |
| L-793 GD | green | 60° | 60mcd/20mA | 2,20 |
| L-793 YD | yellow | 60° | 50mcd/20mA | 2,10 |
| L-793 ED | orange | 60° | 100mcd/20mA | 2,00 |

| Part No. | Ord. No. |
|---------------|----------|
| S L-793 ID | 12384 |
| S L-793 SRD-B | 12394 |
| S L-793 GD | 12385 |
| S L-793 YD | 12386 |
| S L-793 ED | 12387 |

10mm Series

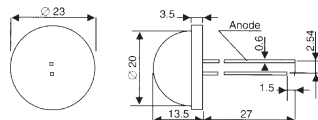


Kingbright

| Part No. | Colour | Viewing Angle | Luminous Intensity | U _F [V] |
|-------------|-------------|---------------|--------------------|---------------------|
| L-813 ID | red | 60° | 100mcd/20mA | 2,00 |
| L-813 SRD-E | red | 60° | 450mcd/20mA | 1,85 |
| L-813 GD | green | 60° | 60mcd/20mA | 2,20 |
| L-813 SGC | green clear | 40° | 500mcd/20mA | 2,20 |
| L-813 YD | yellow | 60° | 50mcd/20mA | 2,10 |
| L-813 ED | orange | 60° | 100mcd/20mA | 2,00 |
| LED10MMBLAU | blue | | 3500mcd/20 | ECONOMIC 3,6 |

| Part No. | Ord. No. |
|---------------|----------|
| S L-813 ID | 12190 |
| S L-813 SRD-E | 12316 |
| S L-813 GD | 12248 |
| S L-813 SGC | 11972 |
| S L-813 YD | 12253 |
| S L-813 ED | 12373 |
| S LED10MMBLUE | 44759 |

20mm Series



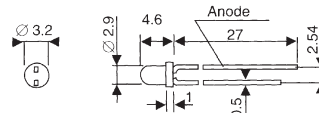
Kingbright

| Part No. | Colour | Viewing Angle | Luminous Intensity | U _F [V] |
|------------|--------|---------------|--------------------|--------------------|
| DLC2-6 ID | red | 120° | 50mcd/10mA | 1,9 |
| DLC2-6 SRD | red | 120° | 400mcd/20mA | 1,85 |
| DLC2-6 GD | green | 120° | 80mcd/10mA | 2 |
| DLC2-6 SGD | green | 120° | 200mC/20mA | 2,2 |
| DLC2-6 YD | yellow | 120° | 50mcd/10mA | 1,95 |

| Part No. | Ord. No. |
|--------------|----------|
| S DLC2-6 ID | 11937 |
| S DLC2-6 SRD | 12302 |
| S DLC2-6 GD | 11951 |
| S DLC2-6 SGD | 12301 |
| S DLC2-6 YD | 11955 |

Super Bright LEDs

3mm Super Bright Series



Kingbright

| Part No. | Colour | Viewing Angle | Luminous Intensity | U _F [V] |
|-------------|--------|---------------|--------------------|--------------------|
| L-934 SEC-H | red | 50° | 500mcd/20mA | 2,20 |
| L-934 SRC-C | red | 50° | 500mcd/20mA | 1,85 |
| L-934 SYC | yellow | 50° | 700mcd/20mA | 2,00 |
| L-934 SYC-H | yellow | 50° | 900mcd/20mA | 2,30 |
| L-934 VGC-Z | green | 50° | 2000mcd/20mA | 4,00 |

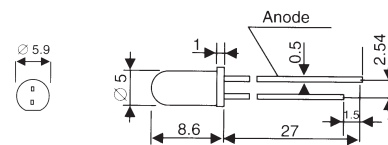
| Part No. | Ord. No. |
|---------------|----------|
| S L-934 SEC-H | 45253 |
| S L-934 SRC-C | 12331 |
| S L-934 SYC | 12622 |
| O L-934 SYC-H | 49045 |
| S L-934 VGC-Z | 70585 |

ECONOMIC

| Part No. | Colour | Viewing Angle | Luminous Intensity |
|-----------------|--------|---------------|--------------------|
| HSBL-3101L | blue | 40° | 1000mcd/20mA |
| LED 3MM BL | blue | 30° | 3500mcd |
| LED 3MM GN | green | 30° | 300mcd |
| LED 3MM RD | red | 30° | 1000mcd |
| LED 3MM YE | yellow | 30° | 1500mcd |
| LED 3MM WH | white | 30° | 1000mcd |
| LED 3MM GN PURE | green | 30° | 6000mcd |
| L3-B71GWL | blue | 15° | 2000mcd/20mA |

| Part No. | Ord. No. |
|-------------------|----------|
| S HSBL-3101L | 51849 |
| S LED 3MM BL | 57609 |
| S LED 3MM GN | 57610 |
| S LED 3MM RD | 57616 |
| S LED 3MM YE | 57617 |
| S LED 3MM WH | 57618 |
| S LED 3MM GN PURE | 59599 |
| S L3-B71GWL | 44704 |

5mm Super Bright Series



Kingbright

| Part No. | Colour | Viewing Angle | Luminous Intensity | U _F [V] |
|---------------|--------|---------------|--------------------|--------------------|
| L-53 SEC-E | red | 30° | 5000mcd/20mA | 2,00 |
| L-53 SEC-H | red | 30° | 10000mcd/20mA | 2,20 |
| L-53 SRC-D-W | red | 30° | 1700mcd/20mA | 1,85 |
| L-53 SRC-F | red | 30° | 4000mcd/20mA | 1,85 |
| L-53 SRC-C | red | 60° | 1000mcd/20mA | 1,85 |
| L-53 SRC-E | red | 60° | 2800mcd/20mA | 1,85 |
| L-7524 SEC-H | red | 12° | 7500mcd/20mA | 2,20 |
| L-7113 SEC-H | red | 20° | 1000mcd/20mA | 2,20 |
| L-7113 PBC-H | blue | 16° | 3600mcd/20mA | 3,80 |
| L-7524 PBC-Z | blue | 18° | 3300mcd/20mA | 3,80 |
| L-53 VGC-E | green | 30° | 4500mcd/20mA | 4,00 |
| L-7113 TGC | green | 20° | 1500mcd/20mA | 3,60 |
| L-7113 VGC-E | green | 20° | 3000mcd/20mA | 3,50 |
| L-7524 VGC-Z | green | 12° | 13000mcd/20mA | 3,20 |
| L-53 SYT | yellow | 30° | 1200mcd/20mA | 2,00 |
| L-7113 SYC-J2 | yellow | 20° | 3800mcd/20mA | 2,30 |

5mm Super Bright Series

(continued)

| Part No. | Ord. No. |
|-----------------|----------|
| S L-53 SEC-E | 12182 |
| S L-53 SEC-H | 12183 |
| S L-53 SRC-C | 12314 |
| S L-53 SRC-D-W | 12415 |
| S L-53 SRC-E | 12353 |
| O L-53 SRC-F | 12407 |
| S L-53 SYT | 12114 |
| S L-53 VGC-E | 12154 |
| O L-7113 PBC-H | 12159 |
| S L-7113 SEC-H | 12163 |
| S L-7113 SYC-J2 | 64221 |
| S L-7113 TGC | 54899 |
| S L-7113 VGC-E | 12161 |
| O L-7524 PBC-Z | 53026 |
| O L-7524 SEC-H | 53028 |
| O L-7524 VGC-Z | 53027 |

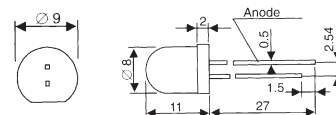
ECONOMIC

| Part No. | Colour | Viewing Angle | Luminous Intensity | U _F [V] |
|------------------------|--------------|---------------|--------------------|--------------------|
| LED 5 MM KS WH | white | | 12000mcd | |
| LED 5 MM = NSPB 500 S | blue | 15° | 4400mcd/20mA | 3,6 |
| LED 5 MM=NSPW 500 | white | 20° | 9200mcd/20mA | |
| LED 5 MM PK1000/15 | pink | 15° | 1100mcd/20mA | |
| LED 5 MM VT1000/15 | violet | 15° | 1100mcd/20mA | 3,6 |
| L5-B91G WL | blue | 15° | 3500mcd/20mA | 3,6 |
| LED 5 MM TQ6000/15 | turquoise | 15° | 6000mcd/20mA | |
| HUBL-5101L | blue clear | 15° | 3000mcd | 3,6 |
| LED 5 MM = NSPW 500 CS | white | 20° | 22000mcd | |
| LED 5 MM WH | white | 15° | 20000mcd | |
| LED 5MM BL 15° | blue | 15° | 10000mcd | |
| LED 5MM RD | red clear | 30° | 1300mcd | |
| LED 5MM GN | green clear | 30° | 300mcd | |
| LED 5MM YL | yellow clear | 30° | 300mcd | |
| LED 5MM WH | white clear | 30° | 1000mcd | |
| LED 5MM BL 20° | blue | 20° | 6000mcd | |

| Part No. | Ord. No. |
|--------------------------|----------|
| S LED 5 MM KS WH | 9437 |
| S LED 5 MM = NSPB 500 S | 41088 |
| S LED 5 MM=NSPW 500 | 41177 |
| S LED 5 MM PK1000/15 | 41199 |
| S LED 5 MM VT1000/15 | 41200 |
| S L5-B91G WL | 44705 |
| S LED 5 MM TQ6000/15 | 47318 |
| S HUBL-5101L | 51848 |
| O LED 5 MM = NSPW 500 CS | 53274 |
| S LED 5 MM WH | 53327 |
| S LED 5MM BL 15° | 56757 |
| S LED 5MM RD | 57619 |
| S LED 5MM GN | 57620 |
| S LED 5MM YL | 57621 |
| S LED 5MM WH | 57622 |
| S LED 5MM BL 20° | 57623 |

8mm Super Bright Series

ECONOMIC

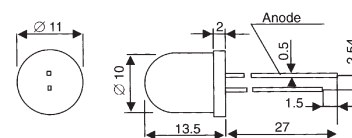
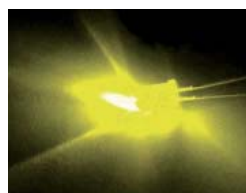


| Part No. | Colour | Viewing Angle | Luminous Intensity |
|------------------|-------------|---------------|--------------------|
| LL-803WC2C-W2-2B | white clear | 15° | 4500 mcd |
| LL-803BC2C-B4-1B | blue clear | 30° | 4000 mcd |
| LED 8MM BLUE | blue | 15° | 10000 mcd |
| LED 8MM WHITE | white | 15° | 10000 mcd |

| Part No. | Ord. No. |
|--------------------|----------|
| S LL-803WC2C-W2-2B | 56212 |
| S LL-803BC2C-B4-1B | 56500 |
| S LED 8MM BLUE | 56758 |
| S LED 8MM WHITE | 56759 |

10mm Super Bright Series

Kingbright



| Part No. | Colour | Viewing Angle | Luminous Intensity |
|-------------|--------|---------------|--------------------|
| L-813 SRC-E | red | 40° | 2700mcd/20mA |
| L-813 SRC-F | red | 40° | 3800mcd/20mA |
| L-813 SYD-H | yellow | 60° | 700mcd/20mA |
| L-813 VGD-Z | green | 60° | 1600mcd/20mA |

| Part No. | Ord. No. |
|---------------|----------|
| S L-813 SRC-E | 12335 |
| O L-813 SRC-F | 12139 |
| O L-813 SYD-H | 57129 |

ECONOMIC

| Part No. | Colour | Viewing Angle | Luminous Intensity |
|-------------------|--------|---------------|--------------------|
| LL-1004WC2D-W2-1E | white | 20° | 6500 mcd |
| LED 10MM WHITE | white | 30° | 3000 mcd |

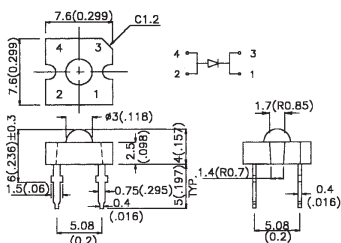
| Part No. | Ord. No. |
|---------------------|----------|
| S LL-1004WC2D-W2-1E | 56381 |
| S LED 10MM WHITE | 57626 |

SUPERFLUX LEDs

Features: High Luminance output, Designed for High Current Operation, Uniform Color, Low Power Consumption, Low Thermal Resistance, Low Profile...

Typical Applications: Automotive Exterior Lighting, Electronic Signs and Signals, Specialty Lighting...

Kingbright



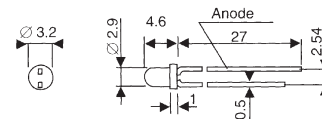
| Part No. | Colour | Viewing Angle | Luminous Intensity |
|----------------|--------------|---------------|--------------------|
| L-7676 CPBC-Z | blue 470nm | 70° | 4300mcd/20mA |
| L-7676 CSEC | red 621nm | 70° | 600mcd/20mA |
| L-7676 CSEC-E | red 621nm | 70° | 800mcd/20mA |
| L-7676 CSEC-G | red 625nm | 70° | 1200mcd/20mA |
| L-7676 CSEC-H | red 630nm | 70° | 1800mcd/20mA |
| L-7676 CSURC | red 628nm | 70° | 500mcd/20mA |
| L-7676 CSURC-E | red 630nm | 70° | 600mcd/20mA |
| L-7676 CSYC | orange 588nm | 70° | 400mcd/20mA |
| L-7676 CSYC-H | orange 589nm | 70° | 450mcd/20mA |
| L-7676 CVGC-Z | green 525nm | 70° | 4300mcd/20mA |
| VLWW9600 | white | 60° | 4pin |

| Part No. | Ord. No. |
|------------------|----------|
| S L-7676 CPBC-Z | 62618 |
| S L-7676 CSEC | 45256 |
| S L-7676 CSEC-E | 12674 |
| S L-7676 CSEC-G | 45249 |
| S L-7676 CSEC-H | 45250 |
| O L-7676 CSURC | 45255 |
| S L-7676 CSURC-E | 12673 |
| S L-7676 CSYC | 45254 |
| S L-7676 CSYC-H | 47116 |
| S L-7676 CVGC-Z | 62617 |
| S VLWW9600 | 62621 |

2mA Low Current LEDs

3mm Low Current Series

Kingbright

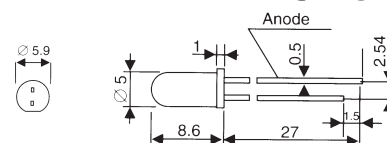


| Part No. | Colour | Viewing Angle | Luminous Intensity |
|------------|--------|---------------|--------------------|
| L-934 LID | red | 60° | 3mcd |
| L-934 LSRD | red | 60° | 20mcd |
| L-934 LYD | yellow | 60° | 2mcd |
| L-934 LGD | green | 60° | 2mcd |

| Part No. | Ord. No. |
|--------------|----------|
| S L-934 LID | 12233 |
| S L-934 LSRD | 12391 |
| S L-934 LYD | 12257 |
| S L-934 LGD | 12232 |

5mm Low Current Series

Kingbright



| Part No. | Colour | Viewing Angle | Luminous Intensity |
|-----------|--------|---------------|--------------------|
| L-53 LID | red | 60° | 5mcd |
| L-53 LSRD | red | 60° | 20mcd |
| L-53 LYD | yellow | 60° | 2mcd |
| L-53 LGD | green | 60° | 2mcd |

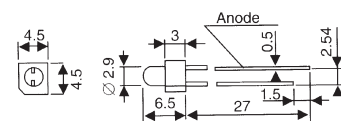
| Part No. | Ord. No. |
|-------------|----------|
| S L-53 LID | 12189 |
| S L-53 LSRD | 12246 |
| S L-53 LYD | 12343 |
| S L-53 LGD | 12223 |

Blinking LEDs

Led with integrated chip for blinking. Supply voltage from 3,5V, typically 9-12V.

3mm Blinking LEDs Series

Kingbright

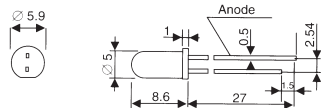


| Part No. | Colour | Viewing Angle | Luminous Intensity [mcd@9V] | U _f [max.V/mA] |
|-----------|--------|---------------|-----------------------------|---------------------------|
| L-616 BHD | red | 60° | 2 | 13/44 |
| L-616 BGD | green | 60° | 15 | 13/20 |
| L-616 BYD | yellow | 60° | 10 | 13/20 |

| Part No. | Ord. No. |
|-------------|----------|
| S L-616 BHD | 11974 |
| O L-616 BGD | 12018 |
| O L-616 BYD | 12019 |

5mm Blinking LEDs Series

Kingbright

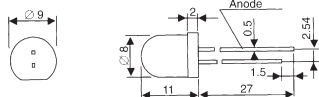


| Part No. | Colour | Viewing Angle | Luminous Intensity [mcd@9V] | U_f [max.V/mA] |
|-------------|--------|---------------|-----------------------------|------------------|
| L-56 BSRD/B | red | 60° | 200 | 14/44 |
| L-56 BHD | red | 60° | 200 | 14/44 |
| L-56 BGD | green | 60° | 20 | 14/44 |
| L-56 BYD | yellow | 60° | 20 | 14/44 |
| L-56 BND | orange | 60° | 20 | 14/44 |

| Part No. | Ord. No. |
|---------------|----------|
| S L-56 BSRD/B | 12507 |
| S L-56 BHD | 12199 |
| S L-56 BGD | 12374 |
| S L-56 BYD | 12375 |
| S L-56 BND | 12414 |

8mm Blinking LEDs Series

Kingbright

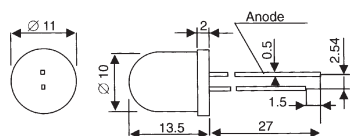


| Part No. | Colour | Viewing Angle | Luminous Intensity [mcd@9V] | U_f [max.V/mA] |
|-----------|--------|---------------|-----------------------------|------------------|
| L-796 BID | red | 60° | 40 | 14/48 |
| L-796 BGD | green | 60° | 50 | 14/44 |
| L-796 BYD | yellow | 60° | 40 | 14/48 |

| Part No. | Ord. No. |
|-------------|----------|
| S L-796 BID | 12303 |
| O L-796 BGD | 12508 |
| O L-796 BYD | 12509 |

10mm Blinking LEDs Series

Kingbright



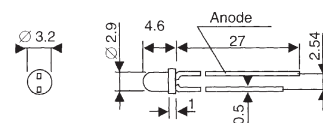
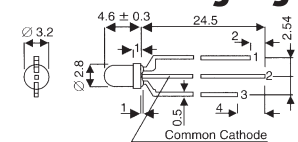
| Part No. | Colour | Viewing Angle | Luminous Intensity [mcd@9V] | U_f [max.V/mA] |
|-----------|--------|---------------|-----------------------------|------------------|
| L-816 BID | red | 60° | 60 | 14/50 |
| L-816 BGD | green | 60° | 50 | |
| L-816 BYD | yellow | 60° | 40 | |

| Part No. | Ord. No. |
|-------------|----------|
| S L-816 BID | 12256 |
| O L-816 BGD | 12376 |
| O L-816 BYD | 12334 |

Bi - Colour LEDs

3mm 2-Colour Series

Kingbright

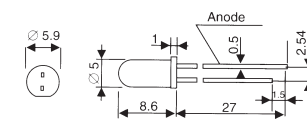
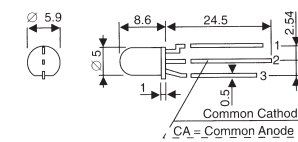


| Part No. | Colour | Package | Viewing Angle | Luminous Intensity |
|--------------|--------|---------|---------------|--------------------|
| L-937 EGW | R/G | 2 leads | 60° | 20/16mcd |
| L-115 WEGW | R/G | 3 leads | 60° | 40/35mcd |
| L-115 WSRSGW | R/G | 3 leads | 60° | 150/30mcd |

| Part No. | Ord. No. |
|----------------|----------|
| S L-937 EGW | 12590 |
| S L-115 WEGW | 12551 |
| S L-115 WSRSGW | 48708 |

5mm Bi - Colour Series

Kingbright



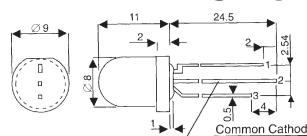
| Part No. | Colour | Package | Viewing Angle | Luminous Intensity |
|-------------|--------|----------------|---------------|--------------------|
| L-57 EGW | R/G | 2-leads, dif. | 60° | 30/20mcd |
| L-59 EGW | R/G | 3 leads, dif. | 60° | 60/50mcd |
| L-59 EGW/CA | R/G | 3 leads, dif. | 60° | 5/5mcd |
| L-59 SRSGW | R/G | 3 leads, dif. | 60° | 220/60mcd |
| L-59 SRSGC | R/G | 3 leads, clear | 24° | 600/200mcd |
| L-59 EYW | R/Y | 3 leads, dif. | 60° | 60/40mcd |
| L-59 GYW | G/Y | 3 leads, dif. | 60° | 50/40mcd |

CA - common anode

| Part No. | Ord. No. |
|----------------|----------|
| S L-57 EGW | 12321 |
| S L-59 EGW | 12383 |
| S L-59 EGW/CA* | 12120 |
| S L-59 SRSGW | 12352 |
| S L-59 SRSGC | 11941 |
| S L-59 EYW | 12412 |
| S L-59 GYW | 11988 |

8mm Bi - Colour Series

Kingbright

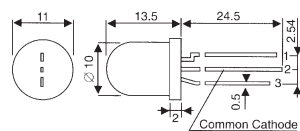


| Part No. | Colour | Package | Viewing Angle | Luminous Intensity |
|-----------|--------|---------------|---------------|--------------------|
| L-799 EGW | R/G | 3 leads, dif. | 50° | 80/50mcd |

| Type | Ord. No. |
|-------------|----------|
| S L-799 EGW | 12320 |

10mm Bi-Colour Series

Kingbright

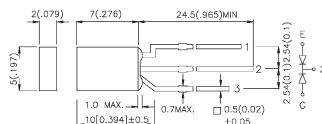


| Part No. | Colour | Package | Viewing Angle | Luminous Intensity |
|-------------|--------|---------|---------------|--------------------|
| L-819 EGW | R/G | 3 leads | 50° | 80/50mcd |
| L-819 SRSGW | R/G | 3 leads | 50° | 200/50mcd |

| Part No. | Ord. No. |
|---------------|----------|
| S L-819 EGW | 12319 |
| S L-819 SRSGW | 12503 |

