

SMD LED LAMP
BL-LS0805XX
Features:

- 2.0mmx1.25mm SMD, 0.8mm THICKNESS
- Mono-color type
- Compatible with automatic placement equipment
- WIDE VIEWING ANGLE.
- IDEAL FOR BACKLIGHT AND INDICATOR.
- PACKAGE: 4KPCS/REEL
- 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 2θ1/2 (deg) |
|--------------|---------------|----------|---------------------|-------------|-------------------------------|------|-------------------------------------|------|------------------------------|
| | Emitted Color | Material | λ _p (nm) | | Typ | Max | Min. | Typ. | |
| | | | | | | | | | |
| BL-LS0805HC | Red | GaP | 700 | Water Clear | 2.2 | 2.7 | 0.3 | 0.9 | 130 |
| BL-LS0805SRC | Super Red | AlGaAs | 660 | | 1.85 | 2.30 | 5 | 13 | |
| BL-LS0805LRC | Super Red | AlGaAs | 660 | | 1.85 | 2.30 | 10 | 28 | |
| BL-LS0805EC | Orange | GaAsP | 640 | | 2.10 | 2.70 | 1 | 6 | |
| BL-LS0805YC | Yellow | GaAsP | 583 | | 2.15 | 2.70 | 1 | 6 | |
| BL-LS0805GC | Green | GaP | 568 | | 2.30 | 2.70 | 6 | 15 | |

Absolute maximum ratings (Ta=25°C)

| Parameter | H | SR | LR | UR | E | Y | G | Unit |
|---|---|-----|-----|-----|-----|-----|-----|------|
| Forward Current I _F | 30 | 30 | 30 | 30 | 30 | 30 | 30 | mA |
| Power Dissipation P _d | 65 | 78 | 78 | 78 | 65 | 65 | 65 | mW |
| Reverse Voltage V _R | 5 | 5 | 5 | 5 | 5 | 5 | 5 | V |
| Peak Forward Current I _{PF} (Duty 1/10 @1KHZ) | 100 | 100 | 100 | 100 | 100 | 100 | 100 | mA |
| Operation Temperature T _{OPR} | -30 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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Electrical-optical characteristics: (Ta=25°C) (Test Condition: IF=20mA)

| Part Number | Chip | | | Lens Type | Forward Voltage(VF) Unit:V | | Luminous Intensity (Iv) Unit:mcd | | Viewing Angle 2θ1/2 (deg) |
|--------------|--------------------|----------|---------------------|-------------|-------------------------------|------|-------------------------------------|------|---------------------------|
| | Emitted Color | Material | λ _P (nm) | | Typ | Max | Min. | Typ. | |
| | | | | | | | | | |
| BL-LS0805UDR | Ultra Red | AlGaAs | 655 | Water Clear | 2.10 | 2.50 | 22 | 55 | 130 |
| BL-LS0805UHR | Ultra Red | AlGaAs | 645 | | 2.10 | 2.60 | 30 | 80 | |
| BL-LS0805UEC | Ultra Orange | AlGaAs | 630 | | 2.10 | 2.50 | 30 | 70 | |
| BL-LS0805UHD | Ultra Orange | AlGaAs | 618 | | 2.10 | 2.60 | 50 | 110 | |
| BL-LS0805UYO | Ultra Amber | AlGaInP | 610 | | 2.10 | 2.60 | 30 | 70 | |
| BL-LS0805UYC | Ultra Yellow | AlGaInP | 593 | | 2.10 | 2.60 | 25 | 75 | |
| BL-LS0805UGC | Ultra Green | AlGaInP | 575 | | 2.20 | 2.70 | 10 | 45 | |
| BL-LS0805PGC | Ultra Pure Green | InGaN | 525 | | 3.50 | 4.20 | 50 | 100 | |
| BL-LS0805BGC | Ultra Bluish Green | InGaN | 505 | | 3.50 | 4.20 | 50 | 110 | |
| BL-LS0805DNB | Blue | InGaN | 470 | | 3.50 | 4.20 | 10 | 38 | |
| BL-LS0805UBC | Ultra Blue | InGaN | 470 | | 3.50 | 4.20 | 10 | 30 | |
| BL-LS0805UWC | Ultra White | InGaN | / | | 3.50 | 4.20 | 40 | 200 | |

