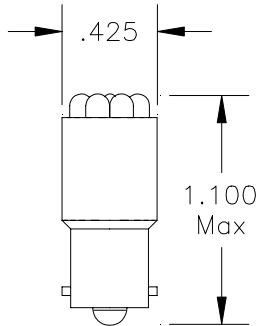




INCANDESCENT REPLACEMENT PRODUCTS

MODEL 197

T - 3 1/4 MINIATURE BAYONET CLUSTER LED



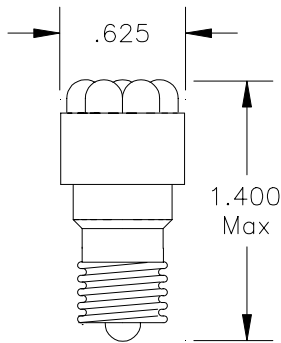
Voltages available from 5 - 48VDC and 5 - 120VAC. Please specify color when ordering. Insert 1 - Red, 2 - Green 3 - Yellow, 4 - Amber, 5 - Ultra Green, 6 - Ultra Blue, 7 - Pure White where "X" appears below. Ultra Bright Blue, Ultra Bright Green and White are configured with a single 5mm LED only. All others are configured with a six T-1 LED cluster.

| Voltages | Pos. Ctr. | Neg. Ctr. | Dual Pol. | AC |
|-----------|-----------|-----------|-----------|------------|
| 5vdc/vac | 197-PC5X | 197-NC5X | 197-DP5X | 197-AC5X |
| 14vdc/vac | 197-PC14X | 197-NC14X | 197-DP14X | 197-AC14X |
| 24vdc/vac | 197-PC24X | 197-NC24X | 197-DP24X | 197-AC24X |
| 28vdc/vac | 197-PC28X | 197-NC28X | 197-DP28X | 197-AC28X |
| 48vdc/vac | 197-PC48X | 197-NC48X | 197-DP48X | 197-AC48X |
| 120vac | | | | 197-AC120X |

Direct replacement for the following incandescent lamps: 24MB, 28MB, 44, 47, 53, 60RB, 120MB, 194, 256, 313, 356, 363, 756, 757, 1445, 1450, 1495, 1813, 1815, 1816, 1818, 1819, 1820, 1829, 1850, 1855, 1864, 1866, 1891, 1892, 1893.

MODEL 160

T - 4 1/2 CANDELABRA LED



6S6 candelabra screw base LED light. Long life, low power replacement for incandescent lamps. Dual polarity works in both AC and DC applications. Comes with either 4 or 6 LED cluster. Insert 1 - Red, 2 - Green, 3 - Yellow, 4 - Amber, 5 - Ultra Green, 6 - Ultra Blue, 7 - Pure White where "X" appears. When ordering, indicate number of LED's after the model number, voltage and color.

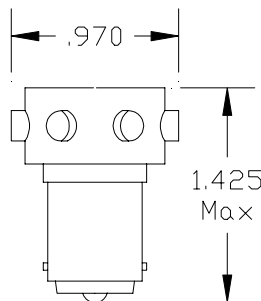
| Voltage | Model No. |
|---------|-----------|
| 12 | 160-12X |
| 24 | 160-24X |
| 28 | 160-28X |
| 48 | 160-48X |
| 60 | 160-60X |
| 120 | 160-120X |

Direct replacement for 3S6 and 6S6 lamps

How to Order: Model No.-Voltage-Color-Number of LED's
 Example: 160-121-6

MODEL 460

STACK LIGHT



This model is designed to replace incandescent lighting in Stack Lights. Reduce your energy and maintenance cost. Voltages available from 24 to 120 in AC or DC. With 360 degree viewing, these lights are available in all colors. Insert 1 - Red, 2 - Green, 3 - Yellow, 4 - Amber, 5 - Ultra Green, 6 - Ultra Blue, 7 - Pure White where "X" appears below.