2x5mm Bi-Colour Series

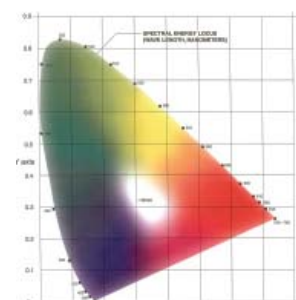
Kingbright



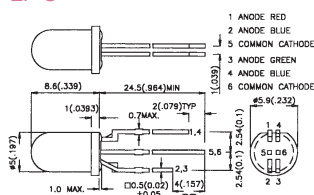
| Part No. | Colour | Package | Viewing Angle | Luminous Intensity |
|-----------|--------|---------|---------------|--------------------|
| L-119 EGW | R/G | 3 leads | 110° | 20/12mcd |

| Part No. | Ord. No. |
|-------------|----------|
| S L-119 EGW | 12028 |

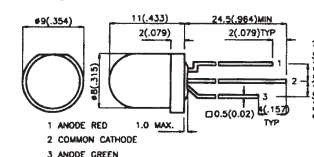
Multicolour RGB LEDs



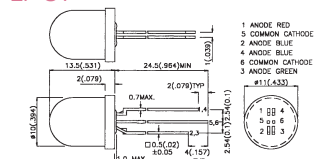
LF-5



LF-79



LF-81

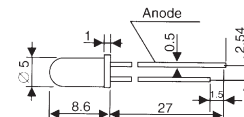


| Part No. | Colour | Package | Viewing Angle | Luminance [mcd] |
|------------------|--------|------------------------|---------------|-----------------|
| LF-5WAEMBGMBBC | RGB | 5mm, clear, 6 leads | 30° | 50/30/2x40 |
| LF-5 WAEMBGMBW | RGB | 5mm, diffused, 6 leads | 60° | 30/25/2x20 |
| LF-79 WAEMBGMBBC | RGB | 8mm, clear, 6 leads | 30° | 30/35/2x25 |
| LF-81 WAEMBGMBBC | RGB | 10mm, clear, 6 leads | 30° | 40/45/2x30 |

| Part No. | Ord. No. |
|--------------------|----------|
| S LF-5WAEMBGMBBC | 12611 |
| S LF-5 WAEMBGMBW | 12612 |
| S LF-79 WAEMBGMBBC | 12150 |
| S LF-81 WAEMBGMBBC | 12151 |

LEDs with Resistor

Kingbright



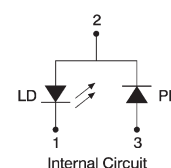
Light Emitting Diodes in standard 5mm package with integrated resistor.

| Part No. | Colour | Angle | Luminance | If[mA/12V] |
|-------------|--------|-------|-----------|------------|
| L-53 GD-12V | green | 60° | 20mcd/12V | 8,5 |
| L-53 ID-12V | red | 60° | 30mcd/12V | 8,5 |
| L-53 YD-12V | yellow | 60° | 20mcd/12V | 8,5 |

| Part No. | Ord. No. |
|---------------|----------|
| S L-53 GD-12V | 12266 |
| S L-53 ID-12V | 12267 |
| O L-53 YD-12V | 12265 |

Laser Diodes

DL Series



Chip material - AlGaInP.

LASER = Light Amplification by Stimulated Emission of Radiation

| Part No. | Wavelength | Output Power | Power Supply |
|-------------|------------|--------------|--------------|
| DL 3147-011 | 645nm | 5mW | 2,3V/40mA |

| Part No. | Ord. No. |
|---------------|----------|
| O DL 3147-011 | 51150 |

GLM Series



Green laser diode with diode driver, dimensions 11,9 x 41,5mm.

| Part No. | Wavelength | Output Power | Power Supply |
|-------------|------------|--------------|--------------|
| GLM-01-035D | 532nm | 5mW | 3V/350mV |

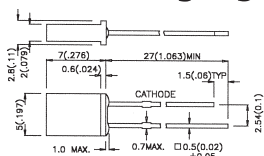
| Part No. | Ord. No. |
|---------------|----------|
| O GLM-01-035D | 71146 |

Rectangular LEDs

2x5mm Series



Kingbright



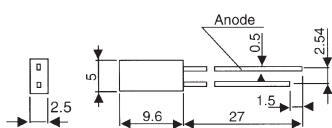
| Part No. | Colour | Viewing Angle | Luminous Intensity | U_f [V] |
|------------|--------|---------------|--------------------|-----------|
| L-113 GDT | green | 110° | 5mcd/10mA | 2 |
| L-113 HDT | red | 110° | 1mcd/10mA | 2,05 |
| L-113 IDT | red | 110° | 5mcd/10mA | 1,9 |
| L-113 SRDT | red | 110° | 80mcd | 1,85 |
| L-113 YDT | yellow | 110° | 4mcd/10mA | 1,95 |

| Part No. | Ord. No. |
|-------------|----------|
| S L-113 GDT | 12254 |
| S L-113 HDT | 12333 |
| S L-113 IDT | 12381 |
| L-113 SRDT | 12445 |
| S L-113 YDT | 12380 |

2,5x5mm Series



Kingbright



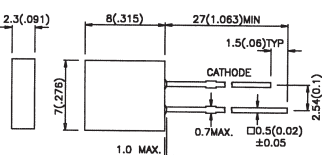
| Part No. | Colour | Viewing Angle | Luminous Intensity | U_f [V] |
|-----------|--------|---------------|--------------------|-----------|
| L-383 GDT | green | 110° | 4mcd/10mA | 2 |
| L-383 HDT | red | 110° | 1mcd/10mA | 2,05 |
| L-383 YDT | yellow | 110° | 4mcd/10mA | 1,95 |

| Part No. | Ord. No. |
|-------------|----------|
| S L-383 GDT | 12357 |
| S L-383 HDT | 12358 |
| S L-383 YDT | 12324 |

2,3x7mm Series



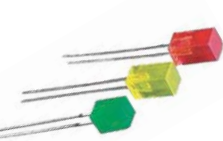
Kingbright



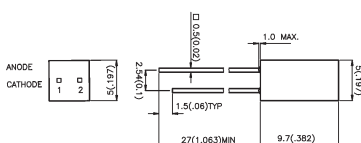
| Part No. | Colour | Viewing Angle | Luminous Intensity | U_f [V] |
|-----------|--------|---------------|--------------------|-----------|
| L-153 GDT | green | 110° | 3mcd/10mA | 2,30 |
| L-153 HDT | red | 110° | 0,6mcd/10mA | 2,05 |
| L-153 YDT | yellow | 110° | 3mcd/10mA | 2,20 |

| Part No. | Ord. No. |
|-------------|----------|
| S L-153 GDT | 12355 |
| S L-153 HDT | 12356 |
| O L-153 YDT | 12449 |

5x5mm Series



Kingbright



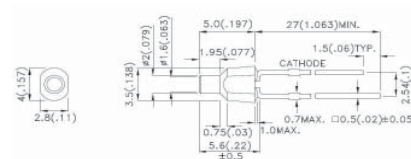
| Part No. | Colour | Viewing Angle | Luminous Intensity | U_f [V] |
|------------|--------|---------------|--------------------|-----------|
| L-1553 GDT | green | 110° | 5mcd/10mA | 2 |
| L-1553 IDT | red | 110° | 8mcd/10mA | 1,9 |
| L-1553 YDT | yellow | 110° | 5mcd/10mA | 1,95 |

Part No. Ord. No.

| | |
|--------------|-------|
| S L-1553 GDT | 12258 |
| S L-1553 IDT | 12382 |
| S L-1553 YDT | 12400 |

Flat Top LEDs

2mm Series

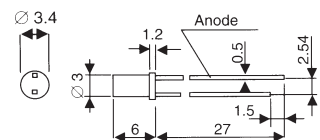


Kingbright

| Part No. | Colour | Viewing Angle | Luminous Intensity | U_f [V] |
|------------|--------|---------------|--------------------|-----------|
| L-1034 GDT | green | 70° | 6mcd/10mA | 2,2 |
| L-1034 HDT | red | 70° | 1mcd/10mA | 2,5 |
| L-1034 YDT | yellow | 70° | 5mcd/10mA | 2,5 |

| Part No. | Ord. No. |
|--------------|----------|
| S L-1034 GDT | 70256 |
| S L-1034 HDT | 70253 |
| S L-1034 YDT | 70255 |

3mm Series

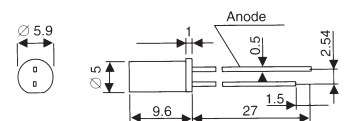


Kingbright

| Part No. | Colour | Viewing Angle | Luminous Intensity | U_f [V] |
|-----------|--------|---------------|--------------------|-----------|
| L-424 EDT | orange | 100° | 5mcd/10mA | 1,9 |
| L-424 GDT | green | 100° | 4mcd/10mA | 2 |
| L-424 HDT | red | 100° | 1mcd/10mA | 2,05 |
| L-424 YDT | yellow | 100° | 4mcd/10mA | 1,95 |

| Part No. | Ord. No. |
|-------------|----------|
| S L-424 EDT | 12560 |
| S L-424 GDT | 12561 |
| S L-424 HDT | 12411 |
| S L-424 YDT | 12260 |

5mm Series



Kingbright

| Part No. | Colour | Viewing Angle | Luminous Intensity | U_f [V] |
|-----------|--------|---------------|--------------------|-----------|
| L-483 GDT | green | 100° | 4mcd/10mA | 2 |
| L-483 HDT | red | 100° | 1mcd/10mA | 2,05 |
| L-483 YDT | yellow | 100° | 4mcd/10mA | |

| Part No. | Ord. No. |
|-------------|----------|
| S L-483 GDT | 12562 |
| S L-483 HDT | 12308 |
| S L-483 YDT | 12312 |

Plastic LED Holders

RTC Series

RTC - 31, RTC - 51



RTC - 32, RTC - 52



| Part No. | LED Ø | Mounting Hole | Note |
|----------|-------|---------------|---------------------|
| RTC-31 | 3mm | 4,4mm | plastic |
| RTC-32 | 3mm | 4,7mm | two pieces, plastic |
| RTC-51 | 5mm | 6,5mm | plastic |
| RTC-52 | 5mm | 7,1mm | two pieces, plastic |

| Part No. | Ord. No. |
|----------|----------|
| S RTC-31 | 12122 |
| S RTC-32 | 12369 |
| S RTC-51 | 12171 |
| S RTC-52 | 12179 |

RTF Series

RTF-5010

RTF-5020

RTF-8080

RTF-1090



| Part No. | LED Ø | Mounting Hole | Note |
|----------|-------|---------------|---------|
| RTF-5010 | 5mm | 8mm | plastic |
| RTF-5020 | 5mm | 8mm | plastic |
| RTF-8080 | 8mm | 12mm | plastic |
| RTF-1090 | 10mm | 14mm | plastic |

| Part No. | Ord. No. |
|------------|----------|
| S RTF-5010 | 12255 |
| S RTF-5020 | 12193 |
| S RTF-8080 | 12197 |
| S RTF-1090 | 12194 |

EBF Series

EBF A

EBF I



| Part No. | LED Ø | Mounting Hole | Note |
|---------------|-------|---------------|-----------|
| EBF A 3 CHROM | 3mm | 6mm | LED - out |
| EBF A 5 CHROM | 5mm | 8mm | LED - out |
| EBF A 8 CHROM | 8mm | 12mm | LED - out |
| EBF I 3 CHROM | 3mm | 6mm | LED - in |
| EBF I 5 CHROM | 5mm | 8mm | LED - in |
| EBF I 8 CHROM | 8mm | 12mm | LED - in |

| Part No. | Ord. No. |
|-----------------|----------|
| S EBF A 3 CHROM | 19334 |
| S EBF A 5 CHROM | 19335 |
| S EBF A 8 CHROM | 19336 |
| S EBF I 3 CHROM | 19328 |
| S EBF I 5 CHROM | 19329 |
| S EBF I 8 CHROM | 19330 |

Plastic Spacers for LEDs

MAH Series

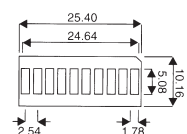
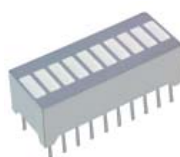


| Part No. | Description |
|----------|-----------------------------|
| MAH 403 | Plastic Spacers for LED 3mm |
| MAH 405 | Plastic Spacers for LED 5mm |
| MAH 407 | Plastic Spacers for LED 7mm |

| Part No. | Ord. No. |
|-----------|----------|
| S MAH 403 | 8432 |
| S MAH 405 | 8651 |
| S MAH 407 | 5565 |

Bar Graph Arrays

10-segments



Kingbright

| Part No. | Description |
|------------|---|
| DC-10 GWA | LED bargraph 10segm. green, luminance 9,5mcd/10mA |
| DC-10 HWA | LED bargraph 10segm. red, luminance 9,5mcd/10mA |
| DC-10 YWA | LED bargraph 10segm. yellow, luminance 9mcd/10mA |
| DC-7G 3HWA | LED bargraph 7xgreen 3xred, luminance 9,5/2,2mcd/10mA |

| Part No. | Ord. No. |
|--------------|----------|
| S DC-10 GWA | 12198 |
| S DC-10 HWA | 12410 |
| S DC-10 YWA | 12409 |
| S DC-7G 3HWA | 11980 |

20-segments

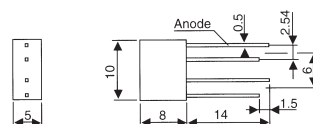
Kingbright

| Type | Description |
|--------------|-------------------------------------|
| DC-20/20 EWA | LED bargraph 20segm. red, 9mcd/10mA |

| Part No. | Ord. No. |
|----------------|----------|
| O DC-20/20 EWA | 12690 |

Light Bars

L 835 Series



Kingbright

L 885 Series



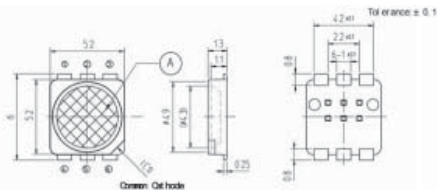
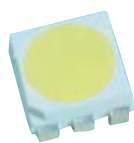
| Part No. | No of LEDs | Colour | Dimensions [mm] | Viewing Angle | Luminance [mcd/mA] |
|-------------|------------|--------|-----------------|---------------|--------------------|
| L-885/6 IDT | 6 | red | 10-x-16 | 120° | 10/10 |
| L-835/2 IDT | 2 | red | 5-x-10 | 120° | 10/10 |
| L-835/2 GDT | 2 | green | 5-x-10 | 120° | 10/10 |

| Part No. | Ord. No. |
|---------------|----------|
| S L-885/6 IDT | 12282 |
| S L-835/2 IDT | 12304 |
| S L-835/2 GDT | 12306 |

Power LEDs

SLSNN Series

in Package 5,2x5,2x1,3mm



| Part No. | Colour | Intensity | Luminance | Uf | Pins |
|--------------------|------------|-------------------|-------------|------|------|
| SLSNN-WH805TS | white cold | 1,7cd | 4,2lm/20mA | 3,2V | 2 |
| SLSNN-WH825TS | white cold | 3,6cd | 10lm/40mA | 3,2V | 2 |
| SLSNN-WH815TS ASSS | white cold | 5,2cd | 13,5lm/60mA | 3,2V | 6 |
| SLSNN-WH815TS MALS | white warm | 5,2cd | 13,5lm/60mA | 3,2V | 6 |
| SLSNN-WW825TS | white warm | 3,2cd | 8,0lm/40mA | 3,2V | 2 |
| SLSNN-WW815TSMAUS | white warm | 5,0cd | 13,0lm/60mA | 3,2V | 6 |
| SLSNN-RA825TS | red | 1,0cd | 2,4lm/40mA | 2,2V | 2 |
| SLSNN-GA825TS | green | 2,7cd | 7,0lm/40mA | 3,2V | 2 |
| SLSNN-BA825TS | blue | 0,6cd | 1,2lm/40mA | 3,2V | 2 |
| SLSNN-AA825TS | amber | 1,2cd | 2,8lm/40mA | 3,2V | 2 |
| SLSNN-RGBW815TS | RGB | 0,6/1,4 /0,4cd | - | 3,1V | 6 |

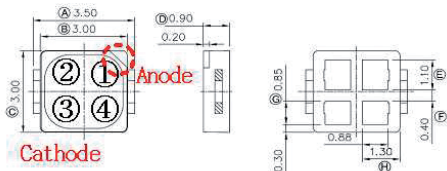
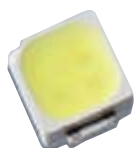
| Part No. | Ord. No. |
|----------------------|----------|
| S SLSNN-WH815TS ASSS | 74876 |
| S SLSNN-WH815TS MALS | 74877 |
| S SLSNN-WW815TSMAUS | 73752 |

Other types on request.

Please ask our sales department for quotation.

SLSNN Series

in Package 3x3x0,9mm



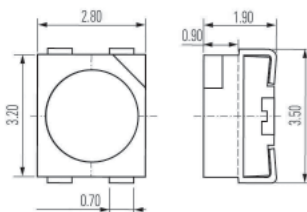
| Part No. | Colour | Intensity | Luminance | Uf | Pins |
|---------------|------------|-----------|--------------|------|------|
| SLSNN-WH804TS | white cold | 2cd | 4,2lm/30mA | 3,2V | 4 |
| SLSNN-WH824TS | white cold | 4cd | 8,4lm/60mA | 3,2V | 4 |
| SLSNN-WH814TS | white cold | 6cd | 12,9lm/90mA | 3,3V | 4 |
| SLSNN-WH834TS | white cold | 8cd | 16,8lm/120mA | 3,6V | 4 |

Prices on request.

Please ask our sales department for quotation.

SLSNN Series

in Package 3,2x2,8x1,9mm

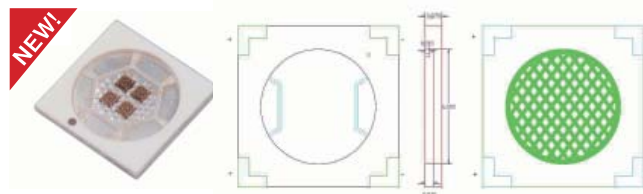


| Part No. | Colour | Intensity | Luminance | Uf | Pins |
|-----------------|------------|----------------|-------------|------|------|
| SLSNN-WH802TS | white cold | 2cd | 4,2lm/30mA | 3,2V | 2 |
| SLSNN-WH822TS | white cold | 4cd | 8,4lm/60mA | 3,2V | 4 |
| SLSNN-WH812TS | white cold | 6cd | 12,9lm/90mA | 3,3V | 4 |
| SLSNN-RGBW812TS | RGB | 0,26/0,65/0,15 | - | 3,1V | 4 |

Prices on request.

Please ask our sales department for quotation.

HP845 Series in Package 8x8x0,8mm

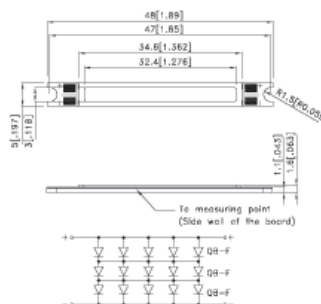


| Part No. | Colour | Description |
|----------------|------------|--------------------|
| HP845CN0 - 1XT | cyan | 5W, 505nm at 700mA |
| HP845NB0 - 1XT | blue | 5W, 470nm at 700mA |
| HP845NO0 - 1XT | amber | 5W, 590nm at 700mA |
| HP845NR0 - 1XT | red | 5W, 625nm at 700mA |
| HP845NW0 - 1XT | white | 5W, 6000K at 700mA |
| HP845WW0 - 1XT | warm white | 5W, 3300K at 700mA |
| HP845PG0 - 1XT | green | 5W, 530nm at 700mA |

| Part No. | Ord. No. |
|------------------|----------|
| S HP845CN0 - 1XT | 56086 |
| S HP845NB0 - 1XT | 56083 |
| S HP845NO0 - 1XT | 56084 |
| S HP845NR0 - 1XT | 56089 |
| S HP845NW0 - 1XT | 56081 |
| S HP845WW0 - 1XT | 56082 |
| S HP845PG0 - 1XT | 56087 |

KASL-4805 Series

Kingbright



New K-Linear High Power LEDs. These new devices contain 15 chips per package and provide a high brightness and high thermal dissipation efficiency.

This is achieved by incorporating aluminium as reflector and also substrate to ensure long operating life.

The slim and linear design can be used in parallel or series configurations to conveniently accommodate a variety of applications.