Absolute maximum ratings (Ta=25°C)

| Parameter | UDR | UHR | UE | UHD | UYO | UY | UG | PG | BG | DNB | UB | UW | Unit |
|---|---|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|
| Forward Current I _F | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | mA |
| Power Dissipation P _d | 78 | 78 | 78 | 78 | 78 | 78 | 78 | 78 | 78 | 78 | 78 | 78 | 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) | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | mA |
| Operation Temperature T _{OPR} | -30 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 |

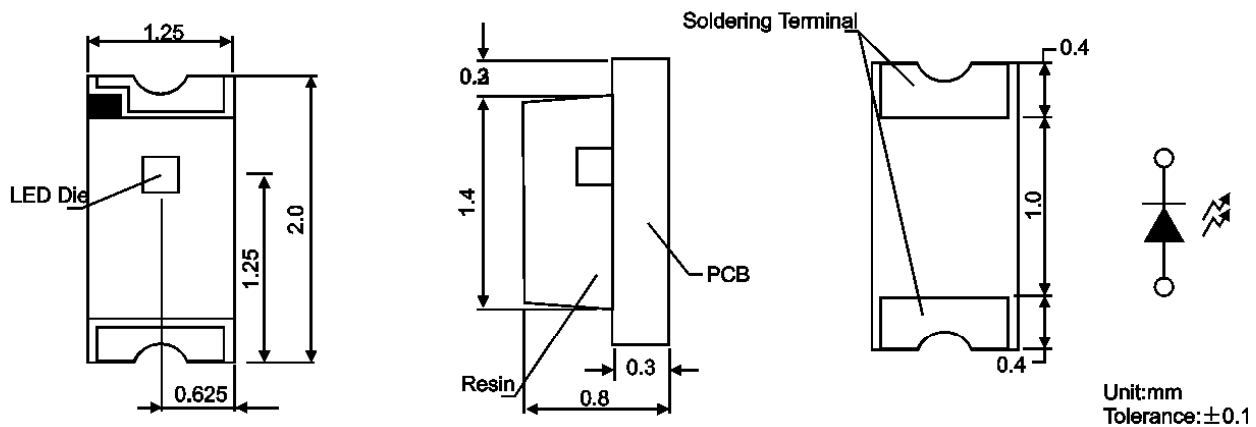
SMD LED LAMP

BL-LS0805XX

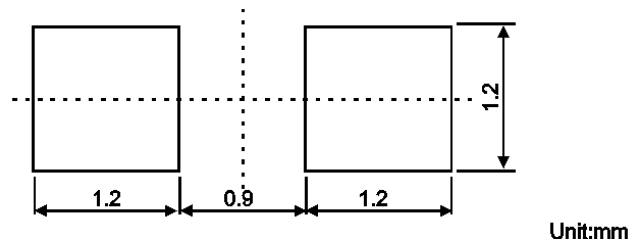
■ **Package configuration & Internal circuit diagram**

BL-LS0805 Series

Package Outline Drawing



Recommended Soldering Pad Dimensions



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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SELECTION CODE FOR SUPER BRIGHT LEDs

| Group | brightness (MCD) | | Group | brightness (MCD) | |
|-------|------------------|-----|-------|------------------|-----|
| | min | max | | min | max |
| D3 | 160 | 180 | E2 | 260 | 300 |
| D4 | 180 | 200 | F0 | 300 | 350 |
| E0 | 200 | 230 | F1 | 350 | 400 |
| E1 | 230 | 260 | F2 | 400 | 450 |