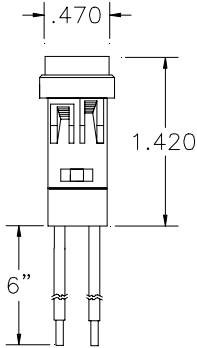
| Voltages | Model No. |
|----------|-----------|
| 24 | 460-24X |
| 28 | 460-28X |
| 60 | 460-60X |
| 120 | 460-120X |



Panel Mount Products

MODEL 500

T 1 3/4 LED PANEL MOUNT NON-RELAMPABLE INDICATOR



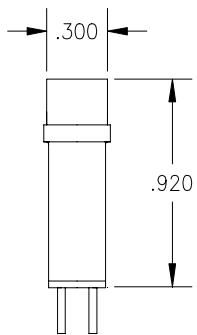
The 500 Model incorporates a T 1 3/4 size LED in a choice of colors. For panel mounting through a 1/2" (0.500") diameter hole; needs no mounting hardware. Transparent lens. Supplied standard with 6" wire leads, although any length can be ordered. Optional .187 QC terminals may be specified. Can be supplied with or without built in current limiting resistor. For operation from 5V, 12V, or 28V sources. Contact the factory for other voltage options.

| | | |
|------------------|-------------------------|-----------------------|
| LED Color | Lens Color | Terminals |
| A - Amber | ATP - Amber Transparent | QC - .187 QC terminal |
| G - Green | GTP - Green Transparent | 6" - 6" wire leads |
| R - Red | RTP - Red Transparent | |
| | CTP - Clear | |

How to Order: Model No.-LED color-Lens color-Voltage/Current -Terminals
 Example: 500-A-CTP-5/20-6"

MODEL 502

PANEL MOUNT CARTRIDGE LAMP LED/INCANDESCENT/NEON



Cartridges consist of an aluminum body incorporating either an LED, incandescent or neon light source. Termination is by stainless steel pins suitable for use with a solder lug socket connector, wire wrap™ post adapter or lead wire terminal connector. LED versions can be supplied with or without built-in resistors. Mounts in 0.290" diameter hole with black anodized aluminum body. Secured with a Tinnerman nut. Operation of LED and Incandescent from 2V to 28V. Neon operation from 110 to 220V.

| | | | |
|--------------------|-------------------|--------------------------------|--------------------------------|
| Color Codes | Lens Style | Lens Colors Transparent | Lens Colors Translucent |
| R - Red | Fresnel Lens | RTP - Red | RTL - Red |
| G - Green | F - Flat | BTP - Blue | BTL - Blue |
| A - Amber | D - Domed | GTP - Green | WTL - White |
| | | ATP - Amber | GTL - Green |
| | | CTP - Clear | ATL - Amber |

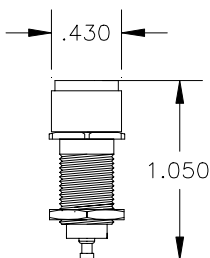
How to Order: Incandescent and neon cartridges: 502-A1C-F-RTP-110
How to Order: LED: 502-R-F-RTP-5/15

MODEL 855

PANEL MOUNT FRONT RELAMPABLE

USES T 1 3/4 INCANDESCENT OR LED

MODEL 855-S



Among the outstanding features of the screw mount 855 series are a small mounting size 3/8" and interchangeable lens assemblies. Contact pressure is maintained by a silicone rubber pressure pad. Uses T-1 3/4 midget flange based bulb, incandescent or LED.

MODEL 855-SI

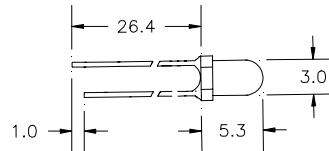
The 855-SI model is the two-terminal version of the 855-S model. The body is insulated from the panel (or case) by insulating washers. Electrical contact with the body is made through a solder lug. Designed specifically to use T- 1 3/4 midget flanged based bulbs, incandescent or LED.

There are many styles of lenses and colors that can be used with both models. Contact the factory for more information.