Key Features :

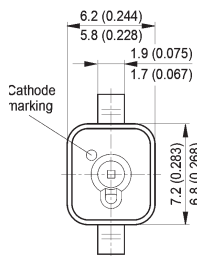
- Size: 48mm x 5mm x 1.6mm
- Instant Light
- Linear Type
- High Efficiency
- Long Operating life
- Low Power Consumption
- More Energy Efficient Than incandescent, most halogene lamps and flourescent lamps

Applications: ceiling lights, contour lights, decoration lights, general lighting, architectural lighting...

| Part No. | Description |
|--------------------|------------------------------------|
| KASL-4805 SEL 1S/5 | LED K-line, red, 75lm/5W, 500mA |
| KAS-4805 QBFS/3 | LED K-line, blue, 20lm/3W, 350mA |
| KASL-4805 SYL 1S/5 | LED K-line, yellow, 75lm/5W, 500mA |
| KASL-4805 ZG24S/7 | LED K-line, green, 180lm/7W, 700mA |
| KASL-4805 ZGS/3 | LED K-line, green, 30lm/3W,350mA |

| Part No. | Ord. No. |
|----------------------|----------|
| S KASL-4805 SEL 1S/5 | 67415 |
| S KAS-4805 QBFS/3 | 67417 |
| S KASL-4805 SYL 1S/5 | 67418 |
| O KASL-4805 ZG24S/7 | 67419 |
| S KASL-4805 ZGS/3 | 67420 |

LxW5 Series

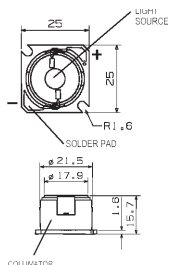


OSRAM
Golden Dragon

| Part No. | Colour | Luminous flux [lm/mA] | Luminance [mcd/mA] | Com-sumpt. | Uf | Viewing Angle |
|--------------------|--------|-----------------------|--------------------|------------|------|---------------|
| LA W57B-FYGY-24 | red | 18/400 | 6000/400 | 1,2W | 2,2V | 120° |
| LW W5 SG-GYHY-5K8L | white | 25/350 | 10000/350 | 2,3W | 3,8V | 120° |
| LW W5JM-HZKX-5K8L | white | 39-82/350 | | 1,6W | 3,8V | 120°/80° |

| Part No. | Ord. No. |
|----------------------|----------|
| S LA W57B-FYGY-24 | 50304 |
| O LW W5 SG-GYHY-5K8L | 50306 |
| O LW W5JM-HZKX-5K8L | 69941 |

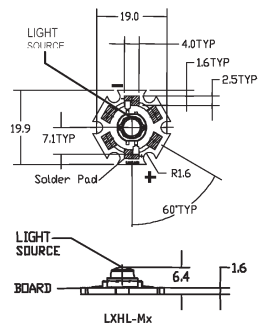
LXHL Series



LUXEON®

| Part No. | Colour | Luminous flux | Viewing Angle |
|-----------|--------------|---------------|---------------|
| LXHL-NB98 | blue 470nm | 10lm/350mA | 10° |
| LXHL-ND98 | red 625nm | 27lm/350mA | 10° |
| LXHL-NL98 | yellow 590nm | 25lm/350mA | 10° |
| LXHL-NM98 | green 530nm | 30lm/350mA | 10° |
| LXHL-NRR8 | blue 455nm | 150mw/350mA | 10° |
| LXHL-NWE8 | white 5500k | 25lm/350mA | 10° |

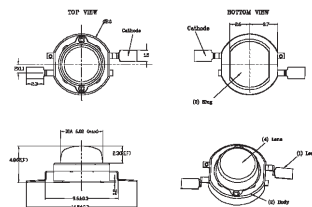
| Part No. | Ord. No. |
|-------------|----------|
| O LXHL-NB98 | 45124 |
| O LXHL-ND98 | 45125 |
| O LXHL-NL98 | 45127 |
| O LXHL-NRR8 | 45130 |
| S LXHL-NWE8 | 53200 |
| O LXHL-NM98 | 45128 |



| Part No. | Colour | Luminous flux | Viewing Angle |
|---------------|-------------|---------------|---------------|
| LXHL-LD3C | red 627nm | 140lm/1400mA | 110° |
| LXHL-LRD5 | blue 460nm | 600mW/700mA | 150° |
| LXHL-LW6C | white 5500K | 120lm/700mA | 120° |
| LXHL-MD1C | red 625nm | 27lm/350mA | 110° |
| LXHL-LW3C | white 5500K | 80lm/1000mA | 160° |
| LXHL-MW1D | white 5500K | 25lm/350mA | 140° |
| LXHL-MWEC | white 5500K | 45lm/350mA | 110° |
| LXHL-MWGC | white 3300K | 20lm/350mA | 110° |
| LXK2-PW14-T00 | white 6500K | 85lm/1000mA | 140° |

Part No. Ord. No.

| | |
|-----------------|-------|
| O LXHL-LD3C | 53654 |
| S LXHL-LW6C | 48932 |
| O LXHL-LRD5 | 55643 |
| O LXHL-MD1C | 45119 |
| O LXK2-PW14-T00 | 61100 |
| O LXHL-LW3C | 55969 |
| O LXHL-MW1D | 53201 |
| S LXHL-MWEC | 53838 |
| O LXHL-MWGC | 54653 |



| Part No. | Colour | Luminous flux | Viewing Angle |
|-----------|-------------|---------------|---------------|
| LXHL-BW02 | white 5500K | 45lm/350mA | 110° |
| LXHL-PW09 | white 5500K | 65lm/1000mA | 160° |
| LXHL-PRD5 | blue 460nm | 600lm/700mA | 150° |
| LXHL-PW03 | white 5500K | 120lm/700mA | 120° |

Part No. Ord. No.

| | |
|-------------|-------|
| O LXHL-BW02 | 55967 |
| O LXHL-PW09 | 55968 |
| O LXHL-PRD5 | 55971 |
| O LXHL-PW03 | 55970 |

LED1W/3W Series

ECONOMIC



Part No. Description

| | |
|-----------|---------------------|
| LED 1W RD | Power LED red 1W |
| LED 1W WH | Power LED white 1W |
| LED 1W BL | Power LED blue 1W |
| LED 1W GN | Power LED green 1W |
| LED 1W YE | Power LED yellow 1W |
| LED 3W WH | Power LED white 3W |
| LED 3W BL | Power LED blue 3W |
| LED 3W RD | Power LED red 3W |
| LED 3W GN | Power LED green 3W |
| LED 3W YE | Power LED yellow 3W |

Part No. Ord. No.

| | |
|-------------|-------|
| S LED 1W RD | 64791 |
| S LED 1W WH | 64796 |
| S LED 1W BL | 64797 |
| S LED 1W GN | 71780 |
| S LED 1W YE | 71779 |
| S LED 3W WH | 64798 |
| S LED 3W BL | 64799 |
| S LED 3W RD | 64800 |
| S LED 3W GN | 71782 |
| S LED 3W YE | 71781 |

KLH-10 Series



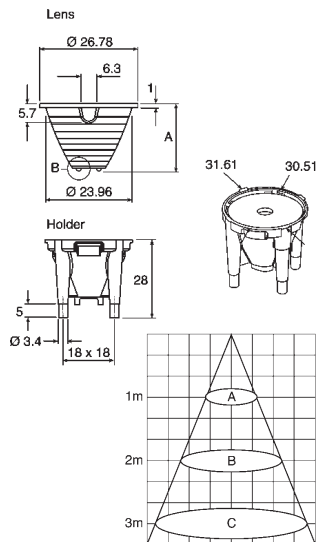
Power LED modul - RGB
1W

Part No. Ord. No.

| | |
|--------------|-------|
| S KLH-10RGB3 | 53655 |
|--------------|-------|

Accessories

FHS Series - Lenses for LUXEON LED



The FHS series offers a complete range of lenses specially designed for the LUXEON LED from Lumileds. Both Batwing and Lambertian radiation patterns are supported. A software optimized aspheric profile combined to front shaped micro-lens arrays enable the generation of four different lens models: narrow beam, medium beam, wide beam and a special elliptical pattern. The high collection efficiency reaches the 85% of the total flux emitted from the LED.

Typical applications are:

Reading Lamps
Signs
Street Lights
General Illumination
Most applications where uniformity and high intensity over a wide angle is required

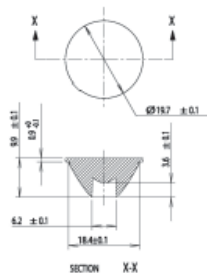
Technical data

| Beam | Part No. | A (1m) [Lux] | B (2m) [Lux] | C (3m) [Lux] |
|-------------------|------------------|-----------------|-----------------|-----------------|
| Batwing | | | | |
| Slim | FHS-HNB 1-LB01-x | 13.4 | 3.4 | 1.5 |
| Medium | FHS-HMB 1-LB01-x | 4.1 | 1.1 | 0.5 |
| Wide | FHS-HWB 1-LB01-x | 1.6 | 0.4 | 0.2 |
| Lambertian | | | | |
| Slim | FHS-HNB 1-LL01-x | 17.1 | 4.3 | 1.9 |
| Medium | FHS-HMB 1-LL01-x | 5.5 | 1.4 | 0.6 |
| Wide | FHS-HWB 1-LL01-x | 1.8 | 0.5 | 0.2 |

| Part No. | Description |
|-----------------|------------------------------|
| FHS-HNB-LB01-H | Lens for Luxeon LED 10° beam |
| FHS-HWB1-LB01-H | Lens for Luxeon LED 45° beam |
| FHS-HWB1-LL01-H | Lens for Luxeon LED 45° beam |

| Part No. | Ord. No. |
|-------------------|----------|
| o FHS-HNB-LB01-H | 48931 |
| o FHS-HWB1-LB01-H | 53203 |
| o FHS-HWB1-LL01-H | 53694 |

CARCLO Series - Lenses for LUXEON POWER LED



| Part No. | Description |
|-----------------|-------------------------------|
| CARCLO 10003 | Lens for Luxeon Power LED 12° |
| CARCLO 10003/15 | Lens for Luxeon Power LED 30° |
| CARCLO 10003/25 | Lens for Luxeon Power LED 50° |

| Part No. | Ord. No. |
|-------------------|----------|
| s CARCLO 10003 | 60304 |
| s CARCLO 10003/15 | 60164 |
| s CARCLO 10003/25 | 60303 |

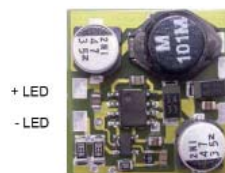
CARCLO Series - Lens Holder for LUXEON



| Part No. | Description |
|--------------|---------------------------------|
| CARCLO 10121 | Lens holder for Luxeon K2 white |

| Part No. | Ord. No. |
|----------------|----------|
| s CARCLO 10121 | 65464 |

HKO Series - High Power Constant Current Source

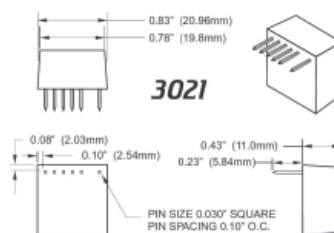


- Startup ca. 5,2 Volt (for one 1 Watt LED)
- Drop: ca. 1,8 Volts
- Output: protected against short circuit
- Output current: 350 mA resp. 700mA constant
- Input: reverse polarity protection
- Efficiency: between 75% and 90% depending on the number of LEDs

| Part No. | Description |
|----------|--|
| HKO 350 | Current power supply for LED 350mA (5,2-24V) |
| HKO 700 | Current power supply for LED 700mA (5,8-24V) |

| Part No. | Ord. No. |
|-----------|----------|
| o HKO 350 | 54143 |
| o HKO 700 | 54144 |

BuckPuck DC LED Driver for LUXEON - 3021Series



| Part No. | Description |
|---------------|------------------------------|
| 3021-D-E-0350 | 350mA DC LED driver, 5,0-32V |
| 3021-D-E-1000 | 1000mA DC LED driver 5,0-32V |

| Part No. | Ord. No. |
|-----------------|----------|
| s 3021-D-E-0350 | 64640 |
| s 3021-D-E-1000 | 64974 |



| Part No. | Description |
|-----------|--|
| SLP 03 SS | Constant-current source for LED 1W, 230V |

| Part No. | Ord. No. |
|-------------|----------|
| s SLP 03 SS | 71143 |

LED Tester

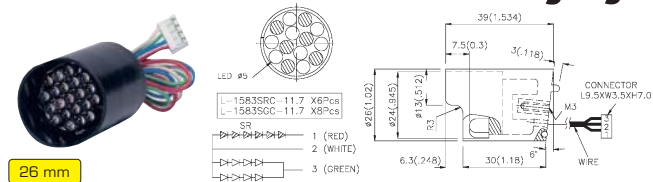


LED Tester 80x60x22mm

| Part No. | Ord. No. |
|--------------|----------|
| s LED TESTER | 52245 |

LED Clusters

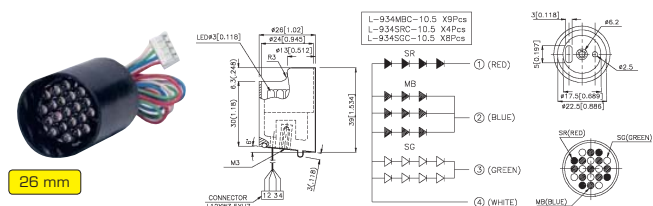
BL0102 Series



| Part No. | Description |
|--------------|----------------------------|
| BL0102-14-34 | LED cluster 26mm red/green |

| Part No. | Ord. No. |
|-----------------|----------|
| o BL 0102-14-34 | 12201 |

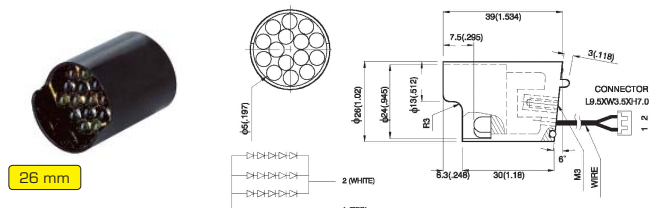
BL0104 Series



| Part No. | Description |
|--------------|------------------------|
| BL0104-21-72 | LED 26mm cluster R/G/B |

| Part No. | Ord. No. |
|-----------------|----------|
| o BL 0104-21-72 | 12202 |

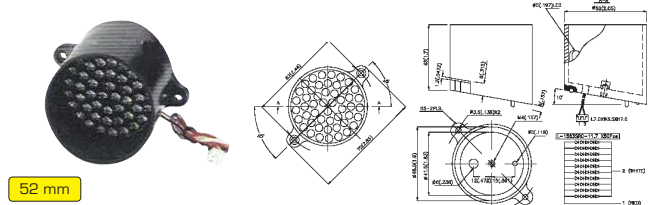
BL0106 Series



| Part No. | Description |
|--------------|-----------------------------|
| BL0106-15-28 | LED 26mm cluster IR |
| BL0106-15-39 | LED 26mm cluster 6Cd red |
| BL0106-15-47 | LED 26mm cluster 2Cd green |
| BL0106-15-48 | LED 26mm cluster 2Cd yellow |

| Part No. | Ord. No. |
|-----------------|----------|
| s BL 0106-15-28 | 12207 |
| o BL 0106-15-39 | 12204 |
| o BL 0106-15-47 | 12205 |
| o BL 0106-15-48 | 12206 |

BL0307 Series



| Part No. | Description |
|--------------|---|
| BL0307-50-44 | LED cluster 52mm red, 23000 mcd/20mA |
| BL0307-50-45 | LED cluster 52mm yellow, 15000 mcd/20mA |
| BL0307-50-46 | LED cluster 52mm green, 15000 mcd/20mA |

| Part No. | Ord. No. |
|-----------------|----------|
| o BL 0307-50-44 | 11942 |
| o BL 0307-50-45 | 12097 |
| o BL 0307-50-46 | 12096 |

LED Modules

LSL Series



| Part No. | Description |
|--------------------|----------------------|
| LSL-062A-02R SEC-H | red flexible 26xLED |
| LSL-062A-05B QBC-D | blue flexible 26xLED |
| LSL-063A-07G CGCK | green 32xLED |

| Part No. | Ord. No. |
|----------------------|----------|
| s LSL-062A-02R SEC-H | 54894 |
| s LSL-062A-05B QBC-D | 54897 |
| s LSL-063A-07G CGCK | 54898 |

LED STRIP FLEXIBLE Series

ECONOMIC



| Part No. | Description |
|---------------------|----------------------------|
| Led-Strip Flex18 BU | blue 18pcs 12VDC, L=300mm |
| Led-Strip Flex18 RD | red 18pcs 12VDC, L=300mm |
| Led-Strip Flex18 WH | white 18pcs 12VDC, L=300mm |

| Part No. | Ord. No. |
|-------------------------|----------|
| s Led-Strip Flexible BU | 71776 |
| s Led-Strip Flexible RD | 71775 |
| s Led-Strip Flexible WH | 71777 |

LED STRIP STARR Series

ECONOMIC



| Part No. | Description |
|--------------------|-----------------------------|
| Led-Strip starr BL | blue 30pcs 12VDC, L=375mm |
| Led-Strip starr WH | white 30pcs 12VDC, L=375mm |
| Led-Strip starr YL | yellow 30pcs 12VDC, L=375mm |
| Led-Strip starr RD | red 30pcs 12VDC, L=375mm |
| Led-Strip starr GN | green 30pcs 12VDC, L=375mm |

| Part No. | Ord. No. |
|----------------------|----------|
| s Led-Strip starr BL | 65533 |
| s Led-Strip starr WH | 65534 |
| s Led-Strip starr YL | 71141 |
| s Led-Strip starr RD | 69272 |
| s Led-Strip starr GN | 71142 |

LED STRIP PIRANHA Series

ECONOMIC



| Part No. | Description |
|----------------------|-------------------------------|
| LED-Strip18BUPiranha | LED-Strip 33cm, 18 LEDs blue |
| LED-Strip18RDPiranha | LED-Strip 33cm, 18 LEDs red |
| LED-Strip18WHPiranha | LED-Strip 33cm, 18 LED white |
| LED-Strip36BUPiranha | LED-Strip 63cm, 36 LEDs blue |
| LED-Strip36RDPiranha | LED-Strip 63cm, 36 LEDs red |
| LED-Strip36WHPiranha | LED-Strip 63cm, 36 LEDs white |

LED Modules (continued)

| Part No. | Ord. No. |
|------------------------|----------|
| S LED-Strip18BUPiranha | 76864 |
| S LED-Strip18RDPiranha | 76863 |
| S LED-Strip18WHPiranha | 76865 |
| S LED-Strip36BUPiranha | 76861 |
| S LED-Strip36RDPiranha | 76860 |
| S LED-Strip36WHPiranha | 76862 |

LED STRIP VERY FLEXIBLE Series

ECONOMIC



33pcs/0,5m

| Part No. | Description |
|---------------------------|------------------------------|
| Led-Strip hochflexibel BL | SMD LED, 33 pcs, blue, 0,5m |
| Led-Strip hochflexibel WH | SMD LED, 33 pcs, white, 0,5m |

| Part No. | Ord. |
|-----------------------------|-------|
| S Led-Strip hochflexibel BL | 65535 |
| S Led-Strip hochflexibel WH | 65536 |



66pcs/1m
IP65

| Part No. | Description |
|---------------------|-------------------------------|
| LED-Strip Flex66 BU | blue 66pcs 12VDC, L=1m, IP65 |
| LED-Strip Flex66 RD | red 66pcs 12VDC, L=1m, IP65 |
| LED-Strip Flex WH | white 66pcs 12VDC, L=1m, IP65 |

| Part No. | Ord. |
|-----------------------|-------|
| S LED-Strip Flex66 BU | 76813 |
| S LED-Strip Flex66 RD | 76812 |
| S LED-Strip Flex66 WH | 71778 |



330pcs/5m

| Part No. | Description |
|--------------------|------------------------------------|
| SMD Led-Strip BLUE | SMD LED, 330 pcs, 12VDC, blue, 5m |
| SMD Led-Strip WHI | SMD LED, 330 pcs, 12VDC, white, 5m |
| SMD Led-Strip RED | SMD LED, 330 pcs, 12VDC, red, 5m |

| Part No. | Ord. |
|----------------------|-------|
| S SMD Led-Strip BLUE | 72675 |
| S SMD Led-Strip WHI | 72676 |
| S SMD Led-Strip RED | 72677 |

RGB Series

ECONOMIC



RGB

| Part No. | Description |
|------------------------|---|
| LED-Strip-Flex150 RGB1 | LED-Strip 5m, 150 RGB LEDs, 3x1000mA |
| LED-Strip-Flex150RGB2 | LED-Strip 5m,150RGB LEDs,3x1000mA, waterresist |
| LED-Strip-Flex30RGB2 | LED-Strip 1m, 30RGB LEDs, 3x1000mA, waterresist |
| RGB Controller | LED-Controller with IR-remote control |

| Part No. | Ord. |
|--------------------------|-------|
| S LED-Strip-Flex150 RGB1 | 79580 |
| S LED-Strip-Flex150RGB2 | 79577 |
| S LED-Strip-Flex30RGB2 | 79343 |
| S RGB Controller | 79344 |

LED Bulbs

MR-16 Series

GU-10 Series



12V



| Part No. | Description |
|------------------------|--|
| LED SPOTLIGHT BL MR-16 | LED(18pcs) bulb MR16 50mm 12VDC blue |
| LED SPOTLIGHT GR MR-16 | LED(18pcs) bulb MR16 50mm 12VDC green |
| LED SPOTLIGHT WH MR-16 | LED(18pcs) bulb MR16 50mm 12VDC white |
| LED SPOTLIGHT Y MR-16 | LED(18pcs) bulb MR16 50mm 12VDC yellow |
| LED SPOTLIGHT WH GU10 | LED(18pcs) bulb GU10 50mm 230VAC white |
| LED SPOTLIGHT WHc GU10 | LED 3W bulb GU10 230VAC cold white |
| LED SPOTLIGHT WHw GU10 | LED 3W bulb GU10 230VAC warm white |

| Part No. | Ord. No. |
|--------------------------|----------|
| S LED SPOTLIGHT BL MR-16 | 56629 |
| S LED SPOTLIGHT GR MR-16 | 56627 |
| S LED SPOTLIGHT WH MR-16 | 56625 |
| S LED SPOTLIGHT Y MR-16 | 56628 |
| S LED SPOTLIGHT WH GU10 | 53107 |
| S LED SPOTLIGHT WHc GU10 | 65293 |
| S LED SPOTLIGHT WHw GU10 | 65294 |