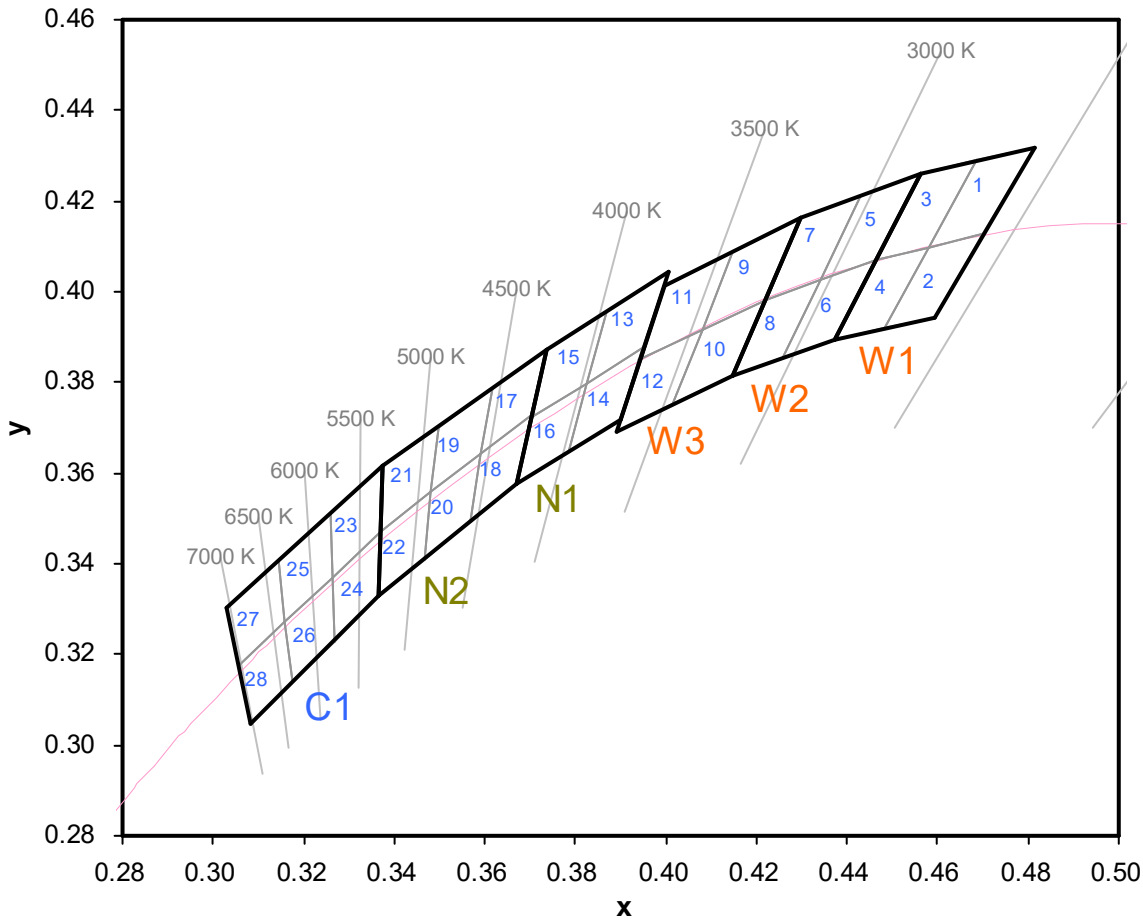
forward voltage Ranks

| Group | Voltage (V) | | Group | Voltage (V) | |
|-------|-------------|-----|-------|-------------|-----|
| | min | max | | min | max |
| F0 | 2.8 | 2.9 | | | |
| F1 | 2.9 | 3 | | | |
| G0 | 3 | 3.1 | | | |
| G1 | 3.1 | 3.2 | | | |
| H0 | 3.2 | 3.3 | | | |
| H1 | 3.3 | 3.4 | | | |
| J0 | 3.4 | 3.5 | | | |

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Color Temperature Bin



| CODE | x | y |
|------|--------|--------|
| W1 | 0.4373 | 0.3893 |
| | 0.4562 | 0.4260 |
| | 0.4813 | 0.4319 |
| | 0.4593 | 0.3944 |
| | X | Y |
| W2 | 0.4147 | 0.3814 |
| | 0.4299 | 0.4165 |
| | 0.4562 | 0.4260 |
| | 0.4373 | 0.3893 |
| | X | Y |
| W3 | 0.3889 | 0.3690 |
| | 0.3996 | 0.4015 |
| | 0.4299 | 0.4165 |
| | 0.4147 | 0.3814 |

| CODE | X | Y |
|------|--------|--------|
| N1 | 0.3670 | 0.3578 |
| | 0.3736 | 0.3874 |
| | 0.4006 | 0.4044 |
| | 0.3898 | 0.3716 |
| | X | Y |
| N2 | 0.3481 | 0.3557 |
| | 0.3376 | 0.3616 |
| | 0.3592 | 0.3641 |
| | 0.3670 | 0.3578 |
| | X | Y |
| C1 | 0.3160 | 0.3274 |
| | 0.3028 | 0.3304 |
| | 0.3265 | 0.3371 |
| | 0.3364 | 0.3328 |