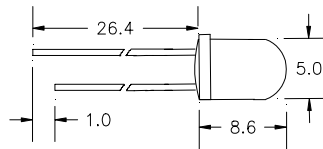
Discrete LED Products - Water Clear

MODEL SL903
T-1 (3mm)
WATERCLEAR



| Part No. | Emitted Color | Wave Length | Lens Color | View Angle (deg) | Electro-Optical Characteristics | | | | | Absolute Max Ratings | | |
|----------|---------------|-------------|-------------|------------------|---------------------------------|------|----------|----------|------|----------------------|-------|--------------|
| | | | | | Vf (V) | | If (Rec) | Iv (mcd) | | Pd mW | If mA | If mA (Peak) |
| | | | | | Typ. | Max. | | Min. | Typ. | | | |
| SL903GC | Green | 565 | Water Clear | 30 | 2.1 | 2.8 | 10~20 | 30 | 100 | 100 | 30 | 160 |
| SL903GCH | Green | 565 | Water Clear | 30 | 2.1 | 2.8 | 10~20 | 100 | 250 | 100 | 30 | 160 |
| SL903GCV | Green | 565 | Water Clear | 30 | 2.1 | 2.8 | 10~20 | 250 | 350 | 100 | 30 | 160 |
| SL903GCS | Green | 568 | Water Clear | 30 | 1.8 | 2.1 | 10~20 | 350 | 500 | 100 | 30 | 160 |
| SL903YC | Yellow | 585 | Water Clear | 30 | 1.8 | 2.1 | 10~20 | 8 | 30 | 100 | 30 | 160 |
| SL903YCH | Yellow | 585 | Water Clear | 30 | 1.8 | 2.1 | 10~20 | 30 | 100 | 100 | 30 | 160 |
| SL903YCV | Yellow | 585 | Water Clear | 30 | 1.8 | 2.1 | 10~20 | 100 | 250 | 100 | 30 | 160 |
| SL903YCS | Yellow | 585 | Water Clear | 30 | 1.8 | 2.1 | 10~20 | 250 | 350 | 100 | 30 | 160 |
| SL903YCU | Yellow | 595 | Water Clear | 30 | 2.0 | 2.4 | 20~30 | 350 | 500 | 100 | 40 | 200 |
| SL903OC | Hi.Eff. Red | 635 | Water Clear | 30 | 2.0 | 2.8 | 10~20 | 12 | 50 | 100 | 30 | 160 |
| SL903OCH | Hi.Eff. Red | 635 | Water Clear | 30 | 2.0 | 2.8 | 10~20 | 25 | 50 | 100 | 30 | 160 |
| SL903OCV | Hi.Eff. Red | 620 | Water Clear | 30 | 2.1 | 2.8 | 10~20 | 1000 | 2000 | 80 | 30 | 160 |
| SL903OCU | Hi.Eff. Red | 630 | Water Clear | 30 | 2.1 | 2.8 | 20 | 2000 | 2500 | 80 | 40 | 200 |
| SL903RC | Red | 700 | Water Clear | 30 | 2.1 | 2.8 | 5~10 | 5 | 15 | 45 | 15 | 50 |
| SL903RCH | Red | 660 | Water Clear | 30 | 1.8 | 2.1 | 10~20 | 150 | 500 | 60 | 20 | 160 |
| SL903RCV | Red | 660 | Water Clear | 30 | 1.8 | 2.1 | 10~20 | 500 | 700 | 60 | 20 | 160 |
| SL903RCS | Red | 660 | Water Clear | 30 | 1.8 | 2.1 | 10~20 | 700 | 1000 | 60 | 20 | 160 |
| SL903RCU | Red | 660 | Water Clear | 30 | 1.8 | 2.1 | 10~20 | 1000 | 1250 | 60 | 20 | 160 |