E27 Series

LED

JDR

E27



230V



230V



230V

| Part No. | Description |
|----------------------|---|
| LED SPOTLIGHT WH E27 | LED(18pcs) bulb E27 50mm 230VAC white |
| LED SPOTLIGHT WH E27 | LED 3W bulb E27 230VAC warm white |
| LED SPOTLIGHT WH E27 | LED 3W bulb E27 230VAC cold white |
| JDR-C3W-M70 | LED bulb E27 230V warm white 3W 120lm 70° |
| JDR-C3W-W70 | LED bulb E27 230V white 3W 140lm 70° |
| JDR-C1W3-M60 | LED bulb E27 230V warm white 3x1W 220lm 60° |
| JDR-C1W3-W60 | LED bulb E27 230V white 3x1W 260lm 60° |
| E27-10W-M70 | LED bulb E27 230V warm white 10W 350lm 70° |
| E27-10W-W70 | LED bulb E27 230V white 10W 400lm 70° |

| Part No. | Ord. No. |
|------------------------|----------|
| S LED SPOTLIGHT WH E27 | 56624 |
| S LED SPOTLIGHT WH E27 | 65291 |
| S LED SPOTLIGHT WH E27 | 65292 |
| S JDR-C3W-M70 | 68833 |
| S JDR-C3W-W70 | 68835 |
| S JDR-C1W3-M60 | 68842 |
| S JDR-C1W3-W60 | 68843 |
| S E27-10W-M70 | 68844 |
| S E27-10W-W70 | 68845 |

E14 Series

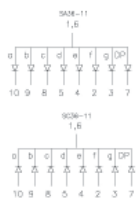
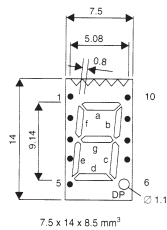
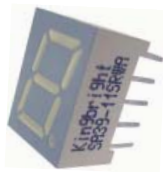


230V

| Part No. | Description |
|-------------|---|
| E14-C3W-M70 | LED bulb E14 230V warm white 3W 120lm 70° |
| E14-C3W-W70 | LED bulb E14 230V white 3W 140lm 70° |

| Part No. | Ord. No. |
|---------------|----------|
| S E14-C3W-M70 | 68837 |
| S E14-C3W-W70 | 68838 |

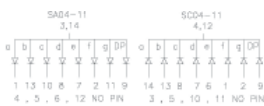
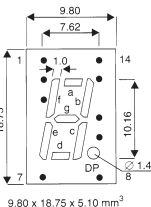
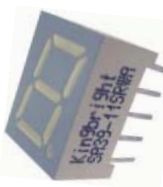
7 segments, 1 - digit LED Displays 9 mm Series/0,36" Kingbright



| Part No. | Colour | Luminous Intensity (mcd/10mA) |
|---------------|----------------------|-------------------------------|
| SA 36-11 EWA | red | 1,9 |
| SA 36-11 SRWA | super bright red | 6,4 |
| SA 36-11 GWA | green | 1,9 |
| SA 36-11 YWA | yellow | 1,2 |
| SC 36-11 EWA | red (common cathode) | 1,9 |

| Part No. | Ord. No. |
|-----------------|----------|
| S SA 36-11 EWA | 12371 |
| S SA 36-11 SRWA | 11975 |
| S SA 36-11 GWA | 12215 |
| O SA 36-11 YWA | 12370 |
| S SC 36-11 EWA | 11957 |

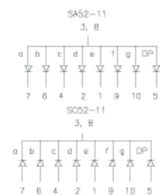
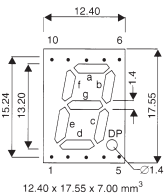
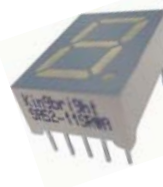
10 mm Series/0,4" Kingbright



| Part No. | Colour | Luminous Intensity (mcd/10mA) |
|--------------|------------------------|-------------------------------|
| SA 04-11 EWA | red | 8 |
| SA 04-11 GWA | green | 12 |
| SA 04-11 YWA | yellow | 4,7 |
| SC 04-11 GWA | green (common cathode) | 12 |

| Part No. | Ord. No. |
|----------------|----------|
| S SA 04-11 EWA | 12075 |
| S SA 04-11 GWA | 12310 |
| O SA 04-11 YWA | 12309 |
| S SC 04-11 GWA | 12591 |

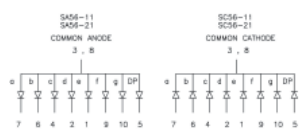
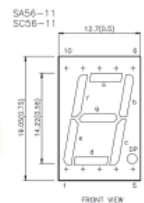
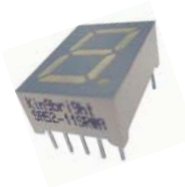
13 mm Series/0,52" Kingbright



| Part No. | Colour | Luminous Intensity (mcd/10mA) |
|---------------|-----------------------------------|-------------------------------|
| SA 52-11 EWA | high efficiency red | 6,4 |
| SA 52-11 LEWA | super bright red | 1,4/2mA |
| SC 52-11 GWA | green | 10,5 |
| SC 52-11 EWA | green (common cathode) | 1,9 |
| SC 52-11 SRWA | super bright red (common cathode) | 24 |

| Part No. | Ord. No. |
|-----------------|----------|
| S SA 52-11 EWA | 12288 |
| S SA 52-11 LEWA | 12557 |
| S SC 52-11 GWA | 11940 |
| S SC 52-11 EWA | 12559 |
| S SC 52-11 SRWA | 11948 |

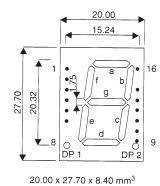
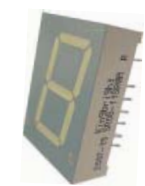
14 mm Series/0,56" Kingbright



| Part No. | Colour | Luminous Intensity (mcd/10mA) |
|----------------|------------------------|-------------------------------|
| SA 56-11 EWA | red | 6,4 |
| SA 56-11 LSRWA | red | 0,9/2mA |
| SA 56-11 SRWA | red | 24 |
| SA 56-11 GWA | green | 10,5 |
| SA 56-11 YWA | yellow | 4,7 |
| SC 56-11 GWA | green (common cathode) | 10,5 |

| Part No. | Ord. No. |
|------------------|----------|
| S SA 56-11 EWA | 12362 |
| S SA 56-11 GWA | 12166 |
| S SA 56-11 LSRWA | 12404 |
| S SA 56-11 SRWA | 12289 |
| S SA 56-11 YWA | 12372 |
| O SC 56-11 GWA | 12015 |

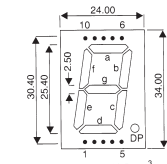
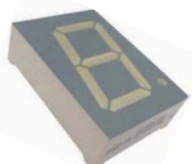
20 mm Series/0,8" Kingbright



| Part No. | Colour | Luminous Intensity (mcd/10mA) |
|---------------|-------------------------|-------------------------------|
| SA 08-11 EWA | high efficiency red | 6,4 |
| SA 08-11 SRWA | super bright red | 24 |
| SA 08-11 GWA | green | 10,5 |
| SC 08-11 EWA | red (common cathode) | 6,4 |
| SC 08-11 GWA | yellow (common cathode) | 10,5 |

| Part No. | Ord. No. |
|-----------------|----------|
| S SA 08-11 EWA | 12564 |
| S SA 08-11 GWA | 12021 |
| S SA 08-11 SRWA | 12598 |
| S SC 08-11 EWA | 12046 |
| S SC 08-11 GWA | 11960 |

25 mm Series/10" Kingbright

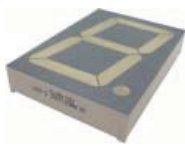


2 LEDs/1 segment

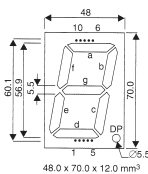
| Part No. | Colour | Luminous Intensity (mcd/10mA) |
|--------------|--------|-------------------------------|
| SA 10-21 EWA | red | 16 |
| SA 10-21 GWA | green | 24 |

| Part No. | Ord. No. |
|----------------|----------|
| S SA 10-21 EWA | 12365 |
| O SA 10-21 GWA | 12363 |

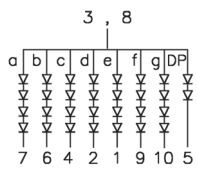
57 mm Series/2,3"



4 LED/1 segment



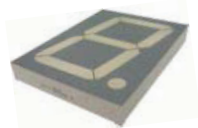
Kingbright



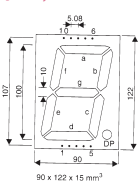
| Part No. | Colour | Luminous Intensity (mcd/10mA) |
|---------------|------------------|-------------------------------|
| SA 23-12 GWA | green | 24 |
| SA 23-12 SRWA | super bright red | 75 |

| Part No. | Ord. No. |
|-----------------|----------|
| o SA 23-12 GWA | 11961 |
| s SA 23-12 SRWA | 12000 |

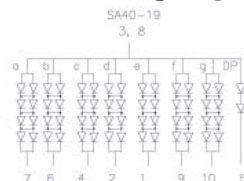
100 mm Series/4,0"



2x4 LED/1 segment



Kingbright

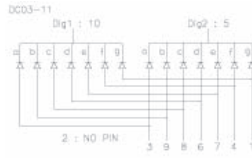
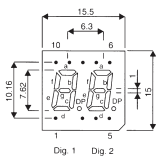


| Part No. | Colour | Luminous Intensity (mcd/10mA) |
|---------------|------------------|-------------------------------|
| SA 40-19 EWA | red | 44 |
| SA 40-19 SRWA | super bright red | 105 |

| Part No. | Ord. No. |
|-----------------|----------|
| s SA 40-19 EWA | 12119 |
| s SA 40-19 SRWA | 11953 |

7 segments 2-digit LED Displays

7 mm Series /0,3"

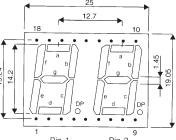


Kingbright

| Part No. | Colour | Luminous Intensity (mcd/10mA) |
|--------------|--------|-------------------------------|
| DC 03-11 GWA | green | 3 |

| Part No. | Ord. No. |
|----------------|----------|
| s DC 03-11 GWA | 11963 |

14 mm Series /0,56"

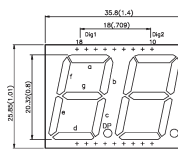


Kingbright

| Part No. | Colour | Luminance (mcd/10mA) |
|---------------|------------------------|----------------------|
| DA 56-11 EWA | red | 8 |
| DA 56-11 HWA | red | 1,9 |
| DA 56-11 SRWA | super red | 24 |
| DA 56-11 GWA | green | 10,5 |
| DC 56-11 HWA | red (common cathode) | 1,9 |
| DC 56-11 GWA | green (common cathode) | 10,5 |

| Part No. | Ord. No. |
|-----------------|----------|
| s DA 56-11 EWA | 12250 |
| s DA 56-11 HWA | 11967 |
| s DA 56-11 SRWA | 12249 |
| s DA 56-11 GWA | 12188 |
| o DC 56-11 HWA | 11968 |
| s DC 56-11 GWA | 11969 |

20 mm Series/0,8"



Kingbright

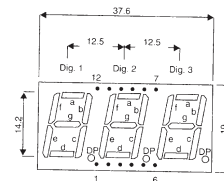
| Part No. | Colour | Luminous Intensity (mcd/10mA) |
|---------------|------------------|-------------------------------|
| DA 08-11 EWA | red | 8 |
| DA 08-11 SRWA | super bright red | 24 |
| DA 08-11 GWA | green | 10,5 |

| Part No. | Ord. No. |
|-----------------|----------|
| o DA 08-11 EWA | 12616 |
| s DA 08-11 SRWA | 12037 |
| o DA 08-11 GWA | 12617 |

7 segments 3-digit LED Displays

14 mm Series/0,56"

Kingbright



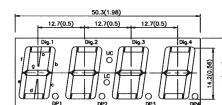
| Part No. | Colour | Luminous Intensity (mcd/10mA) |
|---------------|------------------|-------------------------------|
| BA 56-12 SRWA | red | 24 |
| BA 56-12 SRWA | super bright red | 24 |
| BA 56-12 GWA | green | 10,5 |
| BA 56-11 EWA | red | 6,4 |

| Part No. | Ord. No. |
|-----------------|----------|
| s BA 56-12 SRWA | 12408 |
| s BA 56-12 SRWA | 12017 |
| s BA 56-12 GWA | 12016 |
| s BA 56-11 EWA | 73133 |

7 segments 4-digit LED Displays

Series 14 mm/0,56"

Kingbright



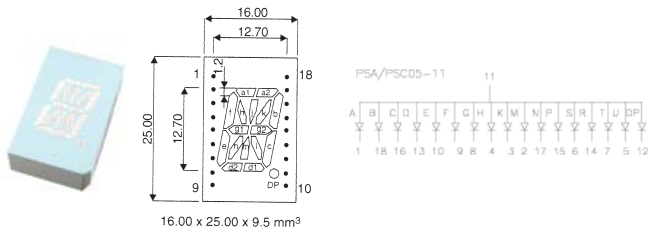
| Part No. | Colour | Luminous Intensity (mcd/10mA) |
|---------------|----------------------|-------------------------------|
| CA 56-12 SRWA | red | 24 |
| CC 56-11 EWA | red (common cathode) | 6,4 |

| Part No. | Ord. No. |
|-----------------|----------|
| s CA 56-12 SRWA | 43953 |
| s CC 56-11 EWA | 12076 |

Alphanumeric LED Displays

13 mm Series/0,5"

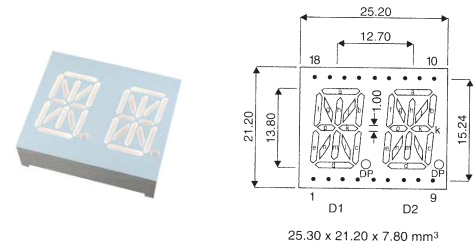
Kingbright



| Part No. | Colour | Luminous Int. (mcd) | digital segments |
|-----------------|----------|---------------------|------------------|
| PSA 05-11 EWA | red | 4,1 | 1/16 |
| Part No. | Ord. No. | | |
| S PSA 05-11 EWA | 12087 | | |

14 mm Series/0,54"

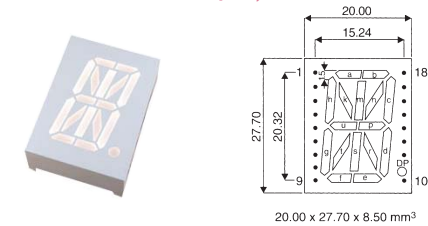
Kingbright



| Part No. | Colour | Luminous Int. (mcd) | digital segments |
|-----------------|----------|---------------------|------------------|
| PDA 54-11 EWA | red | 4,7 | 2/14 |
| Part No. | Ord. No. | | |
| S PDA 54-11 EWA | 12111 | | |

20 mm Series/0,8"

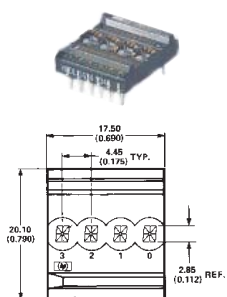
Kingbright



| Part No. | Colour | Luminous Int. (mcd) | digital segments | |
|-----------------|----------|---------------------|------------------|----------------|
| PSC 08-11 EWA | red | 75 | 1/16 | common Cathode |
| Part No. | Ord. No. | | | |
| O PSC 08-11 EWA | 12155 | | | |

2,8mm LED Display with Driver

Agilent



The HPDL-1414 is a smart, four character, sixteen-segment, red display. The on-board CMOS IC contains memory, ASCII decoder, multiplexing circuitry and drivers. The monolithic LED characters are magnified by an immersion lens which increases both character size and luminous intensity. It has a wide operating temperature range, very fast IC access time, and improved ESD protection.

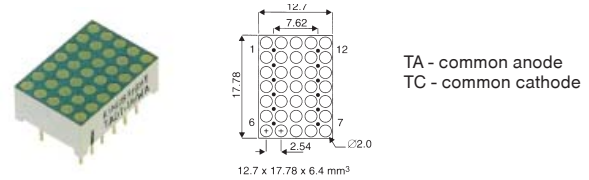
The displays are also fully TTL compatible, wave solderable, and highly reliable. These displays are ideally suited for industrial and commercial applications where a good-looking, easy-to-use alphanumeric display is required.

| Part No. | Colour | Luminous Int. (mcd) | digital segments | |
|-------------|----------|---------------------|------------------|--------|
| HPDL-1414 | red | 1 | 4/16 | driver |
| Part No. | Ord. No. | | | |
| O HPDL-1414 | 49089 | | | |

Dot Matrix LED Displays

18 mm Series/0,7"

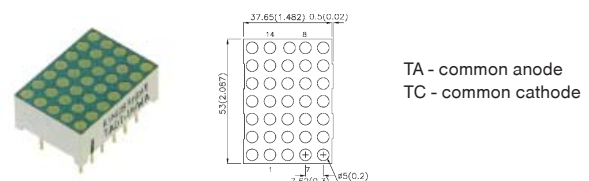
Kingbright



| Part No. | Colour | Luminous Int. (mcd/10mA) | No of Dots |
|----------------|----------|--------------------------|------------|
| TC 07-11 EWA | red | 8 | 5x7 |
| TC 07-11 GWA | green | 8 | 5x7 |
| Part No. | Ord. No. | | |
| O TC 07-11 EWA | 12225 | | |
| O TC 07-11 GWA | 12214 | | |

50 mm Series/20"

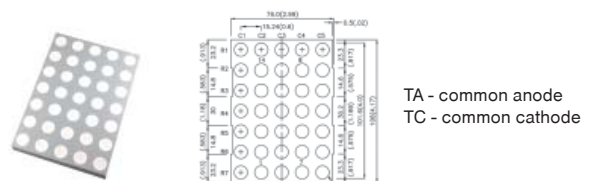
Kingbright



| Part No. | Colour | Luminance (mcd/10mA) | No of Dots |
|-----------------|-----------|----------------------|------------|
| TA 20-11 SRWA | super red | 26 | 5x7 |
| Part No. | Ord. No. | | |
| O TA 20-11 SRWA | 12165 | | |

100 mm Series/40"

Kingbright



| Part No. | Colour | Luminous Int. (mcd/10mA) | No of Dots |
|-----------------|-----------|--------------------------|------------|
| TA 40-11 SRWA | super red | 44 | 5x7 |
| Part No. | Ord. No. | | |
| S TA 40-11 SRWA | 56943 | | |

Light Pipes

KL Series

Kingbright



Wide viewing angle.
Designed to replace rectangular Right angle through hole device.
High transmissivity polycarbonate material.
UI94v-0 compliance.

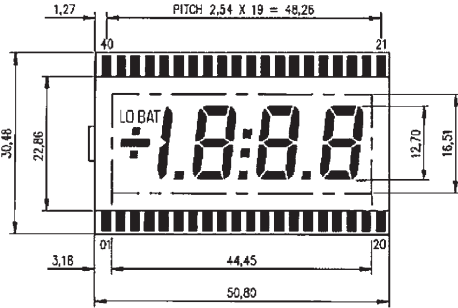
| Part No. | Description |
|----------|-------------|
| KL-05 | Light Pipe |
| KL-07LS | Light Pipe |
| Part No. | Ord. No. |
| S KL-05 | 61447 |
| S KL-07S | 47117 |

7-segment LCD Modules

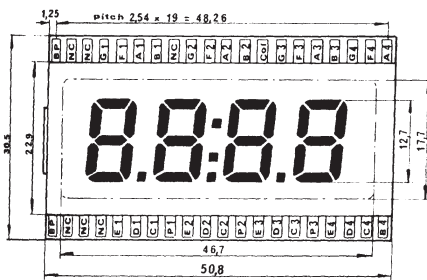


- operating time: 100 000 hours
- very low current consumption 1 mA
- operating voltage: 3 V
- temperature range -10°C to +60°C
- without driver

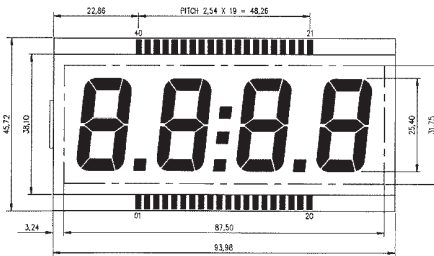
LCD 3,5-13 LOBAT



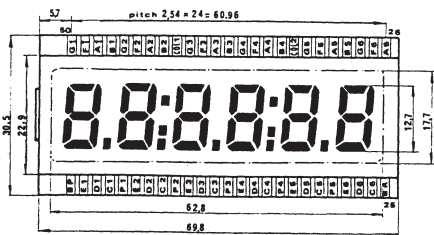
LCD 4,0-13



LCD 4,0-25,4



LCD 6,0-13



| Module | Digits | Character Height (mm) | Overall dimensions (mm) | Display | Viewing direction |
|--------------|--------|-----------------------|-------------------------|----------------|-------------------|
| LCD 3,5-13 | 3 1/2 | 12,7 | 50,8 x 30,4 | 46,8 x 18,4 mm | 6 o'clock |
| LCD 4,0-13 | 4 | 12,7 | 50,7 x 30,4 | 46,7 x 18,4 mm | 6 o'clock |
| LCD 4,0-25,4 | 4 | 25,4 | 94,0 x 45,7 | 87,5 x 31,7 mm | 6 o'clock |
| LCD 6,0-13 | 6 | 12,7 | 69,8 x 30,4 | 65,8 x 18,4 mm | 6 o'clock |

| Module | Original Marking | Ord. No. |
|----------------|-------------------|----------|
| S LCD 3,5-13 | DE-113-RS-20/7,5 | 13459 |
| S LCD 4,0-13 | DE-119-RS-20/7,5 | 13460 |
| S LCD 4,0-25,4 | DE-158-RS-20/8,4 | 6314 |
| S LCD 6,0-13 | DE-122-RS-20/6,35 | 13461 |