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| CODE | x | y | CODE | x | y | CODE | x | y | CODE | x | y |
|------|--------|--------|------|--------|--------|------|--------|--------|------|--------|--------|
| 1 | 0.4582 | 0.4099 | 8 | 0.4147 | 0.3814 | 15 | 0.3702 | 0.3722 | 22 | 0.3481 | 0.3557 |
| | 0.4687 | 0.4289 | | 0.4221 | 0.3984 | | 0.3736 | 0.3874 | | 0.3370 | 0.3472 |
| | 0.4813 | 0.4319 | | 0.4342 | 0.4028 | | 0.3869 | 0.3958 | | 0.3364 | 0.3328 |
| | 0.4700 | 0.4126 | | 0.4259 | 0.3853 | | 0.3825 | 0.3798 | | 0.3466 | 0.3411 |
| 2 | 0.4483 | 0.3919 | 9 | 0.4080 | 0.3916 | 16 | 0.3670 | 0.3578 | 23 | 0.3376 | 0.3616 |
| | 0.4582 | 0.4099 | | 0.4146 | 0.4089 | | 0.3702 | 0.3722 | | 0.3260 | 0.3512 |
| | 0.4700 | 0.4126 | | 0.4299 | 0.4165 | | 0.3825 | 0.3798 | | 0.3265 | 0.3371 |
| | 0.4593 | 0.3944 | | 0.4221 | 0.3984 | | 0.3783 | 0.3646 | | 0.3370 | 0.3472 |
| 3 | 0.4465 | 0.4071 | 10 | 0.4017 | 0.3751 | 17 | 0.3736 | 0.3874 | 24 | 0.3370 | 0.3472 |
| | 0.4562 | 0.4260 | | 0.4080 | 0.3916 | | 0.3616 | 0.3788 | | 0.3265 | 0.3371 |
| | 0.4687 | 0.4289 | | 0.4221 | 0.3984 | | 0.3592 | 0.3641 | | 0.3270 | 0.3230 |
| | 0.4582 | 0.4099 | | 0.4147 | 0.3814 | | 0.3703 | 0.3726 | | 0.3364 | 0.3328 |
| 4 | 0.4373 | 0.3893 | 11 | 0.3941 | 0.3848 | 18 | 0.3703 | 0.3726 | 25 | 0.3260 | 0.3512 |
| | 0.4465 | 0.4071 | | 0.3996 | 0.4015 | | 0.3592 | 0.3641 | | 0.3144 | 0.3408 |
| | 0.4582 | 0.4099 | | 0.4146 | 0.4089 | | 0.3568 | 0.3495 | | 0.3160 | 0.3274 |
| | 0.4483 | 0.3919 | | 0.4080 | 0.3916 | | 0.3670 | 0.3578 | | 0.3265 | 0.3371 |
| 5 | 0.4342 | 0.4028 | 12 | 0.3889 | 0.3690 | 19 | 0.3616 | 0.3788 | 26 | 0.3265 | 0.3371 |
| | 0.4430 | 0.4212 | | 0.3941 | 0.3848 | | 0.3496 | 0.3702 | | 0.3160 | 0.3274 |
| | 0.4562 | 0.4260 | | 0.4080 | 0.3916 | | 0.3481 | 0.3557 | | 0.3175 | 0.3139 |
| | 0.4465 | 0.4071 | | 0.4017 | 0.3751 | | 0.3592 | 0.3641 | | 0.3270 | 0.3230 |
| 6 | 0.4259 | 0.3853 | 13 | 0.3825 | 0.3798 | 20 | 0.3592 | 0.3641 | 27 | 0.3144 | 0.3408 |
| | 0.4342 | 0.4028 | | 0.3869 | 0.3958 | | 0.3481 | 0.3557 | | 0.3028 | 0.3304 |
| | 0.4465 | 0.4071 | | 0.4006 | 0.4044 | | 0.3466 | 0.3411 | | 0.3055 | 0.3177 |
| | 0.4373 | 0.3893 | | 0.3950 | 0.3875 | | 0.3568 | 0.3495 | | 0.3160 | 0.3274 |
| 7 | 0.4221 | 0.3984 | 14 | 0.3783 | 0.3646 | 21 | 0.3496 | 0.3702 | 28 | 0.3160 | 0.3274 |
| | 0.4299 | 0.4165 | | 0.3825 | 0.3798 | | 0.3376 | 0.3616 | | 0.3055 | 0.3177 |
| | 0.4430 | 0.4212 | | 0.3950 | 0.3875 | | 0.3370 | 0.3472 | | 0.3081 | 0.3049 |
| | 0.4342 | 0.4028 | | 0.3898 | 0.3716 | | 0.3481 | 0.3557 | | 0.3175 | 0.3139 |