MODEL SL905
T-1 3/4 (5mm)
WATERCLEAR



| Part No. | Emitted Color | Wave Length | Lens Color | View Angle (deg) | Electro-Optical Characteristics | | | | | Absolute Max Ratings | | |
|----------|---------------|-------------|-------------|------------------|---------------------------------|------|----------|----------|------|----------------------|-------|--------------|
| | | | | | Vf (V) | | If (Rec) | Iv (mcd) | | Pd mW | If mA | If mA (Peak) |
| | | | | | Typ. | Max. | | Min. | Typ. | | | |
| SL905BC | Blue | 430 | Water Clear | 20 | 4.9 | 5.5 | 10~20 | 300 | 500 | 165 | 30 | 160 |
| SL905GC | Green | 565 | Water Clear | 30 | 2.1 | 2.8 | 10~20 | 10 | 30 | 100 | 30 | 160 |
| SL905GCH | Green | 565 | Water Clear | 30 | 2.1 | 2.8 | 10~20 | 100 | 250 | 100 | 30 | 160 |
| SL905GCV | Green | 565 | Water Clear | 30 | 2.1 | 2.8 | 10~20 | 250 | 500 | 100 | 30 | 160 |
| SL905GCS | Green | 565 | Water Clear | 30 | 2.1 | 2.8 | 10~20 | 500 | 750 | 100 | 30 | 160 |
| SL905YC | Yellow | 585 | Water Clear | 30 | 2.1 | 2.8 | 10~20 | 10 | 30 | 100 | 30 | 160 |
| SL905YCH | Yellow | 595 | Water Clear | 30 | 2.1 | 2.4 | 10~20 | 30 | 100 | 120 | 30 | 200 |
| SL905YCV | Yellow | 595 | Water Clear | 30 | 2.1 | 2.4 | 10~20 | 100 | 250 | 120 | 40 | 200 |
| SL905YCS | Yellow | 595 | Water Clear | 30 | 2.1 | 2.4 | 10~20 | 250 | 400 | 120 | 40 | 200 |
| SL905OC | Hi.Eff. Red | 635 | Water Clear | 30 | 2.0 | 2.8 | 10~20 | 20 | 60 | 100 | 30 | 160 |
| SL905OCH | Hi.Eff. Red | 635 | Water Clear | 30 | 2.0 | 2.8 | 10~20 | 60 | 100 | 100 | 30 | 160 |
| SL905OCV | Hi.Eff. Red | 635 | Water Clear | 30 | 2.0 | 2.4 | 10~20 | 100 | 200 | 100 | 30 | 160 |
| SL905OCS | Hi.Eff. Red | 635 | Water Clear | 20 | 2.0 | 2.4 | 10~20 | 200 | 250 | 100 | 30 | 160 |
| SL905RC | Red | 700 | Water Clear | 30 | 2.1 | 2.8 | 5~10 | 8 | 20 | 45 | 15 | 50 |
| SL905RCH | Red | 660 | Water Clear | 30 | 1.8 | 2.1 | 10~20 | 300 | 1000 | 60 | 20 | 160 |
| SL905RCV | Red | 660 | Water Clear | 30 | 1.8 | 2.1 | 10~20 | 1000 | 2000 | 60 | 20 | 160 |
| SL905RCS | Red | 660 | Water Clear | 30 | 1.8 | 2.1 | 10~20 | 2000 | 3000 | 60 | 20 | 160 |

European Operation: Sloan AG Birmanngasse 8, CH-4009, BASEL, Switzerland

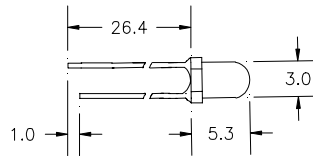
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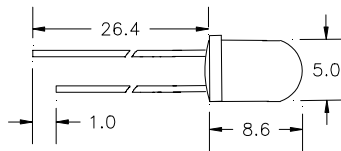
Discrete LED Products - Diffused

MODEL SL903
T-1 (3mm)
DIFFUSED



| Part No. | Emitted Color | Wave Length | Lens Color | View Angle (deg) | Electro-Optical Characteristics | | | | | Absolute Max Ratings | | |
|----------|---------------|-------------|-----------------|------------------|---------------------------------|------|---------|----------|------|----------------------|---------|----------------|
| | | | | | Vf (V) | | If (mA) | Iv (mcd) | | Pd (mW) | If (mA) | If (mA) (Peak) |
| | | | | | Typ. | Max. | | Min. | Typ. | | | |
| SL903GD | Green | 565 | Green Diffused | 60 | 2.1 | 2.8 | 20 | 2.5 | 12.5 | 100 | 30 | 160 |
| SL903GDH | Green | 565 | Green Diffused | 60 | 2.1 | 2.8 | 20 | 12.5 | 30.0 | 100 | 30 | 160 |
| SL903GDV | Green | 565 | Green Diffused | 60 | 2.1 | 2.8 | 20 | 30.0 | 60.0 | 100 | 30 | 160 |
| SL903GDS | Green | 565 | Green Diffused | 60 | 2.1 | 2.8 | 20 | 60.0 | 90.0 | 100 | 30 | 160 |
| SL903YD | Yellow | 585 | Yellow Diffused | 60 | 2.1 | 2.8 | 20 | 2.5 | 12.5 | 100 | 30 | 160 |
| SL903YDH | Yellow | 585 | Yellow Diffused | 60 | 2.1 | 2.8 | 20 | 12.5 | 30.0 | 100 | 30 | 160 |
| SL903YDV | Yellow | 585 | Yellow Diffused | 60 | 2.1 | 2.8 | 20 | 30.0 | 60.0 | 100 | 30 | 160 |
| SL903OD | Hi. Eff. Red | 635 | Red Diffused | 60 | 2.0 | 2.8 | 20 | 3.0 | 20.0 | 100 | 30 | 160 |
| SL903ODO | Hi. Eff. Red | 635 | Orange Diffused | 60 | 2.0 | 2.8 | 20 | 3.0 | 20.0 | 100 | 30 | 160 |
| SL903RD | Red | 700 | Red Diffused | 60 | 2.1 | 2.8 | 10 | 0.8 | 5.0 | 45 | 15 | 50 |
| SL903RDH | Red | 660 | Red Diffused | 60 | 1.8 | 2.1 | 20 | 50.0 | 100 | 60 | 30 | 160 |
| SL903RDV | Red | 660 | Red Diffused | 60 | 1.8 | 2.1 | 20 | 100 | 200 | 60 | 30 | 160 |
| SL903RDS | Red | 660 | Red Diffused | 60 | 1.8 | 2.1 | 20 | 200 | 300 | 60 | 30 | 160 |