Alphanumeric LCD Modules



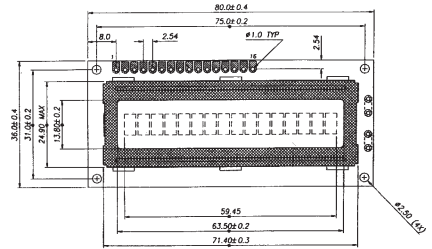
1x16 Characters



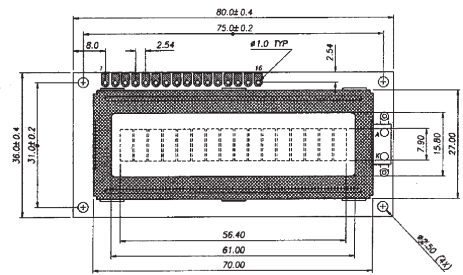
- alphanumeric LCD modules
- 1x16 characters
- yellow - green LED backlight
- temperature range -20°C to +70°C



DEM 16101



DEM 16102



| Module | Module Size (mm) | View Area (mm) | Character Size (mm) | Fonts |
|------------------|------------------|----------------|---------------------|-----------|
| DEM 16101 SYH | 80x36 | 64x14 | 5,95x3,20 | eng/japan |
| DEM 16102 SYH-LY | 80x36 | 61x16 | 7,90x3,15 | eng/japan |

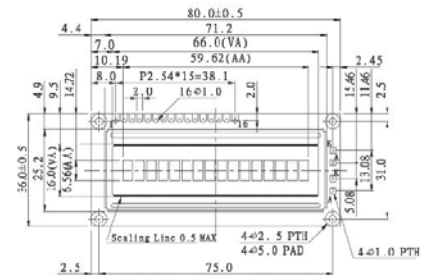
| Module | Ord. No. |
|--------------------|----------|
| S DEM 16101 SYH | 41179 |
| S DEM 16102 SYH-LY | 42440 |

1x16 Characters

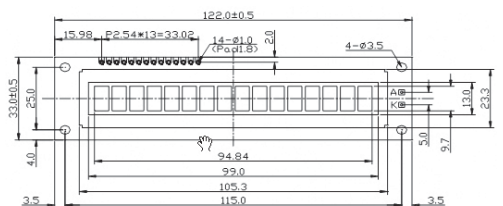


- alphanumeric LCD modules
- 1x16 characters
- green LED backlight
- temperature range -20°C to +70°C

BC1601A



BC1601D



| Module | Module Size (mm) | View Area (mm) | Character Size (mm) | Fonts |
|----------------|------------------|----------------|---------------------|--------------|
| BC 1601A YPLEH | 80x36 | 66x16 | 3,07x6,56 | eng/european |
| BC 1601D YPLEH | 122x33 | 99x13 | 4,84x9,7 | eng/european |

| Part No. | Ord. No. |
|------------------|----------|
| S BC 1601A YPLEH | 55876 |
| S BC 1601D YPLEH | 55878 |

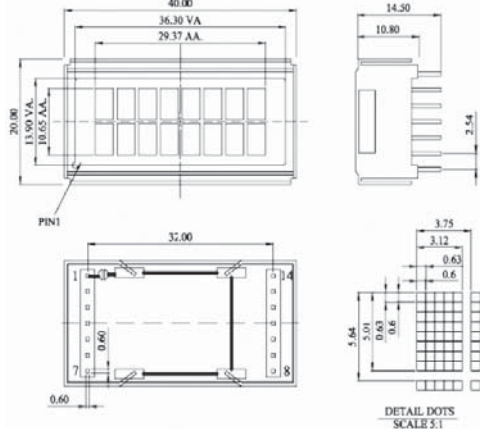
2x8 Characters



- alphanumeric LCD modules
- 2x8 characters
- yellow - green LED backlight
- BC 0802B YRNEH - without backlight
- temperature range: -20°C to +70°C



BC 0802B



| Module | Module Size (mm) | View. Area (mm) | Character Size (mm) | Fonts |
|----------------|------------------|-----------------|---------------------|--------------|
| BC 0802B YPLEH | 40x20 | 36,3x13,9 | 5,01x3,12 | eng/european |
| BC 0802B YRNEH | 40x20 | 36,3x13,9 | 5,01x3,12 | eng/european |

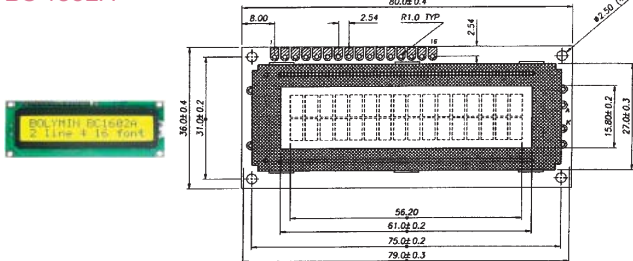
| Module | Ord. No. |
|------------------|----------|
| s BC 0802B YPLEH | 69467 |
| s BC 0802B YRNEH | 69468 |

2x16 Characters

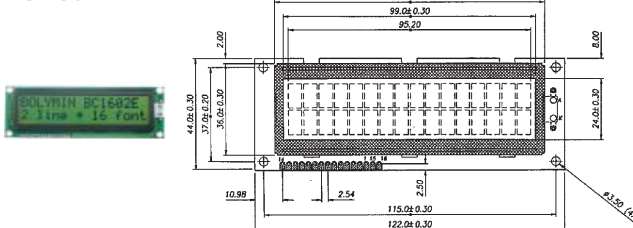
- alphanumeric LCD modules
- 2x16 characters
- BNHEH blue colour with white backlight (negative)
- FNHEH is black/white. Other models are with yellow/green LED backlight.
- Temperature range -20°C to +70°C.



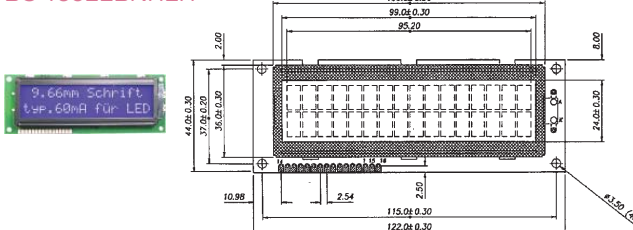
BC 1602A



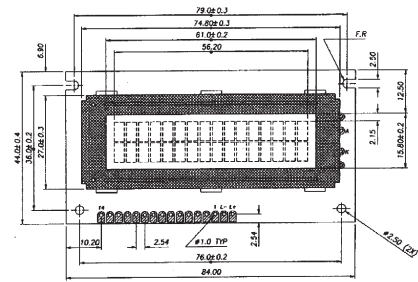
BC 1602E



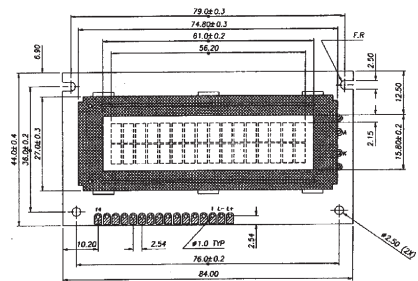
BC 1602EBNHEH



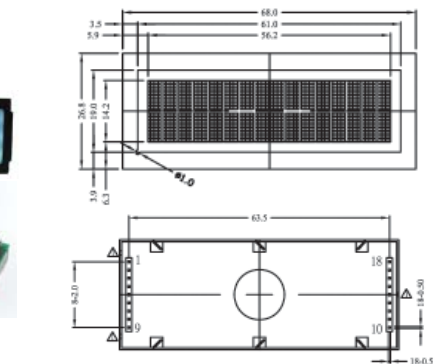
BC 1602H



BC1602HYPLEH



BC1602L

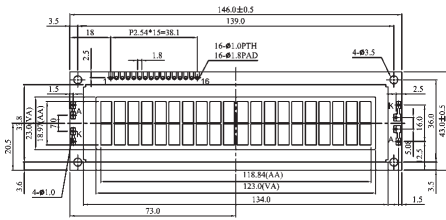


with pin headers

| Module | Module Size (mm) | View. Area (mm) | Character Size (mm) | Fonts |
|----------------|------------------|-----------------|---------------------|--------------|
| BC 1602A BNHEH | 80x36 | 66x16 | 2,96x5,56 | eng/european |
| BC 1602A FNHEH | 80x36 | 66x16 | 2,96x5,56 | eng/european |
| BC 1602A YPLEH | 80x36 | 66x16 | 2,96x5,56 | eng/european |
| BC 1602A YPLCH | 80x36 | 66x16 | 2,96x5,56 | eng/cyrillic |
| BC 1602A YPLJH | 80x36 | 66x16 | 2,96x5,56 | eng/japan |
| BC 1602E BNHEH | 122x44 | 99x24 | 4,84x9,66 | eng/european |
| BC 1602E YPLEH | 122x44 | 99x24 | 4,84x9,66 | eng/european |
| BC 1602E YPLCH | 122x44 | 99x24 | 4,84x9,66 | eng/cyrillic |
| BC 1602H BNHEH | 84x44 | 66x16 | 2,96x5,56 | eng/european |
| BC 1602H FNHEH | 84x44 | 66x16 | 2,96x5,56 | eng/european |
| BC 1602H YPLEH | 84x44 | 66x16 | 2,96x5,56 | eng/european |
| BC 1602K YPGEH | 59x29,3 | 52x15 | 2,54x4,67 | eng/european |
| BC 1602L BNHEH | 68x27 | 61x19 | 2,96x6,68 | eng/european |
| BC 1602L YPLEH | 68x27 | 61x19 | 2,96x6,68 | eng/european |

| Part No. | Ord. No. |
|------------------|----------|
| s BC 1602A BNHEH | 57716 |
| s BC 1602A FNHEH | 63275 |
| s BC 1602A YPLEH | 52951 |
| s BC 1602A YPLCH | 54576 |
| o BC 1602A YPLJH | 54937 |
| s BC 1602E BNHEH | 55881 |
| s BC 1602E YPLEH | 52952 |
| s BC 1602E YPLCH | 55476 |
| s BC 1602H BNHEH | 63274 |
| s BC 1602H FNHEH | 63276 |
| s BC 1602H YPLEH | 52950 |
| s BC 1602K YPGEH | 72687 |
| s BC 1602L BNHEH | 70985 |
| s BC 1602L YPLEH | 70984 |

BC 2002C



| Part No. | Module Size (mm) | Viewing Area (mm) | Character Size (mm) | Fonts |
|----------------|------------------|-------------------|---------------------|--------------|
| BC 2002A BNHEH | 116x37 | 85x19 | 5,55x3,2 | |
| BC 2002A YPLEH | 116x37 | 85x19 | 5,55x3,2 | eng/european |
| BC 2002C BNHEH | 146x43 | 123x23 | 9,22x4,84 | eng/european |
| BC 2002C YPLEH | 146x43 | 123x23 | 9,22x4,84 | |

| Part No. | Ord. No. |
|------------------|----------|
| S BC 2002A BNHEH | 62067 |
| S BC 2002A YPLEH | 54057 |
| S BC 2002C BNHEH | 55733 |
| S BC 2002C YPLEH | 55316 |

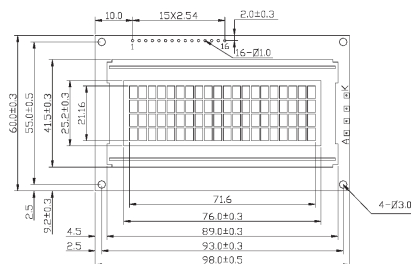
4x20 Characters



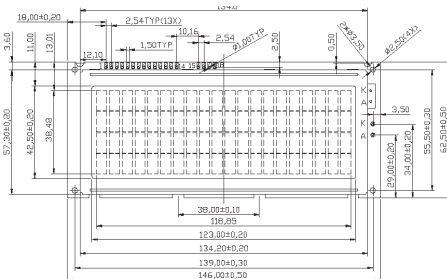
Alphanumeric LCD Modules with 4x20 characters. BNHEH is blue colour with white backlight (negative), BC 2004A FNHEH is black / white (negative). Other models are with yellow - green LED backlight. Temperature range: -20°C to +70°C.



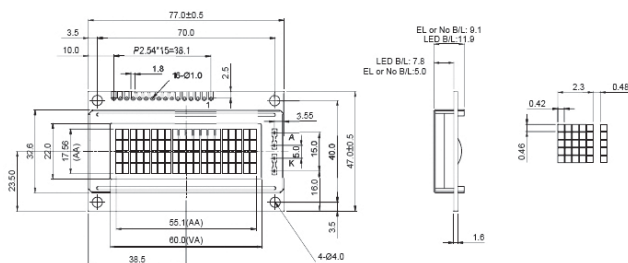
BC 2004A



BC 2004B



BC 2004D



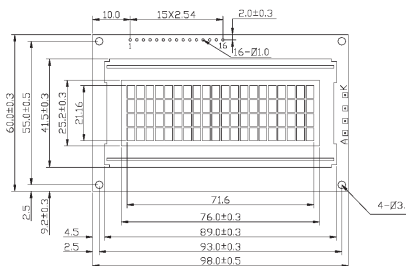
| Part No. | Module Size (mm) | Viewing Area (mm) | Character Size (mm) | Fonts |
|----------------|------------------|-------------------|---------------------|--------------|
| BC 2004A BNHEH | 98x60 | 77x25 | 4,75x2,95 | |
| BC 2004A FNHEH | 98x60 | 77x25 | 4,75x2,95 | |
| BC 2004A YPLEH | 98x60 | 77x25 | 4,75x2,95 | eng/european |
| BC 2004B BNHEH | 146x63 | 124x43 | 9,22x4,84 | |
| BC 2004B YPLEH | 146x63 | 124x43 | 9,22x4,84 | eng/european |
| BC 2004D BNHEH | 77x47 | 60x22 | 4,03x2,3 | |

| Part No. | Ord. No. |
|------------------|----------|
| S BC 2004A BNHEH | 63675 |
| S BC 2004A FNHEH | 67496 |

Part No. Ord. No.

| | |
|------------------|-------|
| S BC 2004A YPLEH | 52954 |
| S BC 2004B BNHEH | 60143 |
| S BC 2004B YPLEH | 53766 |
| S BC 2004D BNHEH | 68622 |

DEM 20485



| Part No. | Module Size (mm) | Viewing Area (mm) | Character Size (mm) | Fonts |
|------------------|------------------|-------------------|---------------------|-------|
| DEM 20485 SYH-LY | 98,0x60,0 | 76,3x25,0 | 4,75x2,95 | |

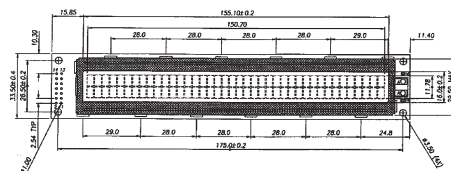
Part No. Ord. No.

| | |
|--------------------|------|
| S DEM 20485 SYH-LY | 3682 |
|--------------------|------|

2x40 Characters

Alphanumeric LCD Module with 4x16 characters with yellow - green LED backlight. Temperature range: 0°C to +50°C.

DEM 40271



| Part No. | Module Size (mm) | Viewing Area (mm) | Character Height (mm) | Fonts |
|-----------------|------------------|-------------------|-----------------------|-------|
| DEM 40271 SY-LY | 182,0x33,5 | 155,1x16,0 | 5,69 | |

Part No. Ord. No.

| | |
|-------------------|-------|
| S DEM 40271 SY-LY | 41100 |
|-------------------|-------|

Numbering system for Bolymin LCD modules

| B | C | 2004 | A | G | P | L | E | B | xxx |
|---|-----------------------------------|--|---|---|---|--|---|---|-----|
| 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 0 | Brand | Bolymin | | | | | | | |
| 1 | Module Type | C= character type G= graphic type P= TAB/TCP type R= color STN | | | | O= COG type F= COF type L= OLED | | | |
| 2 | Format | 2002=20 characters, 4 lines 12232= 122 x 32 dots | | | | | | | |
| 3 | Version No. | A type | | | | | | | |
| 4 | LCD Color | G=STN/gray Y=STN/yellow-green C=color STN | | | | B=STN/blue F=FSSTN T=TN | | | |
| 5 | LCD Type | R=positive/reflective P=positive/transflective | | | | M=positive/transmissive N=negative/transmissive | | | |
| 6 | Backlight type/color | L=LED array/ yellow-green H=LED edge/white R=LED array/red G=LED edge/yellow-green N=No Backlight F=RGB | | | | D=LED edge/blue E=EL/white B=EL/blue C=CCFL/white Y=LED Bottom/yellow O=LED array/orange K=LED edge/Green Pure A=LED edge/amber | | | |
| 7 | CGRAM Font | J=English/Japanese Font E=English/European Font G=Chinese (simple) F=Chinese (traditional) | | | | C=English/Cyrillic Font H=English/Hebrew Font A=Arabic/English | | | |
| 8 | View Angle/ Operating Temperature | B=Bottom/Normal Temperature W=Top/Wide Temperature H=Bottom/Wide Temperature U=Bottom/Ultra wide Temperature | | | | T=Top/Normal Temperature W=Top/Wide Temperature C=9H/Normal Temperature E=Top/ultra wide temperature | | | |
| 9 | Special Code | 3=3 volt logic power supply n=negative voltage for LCD c=cable/connector xxx=to be assigned on datasheet | | | | t=temperature compensation for LCD p=touch panel | | | |

EA DIP Alphanumeric Modules

ELECTRONIC ASSEMBLY

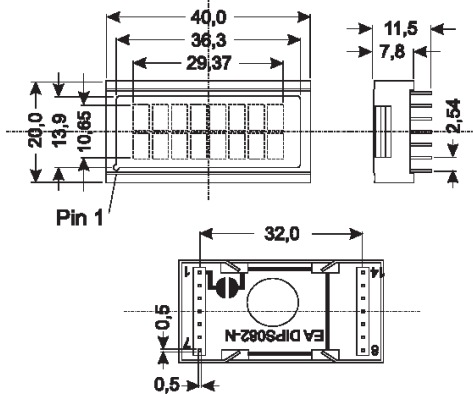
Because of their unique design, DIP modules are extremely compact: there is no PCB overhang, no drilled holes for assembly and no contact pads for connectors or cables. The viewing area is optimally sized and the large font makes reading easier. DIP modules are simply inserted in the PCB and soldered in place. No screws, distance sleeves or cables are required. The displays forming and series are compatible both in terms of pins and dimensions. It is therefore a simple matter to use both and text display (e.g. 2 x 16) and and graphics display (e.g. 122 x 32) within and series without the need for any mechanical or hardware modifications.

2x8 Characters

ELECTRONIC ASSEMBLY



Alphanumeric LCD Modules
2x8 characters
yellow-green LED backlight
(besides EA DIPS082-HN)



| Part No. | Module Size (mm) | Viewing Area (mm) | Character or Dot Size (mm) | Temperature Range |
|------------------|------------------|-------------------|----------------------------|-------------------|
| EA DIPS082-HN | 40x20x8 | 36x14 | 5,55x2,95 | |
| EA DIPS082-HNLED | 40x20x11 | 36x14 | 5,55x2,95 | -20°C to +70°C |

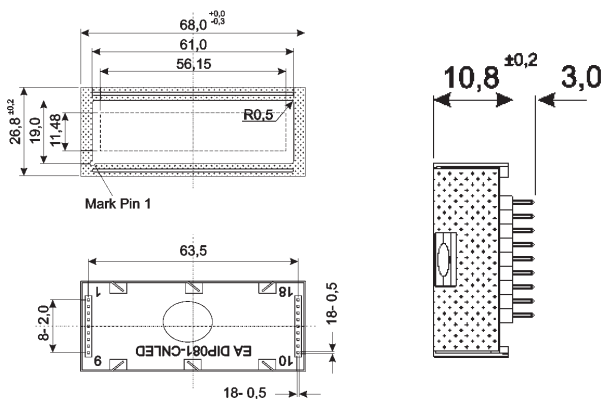
| Part No. | Ord. No. |
|--------------------|----------|
| s EA DIPS082-HN | 48382 |
| s EA DIPS082-HNLED | 49798 |

4x20 Characters

ELECTRONIC ASSEMBLY



Alphanumeric LCD Modules
4x20 characters
DIP204B4NLW is blue with white backlight, other models are with yellow-green LED backlight.



| Part No. | Module Size (mm) | Viewing Area (mm) | Character or Dot Size (mm) | Temperature Range |
|-----------------|------------------|-------------------|----------------------------|-------------------|
| EA DIP204-4NLED | 68x27x11 | 61x19 | 3,72x2,31 | 0°C to +50°C |
| EA DIP204B-4NLW | 75x27x11 | 61x19 | 3,72x2,31 | -20°C to +70°C |

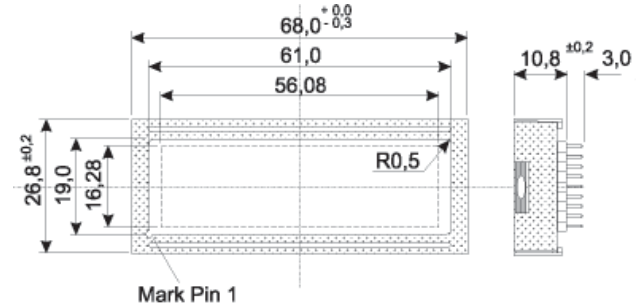
| Part No. | Ord. No. |
|-------------------|----------|
| s EA DIP204-4NLED | 9716 |
| s EA DIP204B-4NLW | 49235 |

EA DIP Graphic Modules 122x32 Dots

ELECTRONIC ASSEMBLY



LCD Graphic Modules with 122x32 dots. Model EA DIPB-5NLW is with blue-white backlight, other models are with yellow-green LED backlight.