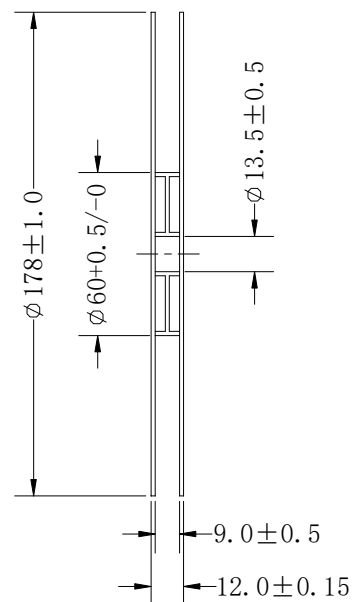
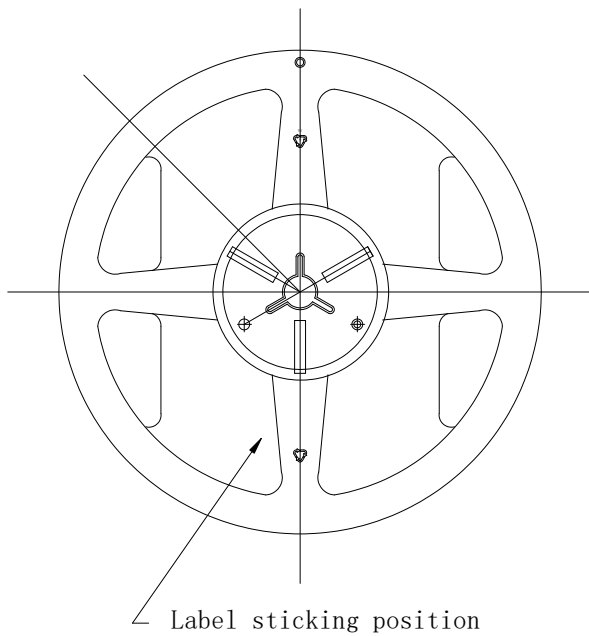
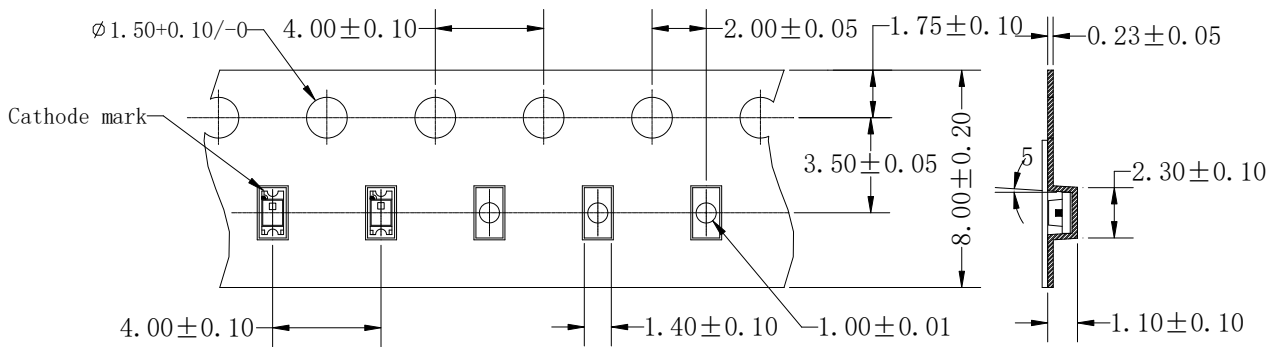
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■ **Tape Specifications**

