

Cylindrical Type LED lamp
BL-L542
Features:

- 5mm Cylindrical LED lamp, FLAT TOP
- Ultra brightness.
- Choice of various viewing angles.
- Diffused, Transparent and Water clear lens
- IC compatible /Low current capability.
- RoHs Compliance


Electrical-optical characteristics: (Ta=25°C) (Test Condition: IF=20mA)

| Part Number | Chip | | | Lens Type | Forward Voltage(VF) Unit:V | | Luminous Intensity (lv) Unit:mcd | | Viewing Angle 201/2(deg) |
|-------------|--------------------|------------|------------------|-----------|-------------------------------|--------|-------------------------------------|------|-----------------------------|
| | Emitted Color | Material | λ_p (nm) | | Typ | Max | Min. | Typ. | |
| | | | | | BL-L542SRC | Hi Red | AlGaAs,SH | 660 | |
| BL-L542LRC | Super Red | AlGaAs,DH | 660 | 1.85 | 2.20 | 270 | 500 | | |
| BL-L542URC | Ultra Red | AlGaAs,DDH | 660 | 1.95 | 2.20 | 500 | 800 | | |
| BL-L542UEC | Ultra Orange | AlGaInP | 630 | 2.10 | 2.50 | 260 | 600 | | |
| BL-L542UYC | Ultra Yellow | AlGaInP | 590 | 2.10 | 2.50 | 260 | 500 | | |
| BL-L542UGC | Ultra Green | AlGaInP | 574 | 2.20 | 2.50 | 120 | 250 | | |
| BL-L542PGC | Ultra Pure Green | InGaN | 525 | 3.80 | 4.50 | 800 | 2000 | | |
| BL-L542BGC | Ultra Bluish Green | InGaN | 505 | 3.80 | 4.50 | 700 | 1800 | | |
| BL-L542BC | Blue | InGaN | 430 | 3.80 | 4.50 | 500 | 1000 | | |
| BL-L542UBC | Ultra Blue | InGaN | 470 | 2.70 | 4.20 | 650 | 1800 | | |
| BL-L542VC | UV | InGaN | 405 | 3.80 | 4.50 | 35 | 80 | | |
| BL-L542UWC | Ultra White | InGaN | / | 2.70 | 4.20 | 1000 | 2500 | | |