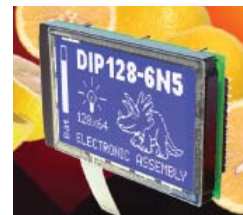


| Part No. | Module Size (mm) | Viewing Area (mm) | Character or Dot Size (mm) | Temperature Range |
|------------------|------------------|-------------------|----------------------------|-------------------|
| EA DIP122-5HNLED | 68x27 | 61x19 | 0,47x0,42 | -20°C to +70°C |

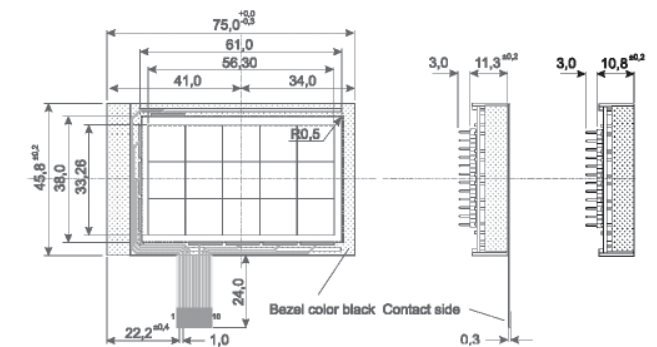
| Part No. | Ord. No. |
|--------------------|----------|
| o EA DIP122-5HNLED | 49375 |

128x64 Dots

ELECTRONIC ASSEMBLY



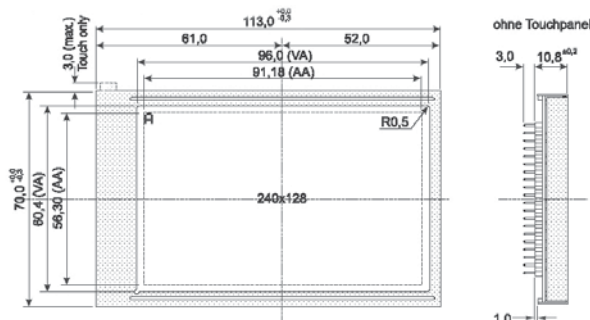
LCD Graphic Modules with 128x64 dots. Model EA DIP128J-6N5LWTP is with black-white backlight, other models are with blue-white LED backlight. Temperature range: -20°C to 70°C. Note: Touch panel, 5x3 buttons for TP models.



| Part No. | Module Size (mm) | Viewing Area (mm) | Character or Dot Size (mm) |
|--------------------|------------------|-------------------|----------------------------|
| EA DIP128-6N5LWTP | 75,0x45,8x11,3 | 61x36 | 0,50x0,42 |
| EA DIP128J-6N5LWTP | 75,0x45,8x11,3 | 61x36 | 0,50x0,42 |
| EA DIP128J-6N5LETP | 75,0x45,8x11,3 | 61x36 | 0,50x0,42 |
| EA DIP128J-6N5LATP | 75,0x45,8x11,3 | 61x36 | 0,50x0,42 |

| Part No. | Ord. No. |
|----------------------|----------|
| o EA DIP128-6N5LWTP | 52946 |
| s EA DIP128J-6N5LWTP | 48403 |
| s EA DIP128J-6N5LETP | 62369 |
| s EA DIP128J-6N5LATP | 62406 |

EA eDIP Modules



| Part No. | Module Size (mm) | Colour | Backlight | Temperature range |
|-------------------|------------------|----------------|------------|-------------------|
| EAeDIP240J-7LWTP | 113x70 | FSTN, positive | LED, white | -20°C to +70° |
| EA eDIP240B-7LW | 113x70 | blue, negative | LED, white | -20°C to +70° |
| EA eDIP240J-7LW | 113x70 | FSTN, positive | LED, white | -20°C to +70° |
| EA eDIP240J-7LA | 113x70 | FSTN, positive | orange | -20°C to +70° |
| EA eDIP240J-7LATP | 113x70 | FSTN, positive | orange | -20°C to +70° |

| Part No. | Ord. No. |
|---------------------|----------|
| S EAeDIP240J-7LWTP | 57759 |
| O EA eDIP240B-7LW | 67801 |
| O EA eDIP240J-7LW | 67802 |
| O EA eDIP240J-7LA | 67803 |
| O EA eDIP240J-7LATP | 67804 |

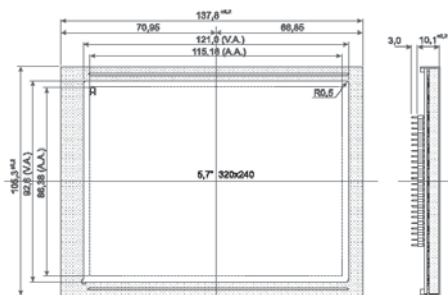
Development Kit for eDIP240



Development kit for EA eDIP240-7LWT

| Part No. | Ord. No. |
|-------------------------|----------|
| S EA STARTERKIT-eDIP240 | 60373 |

320x240 Dots

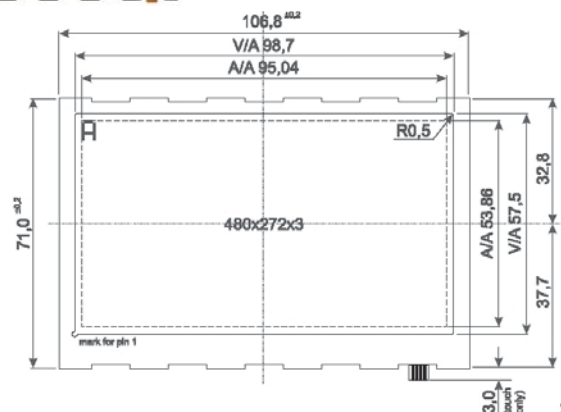


| Part No. | Module Size (mm) | Colour | Backlight | Temperature Range |
|-------------------|------------------|----------------|------------|-------------------|
| EA eDIP320B-8LW | 138x105 | blue, negative | LED, white | -20°C to +70° |
| EA eDIP320B-8LWTP | 138x105 | blue, negative | LED, white | -20°C to +70° |

| Part No. | Ord. No. |
|---------------------|----------|
| O EA eDIP320B-8LW | 61340 |
| O EA eDIP320B-8LWTP | 67975 |

EA eDIP TFT Modules

480x272 Dots



| Part No. | Module Size (mm) | Backlight | Temperature Range | Note |
|------------------|------------------|------------|-------------------|-------------|
| EA eDIPTFT43-ATP | 107x71 | LED, white | -20°C to +70° | touch panel |

| Part No. | Ord. No. |
|--------------------|----------|
| S EA eDIPTFT43-ATP | 69265 |

More information needed?

electroniconline

www.soselectronic.com

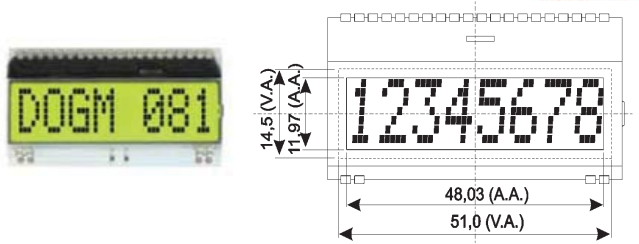
EA DOG Alphanumerical Modules

ELECTRONIC ASSEMBLY

With its EA DOG series, ELECTRONIC ASSEMBLY presents the world's first display series which will run on 3.3 V systems without auxiliary power. They can, of course be used on traditional 5 V systems. Unlike normal LCD modules, you order the display and the corresponding backlight separately. This gives you a wealth of possible combinations. Designed for compact hand-held devices, this modern LCD range provides a number of real benefits with or without backlight:

- extremely compact at 55 x 31 mm at the standard font size of 5.57 mm (2 x 16)
- ultra-flat at 2.0 mm without backlight or 5.8 mm including LED backlight
- 4-bit, 8-bit and SPI interface (4-wire)
- typical power consumption of only 250µA in full operation (LED white backlight as of 3mA)
- easy installation by simply soldering into the board
- a whole range of design variants (63) can be supplied as of single units
- changing background color

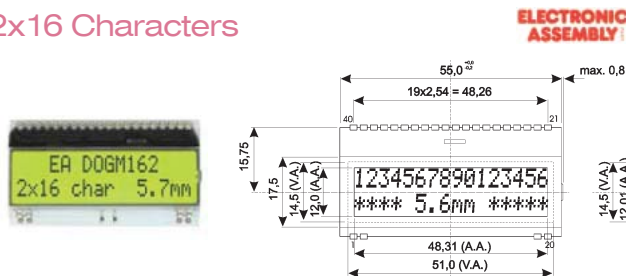
1x8 Characters



| Part No. | Technology |
|---------------|--|
| EA DOGM081B-A | STN negative blue transmissive |
| EA DOGM081E-A | STN positive yellow/green transmissive |
| EA DOGM081L-A | STN positive yellow/green reflective |
| EA DOGM081S-A | FSTN negative black transmissive |
| EA DOGM081W-A | FSTN positive transfective |

| Part No. | Ord. No. |
|-----------------|----------|
| S EA DOGM081B-A | 51746 |
| S EA DOGM081E-A | 51747 |
| O EA DOGM081L-A | 51748 |
| S EA DOGM081S-A | 51749 |
| S EA DOGM081W-A | 51750 |

2x16 Characters

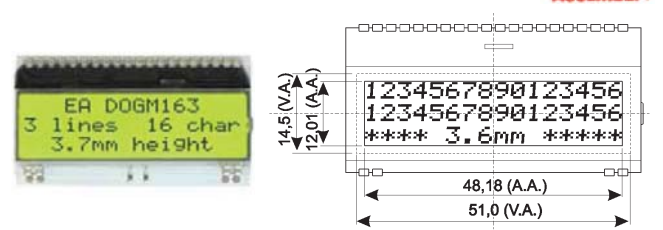


| Part No. | Technology |
|---------------|--|
| EA DOGM162B-A | STN negative blue transmissive |
| EA DOGM162E-A | STN positive yellow/green transmissive |
| EA DOGM162L-A | STN positive yellow/green reflective |
| EA DOGM162S-A | FSTN negative black transmissive |
| EA DOGM162W-A | FSTN positive transfective |

| Part No. | Ord. No. |
|-----------------|----------|
| S EA DOGM162B-A | 52013 |
| S EA DOGM162E-A | 52014 |
| S EA DOGM162L-A | 52086 |
| S EA DOGM162S-A | 52087 |
| S EA DOGM162W-A | 52088 |

Suitable backlight modules for EA DOG series you can find on the next page.

3x16 Characters



| Part No. | Technology |
|---------------|--|
| EA DOGM163B-A | STN negative blue transmissive |
| EA DOGM163E-A | STN positive yellow/green transmissive |
| EA DOGM163L-A | STN positive yellow/green reflective |
| EA DOGM163S-A | FSTN negative black transmissive |
| EA DOGM163W-A | FSTN positive transfective |

| Part No. | Ord. No. |
|-----------------|----------|
| S EA DOGM163B-A | 52089 |
| O EA DOGM163E-A | 52091 |
| O EA DOGM163L-A | 52092 |
| S EA DOGM163S-A | 52093 |
| S EA DOGM163W-A | 52094 |

Development Kit for EA DOGM

ELECTRONIC ASSEMBLY



Development kit for EA DOGM16x, 132 and 128

| Part No. | Ord. No. |
|----------------|----------|
| S EA 9780-1USB | 63406 |

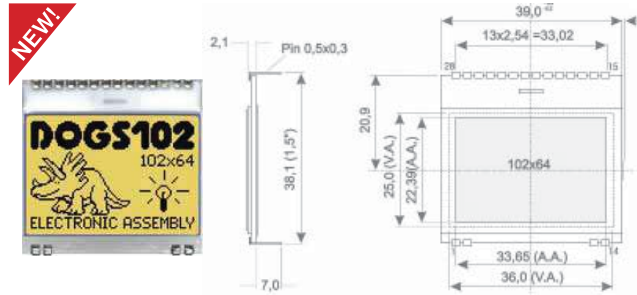
EA DOG - Display variations



EA DOG Graphic Modules



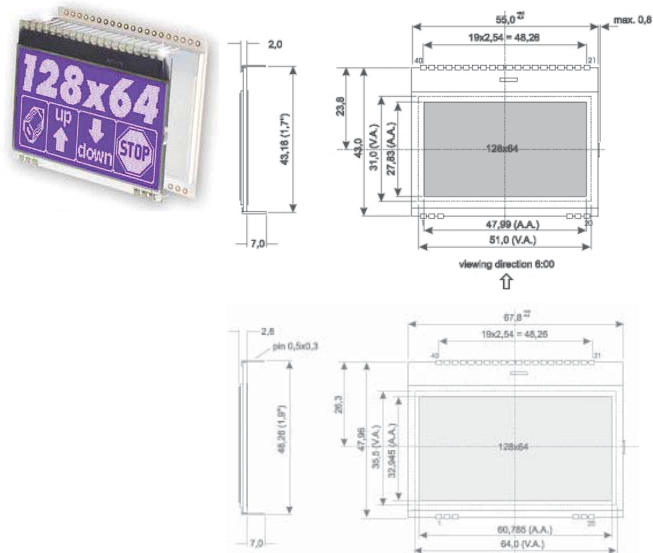
102x64 Dots



| Part No. | Module Size (mm) | Type and colour |
|--------------|------------------|-----------------------------|
| EA DOGS102B6 | 39x38 | Blue Negative Transmissive |
| EADOGS102N-6 | 39x38 | White Positive Reflective |
| EADOGS102W-6 | 39x38 | White Positive Transmissive |

| Part No. | Ord. No. |
|----------------|----------|
| S EA DOGS102B6 | 78609 |
| S EADOGS102N-6 | 78612 |
| S EADOGS102W-6 | 78607 |

128x64 Dots

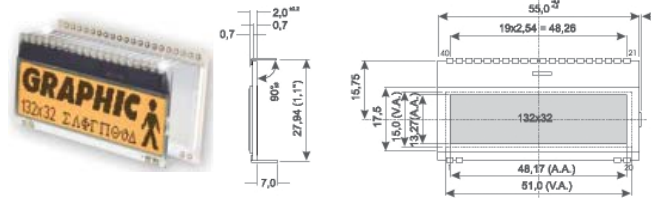


| Part No. | Module Size (mm) | Type and colour |
|---------------|------------------|---|
| EA DOGM128B-6 | 55x46 | STN negative transmissive, blue |
| EA DOGM128E-6 | 55x46 | STN positive transmissive, green-yellow |
| EA DOGM128L-6 | 55x46 | STN positive reflective, green-yellow |
| EA DOGM128S-6 | 55x46 | FSTN negative transmissive, black |
| EA DOGM128W-6 | 55x46 | FSTN positive transmissive, white |
| EA DOGL128B-6 | 68x51 | STN negative transmissive, blue |
| EA DOGL128E-6 | 68x51 | STN positive transmissive, green-yellow |
| EA DOGL128L-6 | 68x51 | STN positive reflective, green-yellow |
| EA DOGL128S-6 | 68x51 | FSTN negative transmissive, black |
| EA DOGL128W-6 | 68x51 | FSTN positive transmissive, white |

DOGL - large (68x51mm)

| Part No. | Ord. No. |
|-----------------|----------|
| S EA DOGM128B-6 | 60674 |
| S EA DOGM128E-6 | 60675 |
| S EA DOGM128L-6 | 60676 |
| S EA DOGM128S-6 | 60678 |
| S EA DOGM128W-6 | 60680 |
| S EA DOGL128B-6 | 69512 |
| S EA DOGL128E-6 | 69513 |
| S EA DOGL128L-6 | 69515 |
| S EA DOGL128S-6 | 69517 |
| S EA DOGL128W-6 | 69518 |

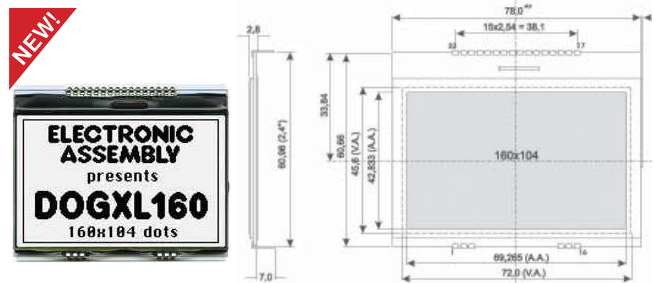
132x32 Dots



| Part No. | Module Size (mm) | Type and colour |
|---------------|------------------|---|
| EA DOGM132W-5 | 55x31 | FSTN positive transmissive |
| EA DOGM132E-5 | 55x31 | STN positive transmissive, green-yellow |
| EA DOGM132B-5 | 55x31 | STN negative transmissive, blue |
| EA DOGM132S-5 | 55x31 | FSTN negative transmissive |
| EA DOGM132L-5 | 55x31 | STN positive reflective, green-yellow |

| Part No. | Ord. No. |
|-----------------|----------|
| S EA DOGM132W-5 | 63393 |
| S EA DOGM132E-5 | 63401 |
| S EA DOGM132B-5 | 63402 |
| S EA DOGM132S-5 | 63403 |
| S EA DOGM132L-5 | 63405 |

160x104 Dots



| Part No. | Module Size (mm) | Type and colour |
|---------------|------------------|----------------------------------|
| EADOGXL160L-7 | 78x90,96 | Yellow/Green Positive Reflective |
| EADOGXL160W-7 | 78x90,96 | White Positive Transmissive |
| EADOGXL160B-7 | 78x90,96 | Blue Negative Transmissive |

| Part No. | Ord. No. |
|-----------------|----------|
| S EADOGXL160L-7 | 78656 |
| S EADOGXL160W-7 | 78653 |
| S EADOGXL160B-7 | 78654 |

Backlight Panels for EA DOG



Simply clip the display and the backlighting unit together and you have up to 23 possible combinations.



| Part No. | Colour backlight |
|-----------------|--------------------------------|
| EA LED 39x41-W | LED B/L for DOGS, white |
| EA LED 39x41-A | LED B/L for DOGS, orange |
| EA LED55x31-A | LED B/L for DOGM, orange |
| EA LED55x31-B | LED B/L for DOGM, blue |
| EA LED55x31-G | LED B/L for DOGM, green/yellow |
| EA LED55x31-R | LED B/L for DOGM, red |
| EA LED55x31-W | LED B/L for DOGM, white |
| EA LED55x31-RGB | LED B/L for DOGM, RGB |
| EA LED55x46-A | LED B/L for DOGM128, orange |

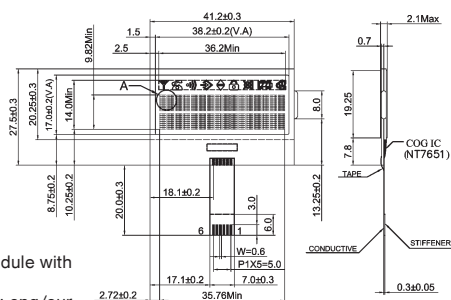
Backlight Panels for EA DOG Series (continued)

| | |
|-----------------|---------------------------------------|
| EA LED55x46-E | LED B/L for DOGM128, pure green |
| EA LED55x46-G | LED B/L for DOGM128, green/yellow |
| EA LED55x46-R | LED B/L for DOGM128, red |
| EA LED55x46-B | LED B/L for DOGM128, blue |
| EA LED55x46-W | LED B/L for DOGM128, white |
| EA LED55x46-RGB | LED B/L for DOGM128, RGB full color |
| EA LED68x51-A | LED B/L for DOGM-L128, orange |
| EA LED68x51-B | LED B/L for DOGM-L128, blue |
| EA LED68x51-E | LED B/L for DOGM-L128, pure green |
| EA LED68x51-G | LED B/L for DOGM-L128, green/yellow |
| EA LED68x51-R | LED B/L for DOGM-L128, red |
| EA LED68x51-W | LED B/L for DOGM-L128, white |
| EA LED68x51-RGB | LED B/L for DOGM-L128, RGB full color |
| EA LED78x64-A | LED B/L for DOGXL, orange |
| EA LED78x64-B | LED B/L for DOGXL, blue |
| EA LED78x64-E | LED B/L for DOGXL, green |
| EA LED78x64-G | LED B/L for DOGXL, green |
| EA LED78x64-R | LED B/L for DOGXL, red |
| EA LED78x64-RGB | LED B/L for DOGXL, RGB |
| EA LED78x64-W | LED B/L pre DOGXL, white |

| Part No. | Ord. No. |
|-------------------|----------|
| S EA LED 39x41-W | 78614 |
| S EA LED 39x41-A | 78613 |
| S EA LED55x31-A | 51751 |
| S EA LED55x31-B | 51752 |
| S EA LED55x31-G | 51753 |
| S EA LED55x31-R | 51754 |
| S EA LED55x31-W | 51755 |
| S EA LED55x31-RGB | 59492 |
| S EA LED55x46-A | 60682 |
| S EA LED55x46-E | 60684 |
| S EA LED55x46-G | 60685 |
| S EA LED55x46-R | 60686 |
| S EA LED55x46-B | 60687 |
| S EA LED55x46-W | 60688 |
| S EA LED55x46-RGB | 63623 |
| S EA LED68x51-A | 69505 |
| S EA LED68x51-B | 69506 |
| S EA LED68x51-E | 69507 |
| S EA LED68x51-G | 69508 |
| S EA LED68x51-R | 69510 |
| S EA LED68x51-W | 69839 |
| S EA LED68x51-RGB | 69511 |
| O EALED78x64-A | 78678 |
| O EALED78x64-B | 78676 |
| O EALED78x64-E | 78679 |
| O EALED78x64-G | 78675 |
| O EALED78x64-R | 78677 |
| O EALED78x64-RGB | 78680 |
| O EALED78x64-W | 78674 |

Alphanumeric LCD Modules with FFC

2x16 Characters BO 1602D



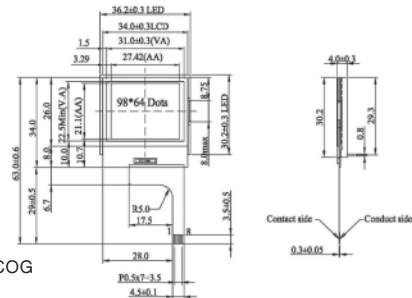
- alphanumeric LCD module with flex wire
- 2x16 characters, fonts: eng/eur
- without backlight
- COG package
- 5x7 dots with cursor, icons
- Built-in controller ST7032i
- + 3.3V single power supply
- 1/16 duty cycle
- I2C Serial interface.

