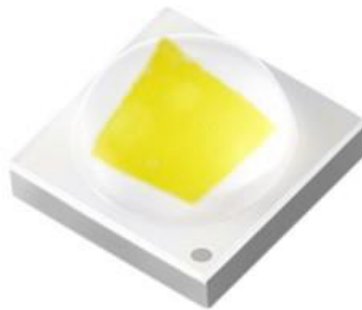


LED PACKAGE FOR GENERAL LIGHTING



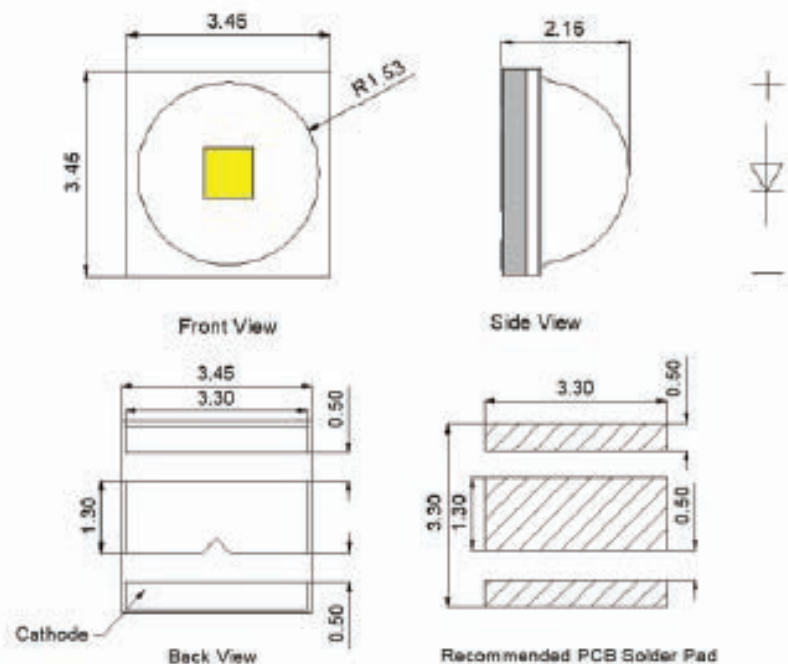
Features

- Small package with high efficiency
- Low voltage operation, instant light
- Long operating life
- Lead-free product
- RoHS compliant

Applications

- Architectural / Decorative Lighting
- Landscape lighting lamp

Package Dimensions



Notes:

- Measurement unit: mm
- Tolerance: ± 0.10 mm

Precautions:

- Applying pressure to LEDs will influence reliability. Avoid applying pressure to the LEDs and do not put stress on the LEDs during heating.
- Avoid re-soldering whenever possible. If re-soldering is unavoidable then thoroughly check LED characteristics before and after such repair.
- Never stack PCBs. Stacking can cause abrasion of the LED's soft material, which can lead to catastrophic failure.

ELECTRICAL/OPTICAL SPECIFICATION

Tj=25°C

ITEM	SYMBOL	CONDITION	MIN.	TYP	MAX.	UNIT
Forward Voltage	VF	350mA	2.8	-	3.2	V
Beam Angle	2θ 1/2	350mA	0	120	-	Deg.
ESD	ESD	HBM	-	2000	-	V
Thermal Resistance	RJ-A	350mA	-	7	-	°C/W

NOTE: Voltage classification standard: 0.2V/ file

ABSOLUTE MAXIMUM RATINGS

ITEM	SYMBOL	Value	UNIT
Forward Current	If	≤700	mA
Pulse Forward Current*	Ifp	≤1000	mA
Operation Temperature	Topr	-40 ~ +85	°C
Storage Temperature	Tstg	-40 ~ +105	°C
LED Junction Temperature	Tj	150	°C
Reverse Voltage	VR	Reverse Testing is not Allowed	/
Reverse Current	IR	1 (VR=5V)	uA
Assemble Process Temperture	Tslid	260 (3 ~ 5sec)	°C
Moisture Sensitivity Rating	MSR	MSL3	°C/RH/H