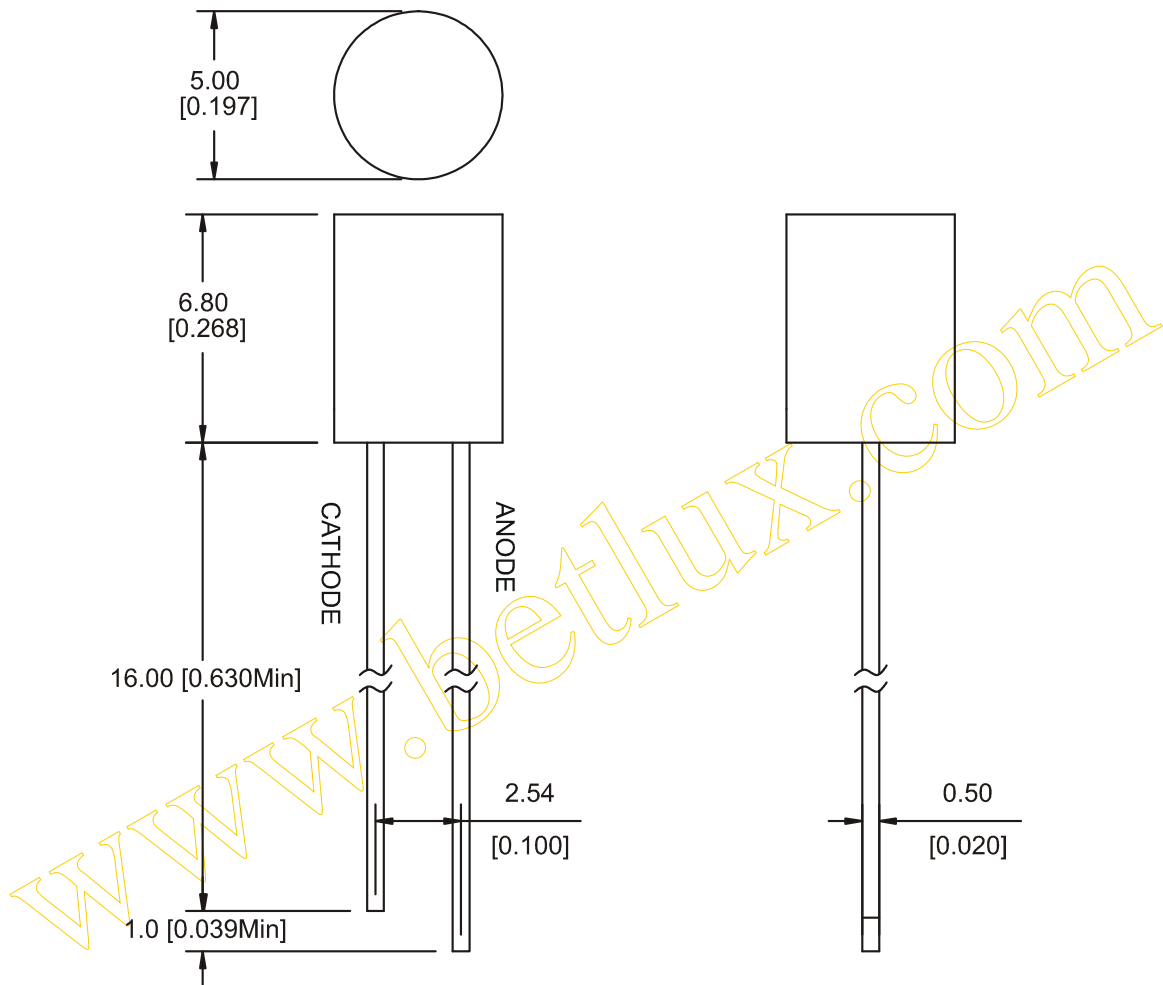
Absolute maximum ratings (Ta=25°C)

| Parameter | SR | LR | UR | UE | UY | UG | PG | BG | B | UB | UV | W | Unit |
|--|---|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|
| Forward Current I_F | 25 | 25 | 25 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | mA |
| Power Dissipation P_d | 60 | 60 | 60 | 65 | 65 | 75 | 110 | 110 | 120 | 120 | 120 | 120 | mW |
| Reverse Voltage V_R | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | V |
| Peak Forward Current I_{PF} (Duty 1/10 @1KHZ) | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 100 | 100 | 100 | 100 | 100 | mA |
| Operation Temperature T_{OPR} | -40 to +80 | | | | | | | | | | | | °C |
| Storage Temperature T_{STG} | -40 to +85 | | | | | | | | | | | | °C |
| Lead Soldering Temperature T_{SOL} | Max.260±5°C for 3 sec Max. (1.6mm from the base of the epoxy bulb) | | | | | | | | | | | | °C |

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■ Package configuration & Internal circuit diagram



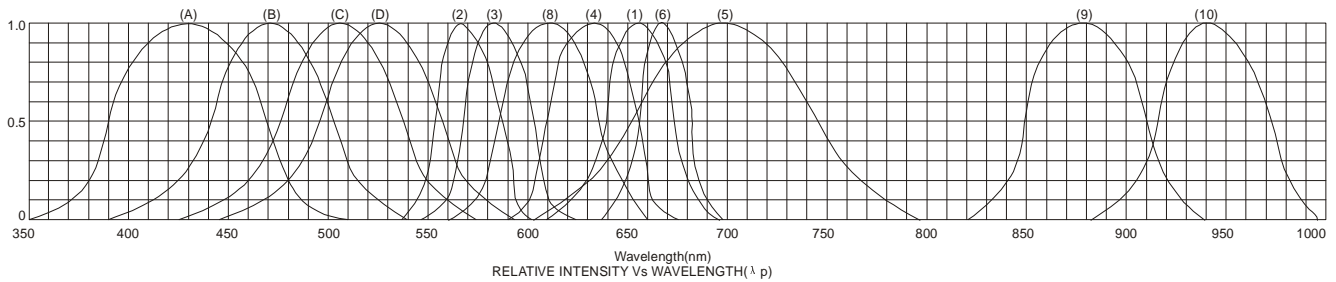
Notes:

1. All dimensions are in millimeters (inches)
2. Tolerance is $\pm 0.25(0.01)$ unless otherwise noted.
3. Specifications are subject to change without notice.