| Part No. | Module Size (mm) | Viewing Area (mm) | Character Size (mm) | Temperature Range |
|----------------|------------------|-------------------|---------------------|-------------------|
| BO 1602D GPNEB | 41,2x27,5 | 38,2x17,0 | 4,56x1,86 | 0°C to +50°C |

| Part No. | Ord. No. |
|------------------|----------|
| S BO 1602D GPNEB | 64822 |

Graphic LCD Modules with FC 98x64 Dots

BO 9864B

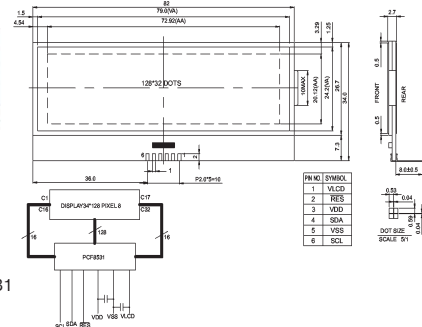


- FSTN Transflective LCD, COG package
- built-in driver ST7548i, serial I2C data bus
- 1/64 duty cycle
- +3V power supply
- with FPC and ZIF connector

| Part No. | Module Size (mm) | Viewing Area (mm) | Dot Size (mm) | Temperature Range |
|---------------|------------------|-------------------|---------------|-------------------|
| BO 9864B FPNH | 34x34 | 31,0x22,5 | 0,31x0,26 | 0°C to +50°C |

| Part No. | Ord. No. |
|-----------------|----------|
| S BO 9864B FPNH | 62373 |

128x32 Dots BO 12832A



- STN/gray
- positive/transflective
- without backlight
- COG package
- Built-in controller PCF8531
- +5V power supply
- 1/32 duty cycle
- I2C series interface

| Part No. | Module Size (mm) | Viewing Area (mm) | Dot size (mm) | Temperature Range |
|----------------|------------------|-------------------|---------------|-------------------|
| BO 12832A GPNB | 82x34 | 79x24 | 0,53x0,59 | 0°C to +50°C |

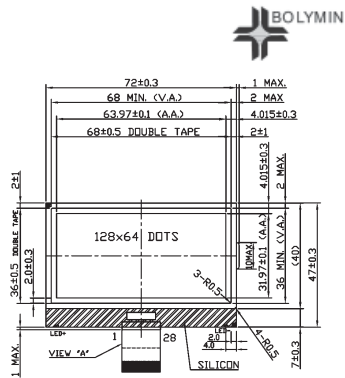
| Part No. | Ord. No. |
|------------------|----------|
| S BO 12832A GPNB | 52160 |

128x64 Dots

BO 12864B



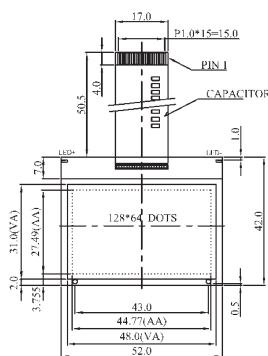
- COG package
- Built-in controller SED1565
- +5V power supply
- 1/64 duty cycle
- +3V~+5V single power supply
- On chip LCD booster



BO 12864D



- COG package
- Built-in controller ST7541
- +3V single power supply
- 1/64 duty cycle
- On chip LCD booster
- 4-Gray scale



| Part No. | Module Size (mm) | Viewing Area (mm) | Dot Size (mm) | Temperature Range |
|----------------|------------------|-------------------|---------------|-------------------|
| BO 12864B GPNB | 72x47 | 68x36 | 0,47x0,47 | 0°C to +50°C |
| BO 12864D FPGH | 52x42 | 48x31 | 0,4x0,32 | |

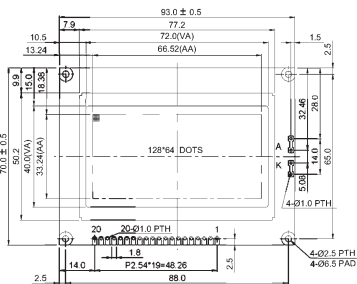
| Part No. | Ord. No. |
|------------------|----------|
| o BO 12864B GPNB | 55618 |
| s BO 12864D FPGH | 62229 |

Graphic LCD Modules

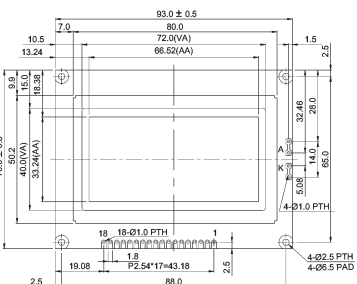
128x64 Dots

BG 12864A

Modules YPLH and FPGH are with yellow-green LED backlight, BNHH are with white LED backlight. Other modules are without backlight. BO 12864B GPNB: I2C interface.



BG 12864D



| Part No. | Module Size (mm) | Viewing Area (mm) | Dot Size (mm) | Temperature Range |
|------------------|------------------|-------------------|---------------|-------------------|
| BG 12864A BNHHn | 93x70 | 72x40 | 0,48x0,48 | -20°C to +70°C |
| BG 12864A YPLH3n | 93x70 | 72x40 | 0,48x0,48 | -20°C to +70°C |
| BG 12864A YPLHn | 93x70 | 72x40 | 0,48x0,48 | -20°C to +70°C |
| BG 12864D BNHHn | 78x70 | 62x44 | 0,4x0,56 | -20°C to +70°C |
| BG 12864D YPLHn | 78x70 | 62x44 | 0,4x0,56 | -20°C to +70°C |

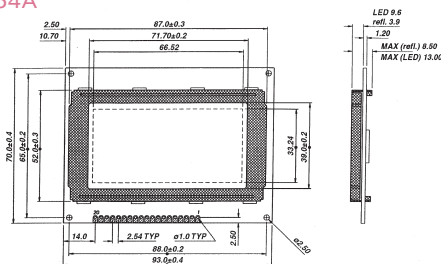


Part No. Ord. No.

| | |
|--------------------|-------|
| s BG 12864A BNHHn | 54639 |
| o BG 12864A YPLH3n | 53767 |
| s BG 12864A YPLHn | 55475 |
| s BG 12864D BNHHn | 52834 |
| s BG 12864D YPLHn | 63295 |

128x64 Dots

DEM 128064A

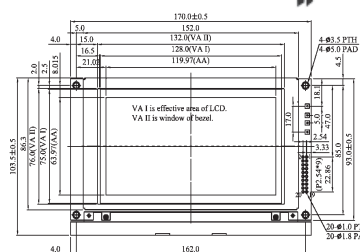


With yellow-green LED backlight.

| Part No. | Module Size (mm) | Viewing Area (mm) | Dot Size (mm) | Temperature Range |
|--------------------|------------------|-------------------|---------------|-------------------|
| DEM 128064A SYH-LY | 93x70 | 71x39 | 0,48x0,48 | -20°C to +70°C |

| Part No. | Ord. No. |
|----------------------|----------|
| s DEM 128064A SYH-LY | 42442 |

240x128 Dots



With CCFL white backlight, negative.

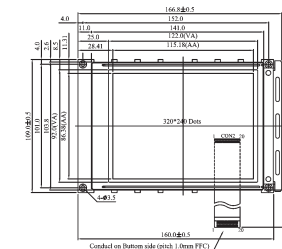
| Part No. | Module Size (mm) | Viewing Area (mm) | Dot Size (mm) | Temperature Range |
|-------------------|------------------|-------------------|---------------|-------------------|
| BG 240128A FNCHnt | 170x104 | 132x76 | 0,47x0,47 | -20°C to +70°C |

| Part No. | Ord. No. |
|---------------------|----------|
| o BG 240128A FNCHnt | 54870 |

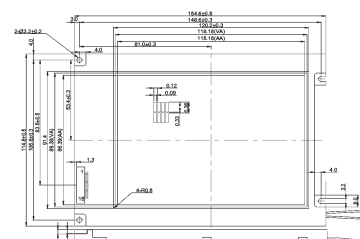
320x240 Dots

CCFL white backlight, negative, touch panel

BG 320240F



BF 320240A



| Part No. | Module Size (mm) | Viewing Area (mm) | Dot Size (mm) | Temperature Range |
|-------------------|------------------|-------------------|---------------|-------------------|
| BG 320240F BNCHnp | 167x109 | 122x92 | 0,34x0,34 | -20°C to +70°C |
| BR 320240A CNCHp | 155x115 | 118x89 | 0,09x0,33 | -20°C to +70°C |

| Part No. | Ord. No. |
|---------------------|----------|
| s BG 320240F BNCHnp | 53760 |
| o BR 320240A CNCHp | 54168 |



Intelligent Graphic LCD Modules (EA KIT)

The EA graphics kit is a fully assembled control and operating unit with a variety of integrated functions. As well as offering excellent super-twist contrast, the compact display can be put into operation immediately. It is controlled via the standard RS-232 or RS-422 interface. In addition to complete graphics routines for display output, the graphics kit also contains a wide variety of fonts.

ELECTRONIC ASSEMBLY

High-level language-type graphics commands are used for programming. There is no longer any need for the time-consuming programming of character sets and graphics routines. There's no need for any driver software or programming tools. The ease of use offered by macros and input via touch panel make it a real power display.

The graphics kit is designed to work with an operating voltage of +5V. A supply voltage of +9..36 V is also possible. Serial asynchronous data transfer is carried out in RS-232 or RS-422 format. The transmission format is set permanently to 8 data bits, 1 stop bit and no parity. Rates between 1200 bps and 115,200 bps can be selected by means of DIP switches. RTS and CTS handshake lines are available.

All versions are supplied with an integrated touch panel. You can make entries and menu settings by touching the display. The labeling of the "keys" is flexible and can also be changed during runtime (different languages, icons). The drawing of the individual "keys" and the labeling or grouping of several fields is handled entirely by the integrated software. Programming the fields couldn't be simpler.

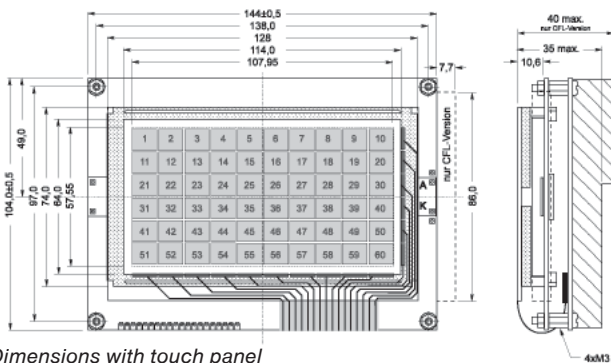
240x128 Dots

ELECTRONIC ASSEMBLY



EA KIT240-7CTP: blue background with white characters. Extreme bright and with high contrast. Lifetime for backlight 10 000-20 000h. Current consumption typ. 450mA-

EA KIT240-7LEDTP: yellow/green background with black characters. Good contrast, lifetime 10 000h. Current consumption typ. 1200mA



Dimensions with touch panel

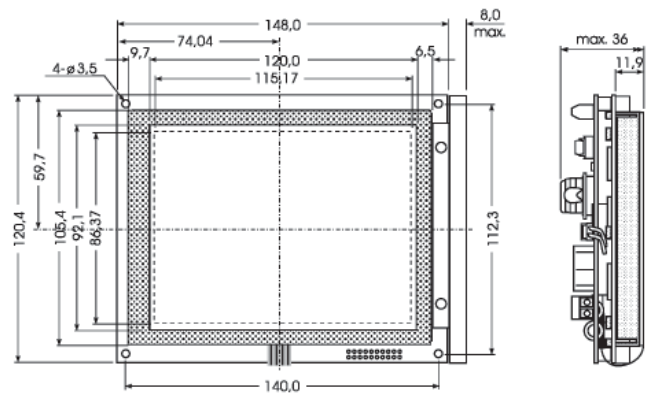
| Part No. | Module Size (mm) | Viewing Area (mm) | Dot Size (mm) | Touch Fields |
|------------------|------------------|-------------------|---------------|--------------|
| EA KIT240-7CTP | 144x104 | 114x64 | 0,40x0,40 | 10x6 |
| EA KIT240-7LEDTP | 144x104 | 114x64 | 0,40x0,40 | 10x6 |

| Part No. | Ord. No. |
|------------------|----------|
| EA KIT240-7CTP | 9079 |
| EA KIT240-7LEDTP | 9720 |

320x240 Dots

ELECTRONIC ASSEMBLY

EA KIT320-8CTP :with CFL illumination, blue negative
EA KIT320-8LWTP white LED illumination, positive mode, FSTN
EA KIT320F-8CTP CCFL with CFL backlight and 16 colours.



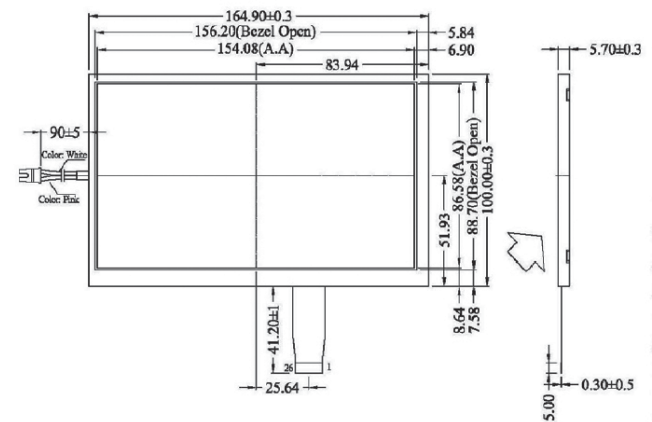
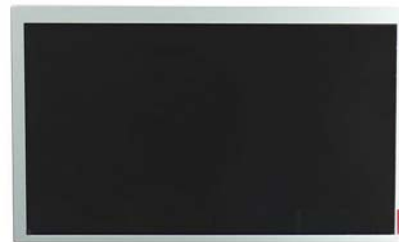
| Part No. | Module Size (mm) | Viewing Area (mm) | Dot Size (mm) | Touch Fields |
|-----------------|------------------|-------------------|---------------|--------------|
| EA KIT320-8CTP | 148x120,4 | 120x92,1 | 0,33x0,33 | analog |
| EA KIT320-8LWTP | 148x120,4 | 120x92,1 | 0,33x0,33 | analog |
| EA KIT320F-8CTP | 155x115 | 118x89 | 0,33x0,33 | analog |

| Part No. | Ord. No. |
|-----------------|----------|
| EA KIT320-8CTP | 9721 |
| EA KIT320-8LWTP | 9722 |
| EA KIT320F-8CTP | 52433 |

TFT Modules 7,0" Screen Size



TFT modules 7,0" diagonal
NTSC/PAL signal input
CVBS/S video input
+12V single power supply
CCFL backlight



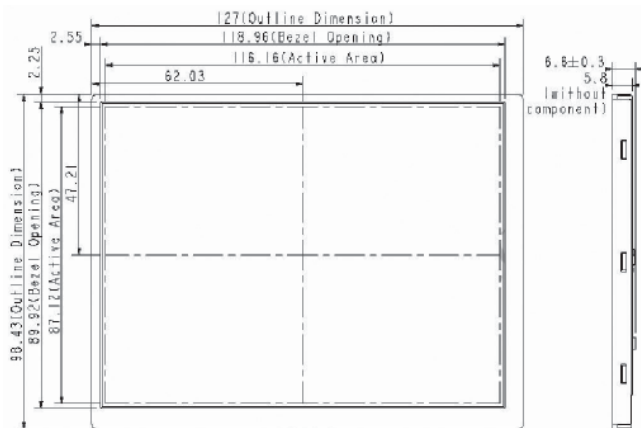
| Part No. | Module Dimensions (mm) | Active Area (mm) | Displat Format (mm) |
|------------|------------------------|------------------|---------------------|
| BT 7.0 ACB | 164,9x100,0x5,7 | 154,08x86,58 | 1440x234 |

| Part No. | Ord. No. |
|--------------|----------|
| S BT 7.0 ACB | 63719 |

5,7" Screen Size



TFT modules 5,7" diagonal
LVDS input interface
+5V single power supply
LED backlight



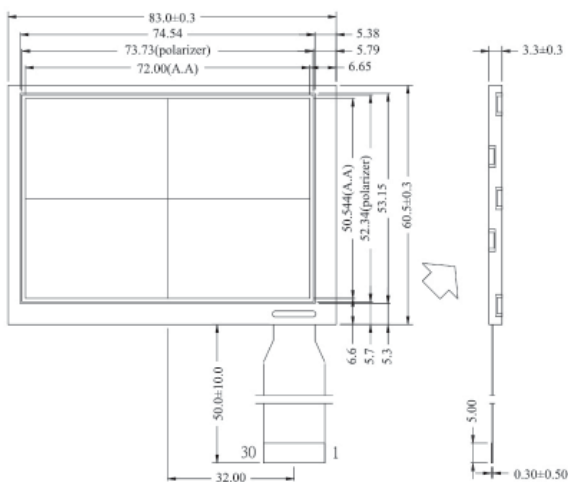
| Part No. | Module Dimensions (mm) | Active Area (mm) | Displat Format (mm) |
|--------------|------------------------|------------------|---------------------|
| BT 5.7 ADNHW | 127x98,5x6,6 | 116,16x87,12 | 640x480 |

| Part No. | Ord. No. |
|--------------|----------|
| BT 5.7 ADNHW | 67811 |

3,5" Screen Size



TFT modules 3,5" diagonal
NTSC/PAL signal input
CVBS/S video input
+12V single power supply
LED backlight



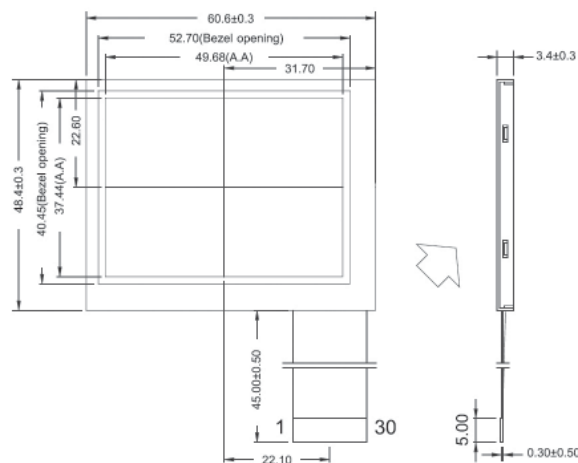
| Part No. | Module Dimensions (mm) | Active Area (mm) | Displat Format (mm) |
|---------------|------------------------|------------------|---------------------|
| BT 3.5 B ACHB | 83x60,5x3,3 | 72x50,5 | 480x234 |

| Part No. | Ord. No. |
|---------------|----------|
| BT 3.5 B ACHB | 63717 |

2,5" Screen Size



TFT modules 2,5" diagonal
NTSC/PAL signal input
CVBS/S video input
+12V single power supply
LED backlight

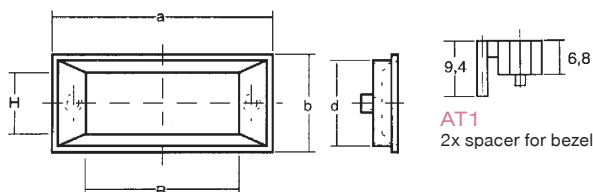


| Part No. | Module Dimensions (mm) | Active Area (mm) | Displat Format (mm) |
|------------|------------------------|------------------|---------------------|
| BT 2.5A HB | 60,6x48,4,5x3,4 | 79,68x37,44 | 480x234 |

| Part No. | Ord. No. |
|------------|----------|
| BT 2.5 AHB | 63716 |

Display Accessories

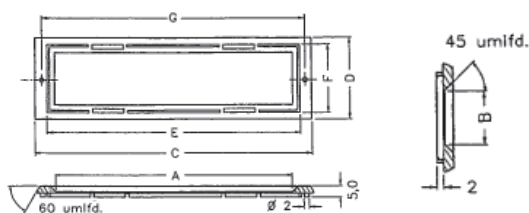
Bezels



AT1
2x spacer for bezel

| Part No. | Description |
|-------------|---|
| AR1938 | Bezel for 3-digit LCD/LED display with 13mm characters B=38mm, H=19mm, a=59mm, b=32mm, d=28mm |
| AR1950 | Bezel for 4-digit LCD/LED display with 13mm characters B=50mm, H=19mm, and=70mm, b=32mm, d=28mm |
| AT 1 (pair) | Spacer for LED/LCD frame |

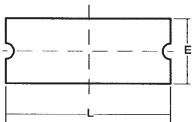
| Part No. | Ord. No. |
|---------------|----------|
| S AR1938 | 2069 |
| S AR1950 | 11254 |
| S AT 1 (pair) | 11255 |



| Part No. | Description |
|------------|---|
| FR 919.040 | Plastic bezel for LCD module 16x2, black A=60mm, B=14,8mm, C=76mm, D=27mm, E=66,2mm, F=21,2mm, G=71mm |

| Part No. | Ord. No. |
|--------------|----------|
| S FR 919.040 | 7587 |

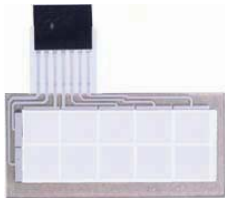
Display Filters



| Part No. | Description |
|-------------|---|
| FS1938AC-RT | Display Filter, red, suitable for AR1938, LxE=51x25mm |
| FS1950AC-RT | Display Filter, red, suitable for AR1950, LxE=63x25mm |

| Part No. | Ord. No. |
|---------------|----------|
| S FS1938AC-RT | 2068 |
| S FS1950AC-RT | 7461 |

Touch Panels



ELECTRONIC ASSEMBLY!