Unit: mm

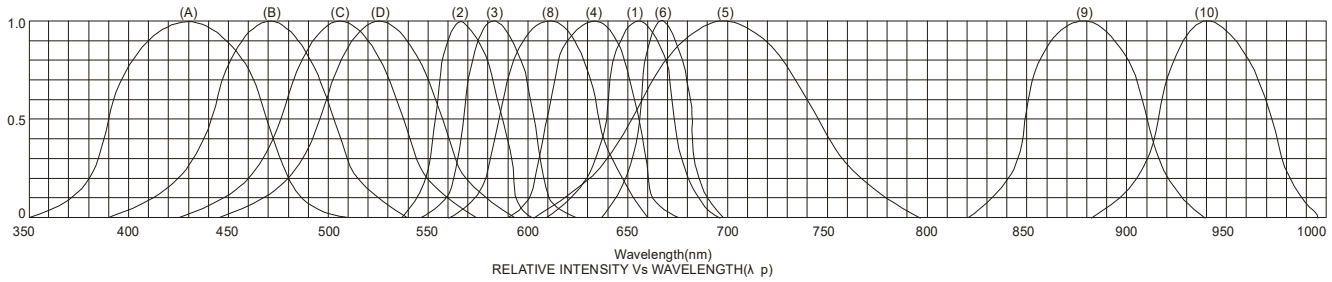
Tolerance: ± 0.1



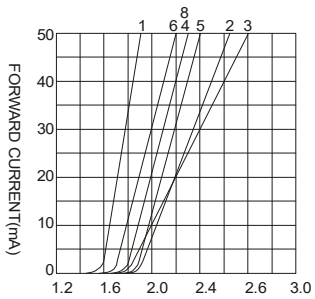
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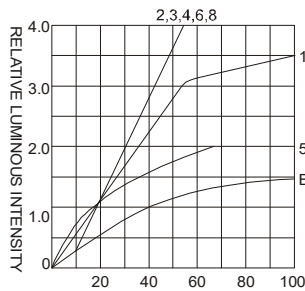
■ **Typical electrical-optical characteristics curves:**



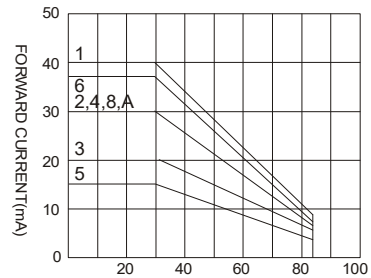
- (1) - GaAsP/GaAs 655nm/Red
- (2) - GaP 570nm/Yellow Green
- (3) - GaAsP/GaP 585nm/Yellow
- (4) - GaAsP/GaP 635nm/Orange & Hi-Eff Red
- (5) - GaP 700nm/Bright Red
- (6) - GaAlAs/GaAs 660nm/Super Red
- (8) - GaAsP/GaP 610nm/Super Red
- (9) - GaAlAs 880nm
- (10) - GaAs/GaAs & GaAlAs/GaAs 940nm
- (A) -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



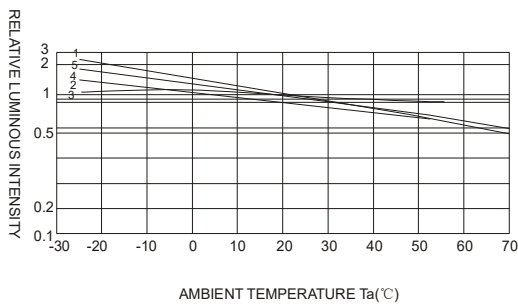
FORWARD VOLTAGE (Vf)
FORWARD CURRENT VS.
FORWARD VOLTAGE



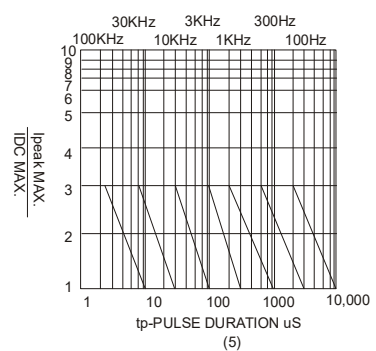
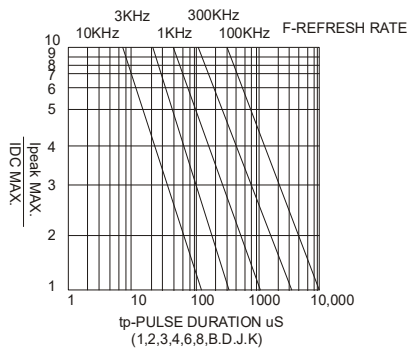
FORWARD CURRENT (mA)
RELATIVE LUMINOUS
INTENSITY VS. FORWARD
CURRENT



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



AMBIENT TEMPERATURE Ta(°C)



NOTE:25°C free air temperature unless otherwise specified

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■ **Packing and weighting**