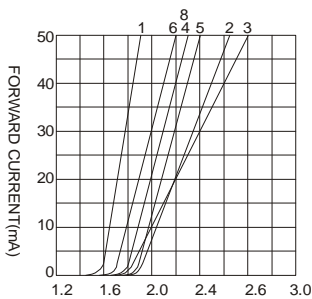
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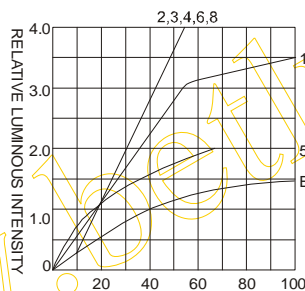
Typical electrical-optical characteristics curves:



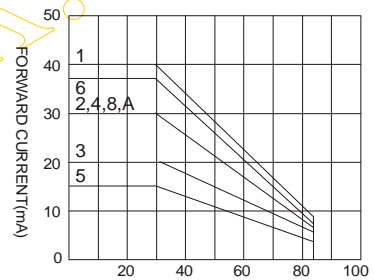
- | | |
|---|--------------------------------------|
| (1) - GaAsP/GaAs 655nm/Red | (9) - GaAlAs 880nm |
| (2) - GaP 570nm/Yellow Green | (10) - GaAs/GaAs & GaAlAs/GaAs 940nm |
| (3) - GaAsP/GaP 585nm/Yellow | (A) - GaN/SiC 430nm/Blue |
| (4) - GaAsP/GaP 635nm/Orange & Hi-Eff Red | (B) - InGaN/SiC 470nm/Blue |
| (5) - GaP 700nm/Bright Red | (C) - InGaN/SiC 505nm/Ultra Green |
| (6) - GaAlAs/GaAs 660nm/Super Red | (D) - InGaN/SiC 525nm/Ultra Green |
| (8) - GaAsP/GaP 610nm/Super Red | |



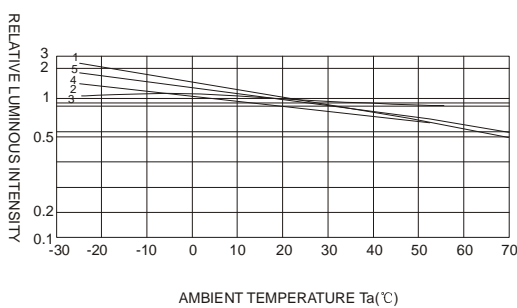
FORWARD VOLTAGE (Vf)
FORWARD CURRENT VS.
FORWARD VOLTAGE



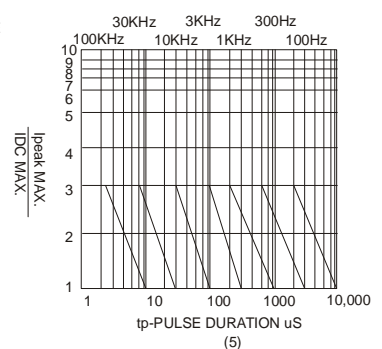
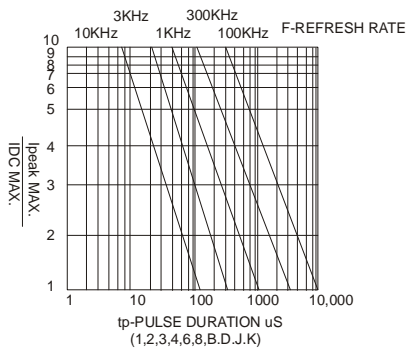
FORWARD CURRENT (mA)
RELATIVE LUMINOUS
INTENSITY VS. FORWARD
CURRENT



AMBIENT TEMPERATURE Ta(°C)
FORWARD CURRENT VS. AMBIENT
TEMPERATURE



AMBIENT TEMPERATURE Ta(°C)



NOTE:25°C free air temperature unless otherwise specified