MODEL SL905
T-1 3/4 (5mm)
DIFFUSED



| Part No. | Emitted Color | Wave Length | Lens Color | View Angle (deg) | Electro-Optical Characteristics | | | | Absolute Max Ratings | | |
|----------|---------------|-------------|-----------------|------------------|---------------------------------|------|----------|------|----------------------|---------|----------------|
| | | | | | Vf (V) | | Iv (mcd) | | Pd (mW) | If (mA) | If (mA) (Peak) |
| | | | | | Typ. | Max. | Min. | Typ. | | | |
| SL905GD | Green | 565 | Green Diffused | 60 | 2.1 | 2.8 | 3 | 15 | 100 | 30 | 160 |
| SL905GDH | Green | 565 | Green Diffused | 60 | 2.1 | 2.8 | 15 | 40 | 100 | 30 | 160 |
| SL905GDV | Green | 565 | Green Diffused | 60 | 2.1 | 2.8 | 40 | 80 | 100 | 30 | 160 |
| SL905GDS | Green | 565 | Green Diffused | 60 | 2.1 | 2.8 | 80 | 120 | 100 | 30 | 160 |
| SL905YD | Yellow | 585 | Yellow Diffused | 60 | 2.1 | 2.8 | 5 | 20 | 100 | 30 | 160 |
| SL905YDH | Yellow | 585 | Yellow Diffused | 60 | 2.1 | 2.8 | 20 | 40 | 100 | 30 | 160 |
| SL905YDV | Yellow | 595 | Yellow Diffused | 60 | 2.1 | 2.4 | 40 | 80 | 120 | 40 | 200 |
| SL905YDS | Yellow | 595 | Yellow Diffused | 60 | 2.1 | 2.4 | 80 | 120 | 120 | 40 | 200 |
| SL905YDU | Yellow | 595 | Yellow Diffused | 60 | 2.1 | 2.4 | 120 | 160 | 120 | 40 | 200 |
| SL905OD | Hi. Eff. Red | 635 | Red Diffused | 60 | 2.1 | 2.8 | 5 | 20 | 100 | 20 | 160 |
| SL905ODH | Hi. Eff. Red | 635 | Red Diffused | 60 | 2.1 | 2.8 | 20 | 40 | 100 | 30 | 160 |
| SL905ODV | Hi. Eff. Red | 620 | Red Diffused | 60 | 2.0 | 2.4 | 40 | 80 | 120 | 40 | 200 |
| SL905ODS | Hi. Eff. Red | 620 | Red Diffused | 60 | 2.0 | 2.4 | 80 | 120 | 120 | 40 | 200 |
| SL905ODU | Hi. Eff. Red | 620 | Red Diffused | 60 | 2.0 | 2.4 | 120 | 160 | 120 | 40 | 200 |
| SL905RD | Red | 700 | Red Diffused | 60 | 1.7 | 2.8 | 0.8 | 5 | 45 | 15 | 50 |
| SL905RDH | Red | 660 | Red Diffused | 60 | 1.8 | 2.1 | 50 | 200 | 60 | 20 | 160 |
| SL905RDV | Red | 660 | Red Diffused | 60 | 1.8 | 2.1 | 200 | 300 | 60 | 20 | 160 |
| SL905RDS | Red | 660 | Red Diffused | 60 | 1.8 | 2.1 | 300 | 400 | 60 | 20 | 160 |
| SL905RDU | Red | 660 | Red Diffused | 60 | 1.8 | 2.1 | 400 | 500 | 60 | 20 | 160 |