| Part No. | Description |
|----------------|--|
| EA TOUCH10X6-A | Touch Panel for EA P240-7 matrix 10x6 |
| EA TOUCH12X4-A | Touch Panel for EA P240-6 matrix 12x4 |
| EA TOUCH240-1 | Touch Panel for EA DIP240 analog |
| EA TOUCH320-2 | Touch Panel for EA DIP320 analog |
| EA TOUCH5X2-A | Touch Panel for EA P120-5 matrix 5x2 |
| EA TOUCH5X3-A | Touch Panel for EA DIP128 matrix 5x3 |
| EA TOUCH8X4-A | Touch Panel for EA P128-6N2 matrix 8x4 |
| EA TOUCH8X7-A | Touch Panel for EA W160-7 matrix 8x7 |
| EA TOUCH128-1 | Touch Panel for EA DOGM128 analog |
| EA TOUCH128-2 | Touch Panel for EA DOGL128 analog |
| EA TOUCH160-1 | Touch Panel for EADOGXL160 analog |

| Part No. | Ord. No. |
|------------------|----------|
| O EA TOUCH10X6-A | 50196 |
| O EA TOUCH12X4-A | 50198 |
| O EA TOUCH240-1 | 50202 |
| O EA TOUCH320-2 | 50203 |
| O EA TOUCH5X2-A | 48944 |
| O EA TOUCH5X3-A | 50199 |
| S EA TOUCH8X4-A | 50200 |
| O EA TOUCH8X7-A | 50201 |
| S EA TOUCH128-1 | 64531 |
| S EA TOUCH128-2 | 69520 |
| S EA TOUCH160-1 | 78685 |



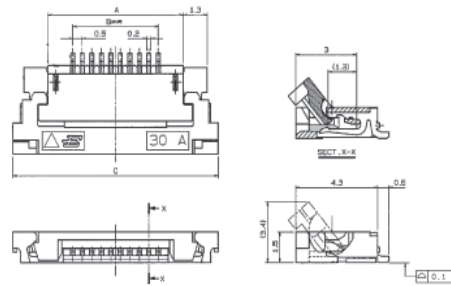
BOLYMIN

| Part No. | Description |
|------------------|-----------------------------------|
| TP 240128 AAW1 | Touch Panel for BG240128A, analog |
| TOUCH PANEL 7,0" | Touch Panel for BT7,0" |

| Part No. | Ord. No. |
|--------------------|----------|
| O TP 240128 AAW1 | 57207 |
| O TOUCH PANEL 7,0" | 69843 |

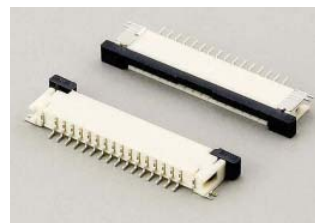
Connectors

ELECTRONIC ASSEMBLY!



| Part No. | Description |
|--------------|---|
| EA FL-20P | Socket connector for EA DOG module, 20pin, 4,8mm height |
| EA WF100-10S | ZIF connector for TP, 10pin, RM1mm, horizontal, bottom |
| EA WF100-04S | ZIF connector for EA TOUCH128-1 |

| Part No. | Ord. No. |
|----------------|----------|
| O EA FL-20P | 55411 |
| S EA WF100-10S | 48404 |
| S EA WF100-04S | 65181 |



BOLYMIN

| Part No. | Description |
|-----------|---|
| CT061DTZ0 | ZIF connector for BO1602B |
| CT161DDZ0 | ZIF connector for BO12864D bottom contact |
| CT081FTZ0 | ZIF connector 8pin, 0,5mm for BO9864 |
| CT081DTZ0 | ZIF connector for BO1602D |

| Part No. | Ord. No. |
|-------------|----------|
| S CT061DTZ0 | 60710 |
| S CT161DDZ0 | 62622 |
| S CT081FTZ0 | 63238 |
| S CT081DTZ0 | 64824 |

Inverters



| Part No. | Description |
|------------------|---|
| Inverter IVFL-03 | Inverter for CCFL Backlight Vin=5V |
| Inverter IVFL-14 | Inverter for CCFL Backlight for TFT5,6" |
| Inverter IVFL-15 | Inverter for CCFL Backlight for TFT7,0" |
| Inverter IVFL-16 | Inverter for CCFL Backlight for TFT7,0", DC 12V |
| CXA-0214 TDK | Inverter "TDK" k LQ64D341 |

| Part No. | Ord. No. |
|--------------------|----------|
| S Inverter IVFL-03 | 52734 |
| S Inverter IVFL-14 | 64720 |
| S Inverter IVFL-15 | 64721 |
| S Inverter IVFL-16 | 69047 |
| O CXA-0214 TDK | 48397 |

Electromagnetic Display Modules

H700 electromagnetic display modules with 10 to 58 cm characters height. Exceptional readability and reliability. Indoor or outdoor



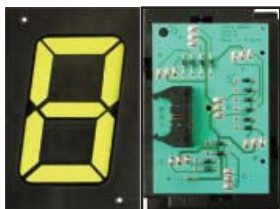
Bodet

www.bodet.com

Display with card

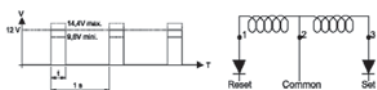
The main advantages are the following :

- Perfect readability even in harsh conditions such as bright light or direct sunlight (unlike diodes display systems)
- Operating temperature: from -40°C to +70°C
- No power consumption at rest
- Life over 70 million operations



Impulses diagram

Coil electrical diagram



Application Sectors

- Petrol price signs
- Time, temperature, date, sound display
- Sport timing and scoring
- Toll indications boards for highways and tunnel bridges
- Industrial productivity and quality measures
- Weight, speed, flow display...
- Queueing system, stock exchange, exchange rate
- Motel room prices
- Events count up and down in days, hours and seconds



| Part No. | Outside dimensions without card HxWxD [mm] | Outside dimensions with card HxWxD [mm] | Character Size [mm] |
|----------|--|---|---------------------|
| H 710 | 148x95x51 mm | 148x95x62 mm | 105 mm |
| H 715 | 204x141x53 mm | 204x141x65 mm | 158 mm |
| H 725 | 306x230x53 mm | 306x230x65 mm | 253 mm |
| H 725E | 306x230x51 mm | 306x230x62 mm | 253 mm |
| H 730 | 395x275x74 mm | 395x275x90 mm | 304 mm |
| H 745 | 575x400x67 mm | 575x400x82 mm | 456 mm |
| H 758 | 710x515x72 mm | 710x515x87 mm | 585 mm |

| Part No. | Maximum viewing distance | Casing |
|----------|--------------------------|-----------------------|
| H 710 | 40 m | plastic/polycarbonate |
| H 715 | 60 m | plastic/polycarbonate |
| H 725 | 100 m | plastic/polycarbonate |
| H 725E | 100 m | plastic/polycarbonate |
| H 730 | 125 m | aluminium |
| H 745 | 200 m | aluminium |
| H 758 | 250 m | aluminium |

| Part No. | Ord. No. |
|-------------------------|----------|
| o H 710 WHITE | 1628 |
| o H 710 YELLOW | 1631 |
| o H 710 YELLOW w. CARD | 49888 |
| o H 715 YELLOW | 1632 |
| o H 715 YELLOW w. CARD | 48523 |
| o H 725E WHITE | 43612 |
| o H 725E YELLOW | 48763 |
| o H 725E YELLOW w. CARD | 50841 |
| o H 730 WHITE w.CARD | 1630 |
| o H 730 YELLOW | 1629 |
| o H 730 YELLOW w. CARD | 46971 |
| o H 745 WHITE w. CARD | 50646 |
| o H 745 YELLOW w. CARD | 49889 |
| o H 758 YELLOW w. CARD | 49890 |

online ordering



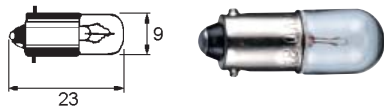
SO3
electronic
europe

electroniconline

www.soselectronic.com

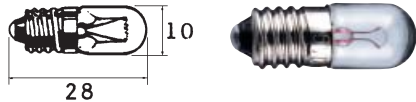
Filament Lamps

LB
bayonet BA9s



| Part No. | Description |
|-----------|------------------------|
| LB24V85 | bayonet BA9s, 24V/85mA |
| Part No. | Ord. No. |
| S LB24V85 | 14281 |

L x x B
screw E10



| Part No. | Description |
|------------|-----------------------------------|
| L12V100B | screw E10, cylindrical, 12V/100mA |
| Part No. | Ord. No. |
| S L12V100B | 8090 |

L x x A
screw E5



| Part No. | Description |
|-----------|----------------------|
| L12V50A | screw E5,5, 12V/50mA |
| L6V50A | screw E5,5, 6V/50mA |
| Part No. | Ord. No. |
| S L12V50A | 8088 |
| S L6V50A | 5276 |

LF
solderable eyelets

LF PCB mount

LF-BA



| Part No. | Description |
|--------------|---|
| LF-BA9S | Holder for bayonet BA9S, solderable eyelets |
| LF-E10M | Holder for E10, PCB mount, RM=10mm |
| LF-E10M/LF | Holder for E10, solderable eyelets |
| LF-E5,5P | Holder for E5,5, PCB mount, RM=7,5mm |
| Part No. | Ord. No. |
| S LF-BA9S | 8097 |
| S LF-E10M | 5280 |
| S LF-E10M/LF | 5281 |
| S LF-E5,5P | 8096 |

LG



| Part No. | Description |
|------------|--|
| LG12V20A | Wire ended, miniature 4,2x11,7mm, 12V/20mA |
| LG12V75A | Wire ended, miniature 4,2x11,7mm, 12V/75mA |
| LG6V80A | Wire ended, miniature 4,2x11,7mm, 6V/80mA |
| Part No. | Ord. No. |
| S LG12V20A | 14270 |
| S LG12V75A | 14272 |
| S LG6V80A | 14269 |

LL
screw E10



| Part No. | Description | | | |
|--------------|----------------------|----|-----|-----|
| LL2,5V200B | screw E10 2,5V/200mA | | | |
| Part No. | Ord. No. | 1+ | 10+ | 50+ |
| S LL2,5V200B | 29603 | | | |

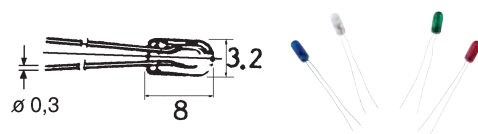
LK
screw E10



| Part No. | Description |
|------------|----------------------|
| LK12V200B | screw E10 12V/200mA |
| LK2,5V300B | screw E10 2,5V/300mA |
| LK3,5V200B | screw E10 3,5V/200mA |
| LK4,5V300B | screw E10 4,5V/300mA |
| LK6,0V50B | screw E10 6V/50mA |

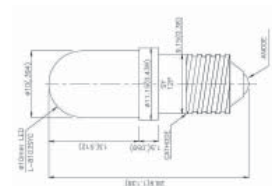
| Part No. | Ord. No. |
|--------------|----------|
| S LK12V200B | 8095 |
| S LK2,5V300B | 8091 |
| S LK3,5V200B | 8092 |
| S LK4,5V300B | 8093 |
| S LK6,0V50B | 8094 |

LSG



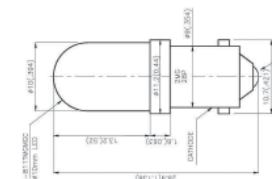
| Part No. | Description |
|-------------|--|
| LSG12V50A | wire ended, subminiature 3,2x8mm, 12V/50mA |
| LSG6V50A | wire ended, subminiature 3,2x8mm, 6V/50mA |
| Part No. | Ord. No. |
| S LSG12V50A | 3940 |
| S LSG6V50A | 5274 |

LED Lamps BLS 101 Series



| Part No. | Description |
|-------------------|--|
| BLS101SYC-12V-P | LED lamp 10mm E10 1200mcd 588nm 20° yellow |
| BLS101SYC-28V-P | LED lamp 10mm E10 350mcd 588nm 20° yellow |
| Part No. | Ord. No. |
| S BLS101SYC-12V-P | 47944 |
| S BLS101SYC-28V-P | 47945 |

BLB 102 Series



| Part No. | Description |
|----------------------|---|
| BLB102MGC-28V-P | LED lamp 10mm bayonet 400mcd 568nm 40° green |
| BLB102SURC-E-12V-P | LED lamp 10mm bayonet 1800mcd 40° red |
| BLB102SURC-E-28V-P | LED lamp 10mm bayonet 1300mcd 40° red |
| BLB102SYC-28V-P | LED lamp 10mm bayonet 600mcd 588nm 40° yellow |
| Part No. | Ord. No. |
| S BLB102MGC-28V-P | 47786 |
| S BLB102SURC-E-12V-P | 47933 |
| S BLB102SURC-E-28V-P | 47934 |
| S BLB102SYC-28V-P | 47937 |

Camera Modules

PCB Colour Camera Modules

CAM01-C



The CAM01-C turns a complete colour video camera into a component of your product. It is a CMOS type video camera specially designed for the cost sensitive consumer electronics application. It offers the unique benefits such as low power consumption, low cost, small size together with consistent image quality. Application: visual door phone, security systems, machine vision....

ITM-C-328



The C328 module is a highly integrated serial camera board that can be attached to a wireless or PDA host performing as a video camera or a JPEG compressed still camera. It provides a serial interface (RS-232) and JPEG compression engine to act as a low cost and low powered camera module for high-resolution serial bus security system or PDA accessory applications.

| Technical data | CAM 01-C | ITM-C-328 |
|-------------------|--------------------------|-------------------------|
| Array Size | 628x582 | 640x480 pix |
| Output | 1Vp-p/75 Ohm | serial (RS-232) |
| Lens | f6,0mm (with IR filters) | f4,0mm F2.2 |
| Operation Voltage | 5 VDC / 10mA | 3,3 VDC |
| Dimensions | 22x22x28 mm | 20x28mm |
| Note | PCB mount | JPEG compression module |

| Part No. | Description |
|----------|--|
| CAM 01-C | CMOS 1/4" color 5V, PCB mount |
| ITM C328 | RS232, JPEG compression, 20x28mm, 3,3V |

| Part No. | Ord. No. |
|------------|----------|
| S CAM 01-C | 8557 |
| S ITM C328 | 50228 |

ECT Camera Module



S/W Cameramodul, 1/3"B/W CCIR Sensor, 352x288 Pixel, 0,5 Lux, Resolution 320 TV Lines, Lens 4,2 mm/F2.0, Autom., Electronic-Shutter 1/50 s, Video Output 1Vp-p 75 Ohm, Temperature range 0-40°C, Power Supply 9,6-14,4 VDC/max. 1,7W, Dimensions 69x46x27 mm, Weight 31 g, Terminals Red=+12V/DC, Black=G-round, Yellow=Video Out.

| Part No. | Ord. No. |
|--------------|----------|
| S ECT Camera | 78450 |

Network Camera Modules

IPC 98



This is a cost effective network camera solution for consumer market. It integrates the JPEG codec, Ethernet MAC and embedded TCP/IP networking that supports DDNS, DHCP and acts as a HTTP server. It serves a special function of remote snap shot. Using any internet browser which supports image display, one can get the still image from the camera to the remote device. No special plug-in software is required.

- Built-in 2Mpix CMOS sensor, lens included
- JPEG compression for still picture of 1600x1200
- Network support
- TCP/IP
- DNS/DDNS/DHCP
- HTTP/PPPoE/FTP/SMTP
- Working individually without PC connected
- Motion detect to store image in SD card (optional) or send image to email or FTP
- User friendly, camera search program is provided

| Part No. | Ord. No. |
|----------|----------|
| O IPC 98 | 77209 |

Video Cameras with Wires

SX-312BS



B/W subminiature CMOS camera with microphone

SX-312AS



Colour subminiature CMOS camera with microphone.

| Technical data | SX-312 BS | SX-312 AS |
|-------------------|-------------------|-------------------|
| Image | B/W | colour |
| Resolution | 352x288 | 628 x 582 |
| Output | 1Vp-p 75 Ohm | 1Vp-p 75 Ohm |
| Objective | 5,5mm | 5,5mm |
| Operation Voltage | 6-12 VDC | 6-12 VDC |
| Temperature Range | -10°C to +50°C | -10°C to +50°C |
| Dimensions | 15x15x17 mm | 15x15x17 mm |
| Note | wires, microphone | wires, microphone |

| Type | Description |
|-------------------------------------|--------------------------|
| SX-312BS SUB-MINI CAMERA CMOS B/W | Camera B/W+microphone |
| SX-312AS SUB-MINI CAMERA CMOS COLOR | Camera colour+microphone |

| Part No. | Ord. No. |
|------------|----------|
| S SX-312BS | 45948 |
| S SX-312AS | 45912 |

SX-203BS



B/W CMOS camera with microphone

SX-203AS



Color CMOS camera with microphone

| Technical data | SX-203 BS | SX-203 AS |
|---------------------|----------------------------------|----------------------------------|
| Image | B/W | colour |
| Resolution | 352x288 | 628 x 582 |
| Output | 1Vp-p 75 Ohm | 1Vp-p 75 Ohm |
| Objective | 3,6mm | 3,6mm |
| Operation Voltage | 12 VDC | 12 VDC |
| Working temperature | -10°C to +50°C | -10°C to +50°C |
| Dimensions | 41x45x30 mm | 41x45x30 mm |
| Note | wires, microphone, stand to wall | wires, microphone, stand to wall |

| Part No. | Description |
|----------------------------|--------------------------|
| SX-203BS CMOS CAMERA B/W | Camera B/W 41x45x30mm |
| SX-203AS CMOS CAMERA COLOR | Camera colour 41x45x30mm |

| Part No. | Ord. No. |
|------------|----------|
| S SX-203BS | 45950 |
| S SX-203AS | 45946 |

SX-2008BS



B/W mini CMOS camera with IR LEDs and microphone.

SX-200AS



Colour mini CMOS camera with IR LEDs and microphone.

| Technical data | SX-2008 BS | SX-200 AS |
|-----------------------|----------------------------|----------------------------|
| Image | B/W | color |
| Resolution | 352x288 | 628 x 582 |
| Output | 1Vp-p 75 Ohm | 1Vp-p 75 Ohm |
| Objective | 3,6mm | 3,6mm |
| Operation Voltage | 6-12 VDC | 6-12 VDC |
| Operating Temperature | -10°C to +50°C | -10°C to +50°C |
| Dimensions | 35x54x35 mm | 60x50x30 mm |
| Note | wires, microphone, IR LEDs | wires!, IR LED, microphone |

| Part No. | Description |
|---------------------------------|---------------------------|
| SX-2008BS MINI CAMERA CMOS B/W | Camera B/W + mikrof+IR |
| SX-200AS MINI CAMERA CMOS COLOR | Camera color + microphone |

| Part No. | Ord. No. |
|-------------|----------|
| S SX-2008BS | 45951 |
| S SX-200AS | 66821 |



CCTV DOME Camera
CCD(Sharp) Color Dome Camera, 1/4" CCD Sensor, 420 TV Lines, 1.0 Lux/F2.0, S/N Ratio >48db, very simple installation with BNC connections

| Technical data | CCTV Dome |
|-----------------------|---------------------|
| Resolution | 512x582 Pixel (PAL) |
| Video Output | 1Vp-p 75 Ohm |
| Lens | f=3,6mm/F=2.0 |
| Operation Voltage | 12 VDC |
| Operating Temperature | -10°C to +50°C |
| Dimensions | 100x75 mm |

| Part No. | Ord. No. |
|--------------------|----------|
| S CCTV DOME Camera | 67128 |

For the actual prices visit www.soselectronic.com

Video Cameras w/Cables



1/4" CCD Camera
Color camera with 1/4" CCD sensor and IR LEDs.

| Technical data | Camera 1/4" CCD |
|-----------------------|-------------------|
| Sensor | 1/4"CCD |
| Resolution | 512x582 pixel PAL |
| Output | 1V p-p |
| Objective | f 3,6mm / F=2,0 |
| Operation Voltage | 12V |
| Operating Temperature | -10 to +50°C |
| Dimensions | 50x56mm |

| Part No. | Description | Ord. No. |
|------------------|--------------------------|----------|
| S Camera 1/4"CCD | Camera 1/4"CCD s IR LEDs | 67130 |



ITM-DVR8100
The DVR81xx is a series of different types of digital video recorders. All types have certain features for certain fields of application. Base module is "DVR8100".
Main features are:

- Comfortable surveillance functions like motion detection
- Applicable for a huge variety of cameras
- Taking pictures or recording video
- Simple control by display menu
- Input and output triggers allow to connect your external applications
- Very flexible by custom made extensions (like key board)

| Technical data | ITM-DVR8100 |
|----------------|--|
| Video input | 2 cams |
| Output | NTSC or PAL, video output to TV, Alarm output when motion detected |
| Flash memory | SD card |
| Power supply | 12V DC |
| Dimensions | 80x55 mm |

| Part No. | Description | Ord. No. |
|---------------|---------------------------|----------|
| S ITM-DVR8100 | Video recorder to SD Card | 64803 |



DUMMY-CAMERA 1
Highly realistic dummy camera with flashing LED and moving to the left and right side.
Power supply: 3xAA
Dimensions: 135x53x53mm

DUMMY-CAMERA 2
Imitation of Security Camera with Flashing LED. Power supply 2xAAA, dimensions: 94x65mm

DUMMY-CAMERA 3
Aluminium Imitation of Security Camera with flashing LED. Power supply 2xAA, dimensions: 380x95x22mm.



| Part No. | Description |
|----------------|---|
| DUMMY-CAMERA 1 | Dummy Camera with flashing LED 3xAA 135x53x53mm |
| DUMMY-CAMERA 2 | Dummy Camera with flashing LED 2xAAA 94x65mm |
| DUMMY-CAMERA 3 | Dummy Camera with flashing LED 2xAA 380x95x22mm |

| Part No. | Ord. No. |
|------------------|----------|
| S DUMMY-CAMERA 1 | 47617 |
| S DUMMY-CAMERA 2 | 63116 |
| S DUMMY-CAMERA 3 | 69007 |