European Operation: Sloan AG Birmanngasse 8, CH-4009, BASEL, Switzerland

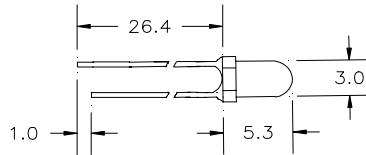
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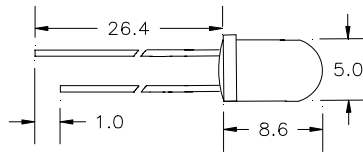
Discrete LED Products - Ultra Bright

MODEL SL903
T-1 (3mm)
ULTRA BRIGHT



| Part No. | Chip | | Wave Length | Lens Color | View Angle (deg) | Electo-Optical Characteristics | | | Absolute Max Ratings | | |
|----------|--------------|---------------|-------------|-------------|------------------|--------------------------------|------|----------|----------------------|-------|--------------|
| | Raw Material | Emitted Color | | | | Vf(V) | | IV (mcd) | Pd mW | If mA | If mA (Peak) |
| | | | | | | Typ. | Max. | Typ. | | | |
| SL903WCE | InGaN/YAG | Pure White | - | Water Clear | 30 | 3.6 | 4.0 | 630 | 120 | 30 | 100 |
| SL903BCE | GaN/SiC | Blue | 430 | Water Clear | 40 | 3.8 | 4.5 | 100 | 120 | 30 | 100 |
| SL903GCE | AlGaInP | Green | 575 | Water Clear | 40 | 2.0 | 2.4 | 120 | 120 | 30 | 100 |
| SL903RCE | AlGaInP | Red | 635 | Water Clear | 40 | 2.0 | 2.4 | 350 | 120 | 30 | 100 |
| SL903YCE | AlGaInP | Yellow | 590 | Water Clear | 40 | 2.0 | 2.4 | 385 | 120 | 30 | 100 |
| SL903ACE | AlGaInP | Amber | 620 | Water Clear | 40 | 2.0 | 2.4 | 420 | 120 | 30 | 100 |

MODEL SL905
T-1 3/4 5(MM)
ULTRA BRIGHT



| Part No. | Chip | | Wave Length | Lens Color | View Angle (deg) | Electo-Optical Characteristics | | | Absolute Max Ratings | | |
|-------------|--------------|---------------|-------------|-------------|------------------|--------------------------------|------|----------|----------------------|-------|--------------|
| | Raw Material | Emitted Color | | | | Vf(V) | | IV (mcd) | Pd mW | If mA | If mA (Peak) |
| | | | | | | Typ. | Max. | Typ. | | | |
| SL905WCE | InGaN/YAG | Pure White | - | Water Clear | 45 | 3.6 | 4.0 | 1200 | 120 | 30 | 100 |
| SL905WCE-13 | InGaN/YAG | Pure White | - | Water Clear | 13 | 3.6 | 4.0 | 3700 | 120 | 30 | 100 |
| SL905WCE-20 | InGaN/YAG | Pure White | - | Water Clear | 20 | 3.6 | 4.0 | 3300 | 120 | 30 | 100 |
| SL905BCE | GaN/SiC | Blue | 430 | Water Clear | 20 | 3.8 | 4.5 | 400 | 120 | 30 | 100 |
| SL905GCE | AlGaInP | Green | 575 | Water Clear | 20 | 2.0 | 2.4 | 2200 | 120 | 30 | 100 |
| SL905RCE | AlGaInP | Red | 635 | Water Clear | 13 | 2.0 | 2.4 | 7300 | 120 | 30 | 100 |
| SL905YCE | AlGaInP | Yellow | 590 | Water Clear | 13 | 2.0 | 2.4 | 8900 | 120 | 30 | 100 |
| SL905ACE | AlGaInP | Amber | 620 | Water Clear | 13 | 2.0 | 2.4 | 9900 | 120 | 30 | 100 |