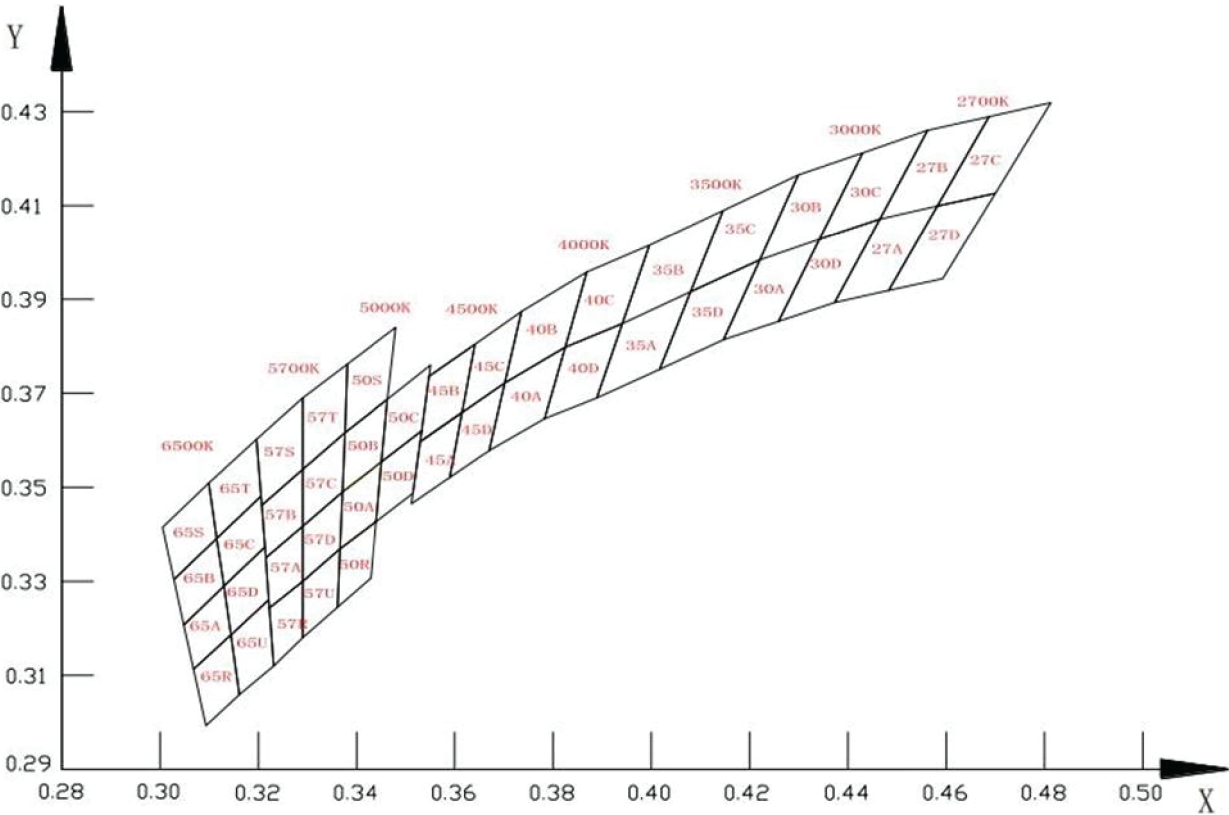
Chip Size: 28mil

Notes:

Refer to the derating curve in Temperature Characteristics graph for the correct driving current to be maintained below maximum junction temperature.

CIE COLOR RANK

Chromaticity Region & Coordinates (IF = 350mA, Ta = 25 °C)



Notes: Color area can be controlled within 5 steps. Color temperature bin refers to ANSI C78.377A. Testing equipment tolerance: Color coordinate ± 0.005 .

NOTE: CIE Chromaticity Doagram for ANSI

FORWARD VOLTAGE RANKS

Forward Voltage measured at If=350 mA **Tj=25°C**

VF CODE	MIN. (V)	MAX. (V)
2.8	2.8	3.0
3.0	3.0	3.2

NOTE: Forward Voltage Measurement Tolerance is ± 0.05

LUMINOUS INTENSITY RANKS

Luminous Intensity Measured at if + 180mA **Tj=25°C**

LM CODE	MIN. (lm)	MAX. (lm)
90	90	110
100	100	120
110	110	130

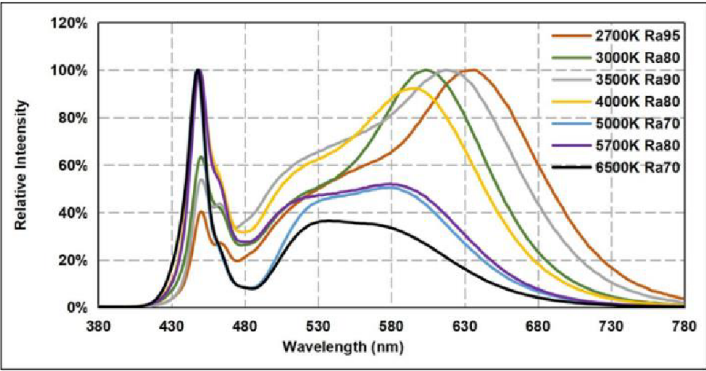
NOTE: Luminous Intensity Measurement Toleranve is ± 10%

MAIN BIN

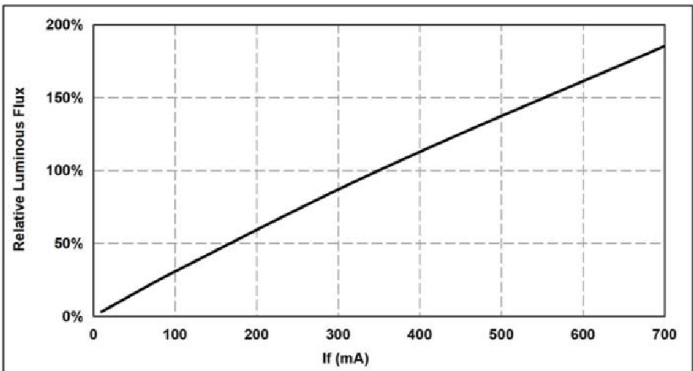
TYPE	FLUX (LM)	CIE RANK			
Y (2200K)	≥ 85	Y6	Y7	YA	YB
W (2700K)	≥ 95	W6	W7	WA	WB
V (3000K)	≥ 105	V6	V7	VA	VB
U (3500K)	≥ 115	U6	U7	UA	UB
T (4000K)	≥ 120	T6	T7	TA	TB

OPTICAL/ELECTRICAL CHARACTERIZATION

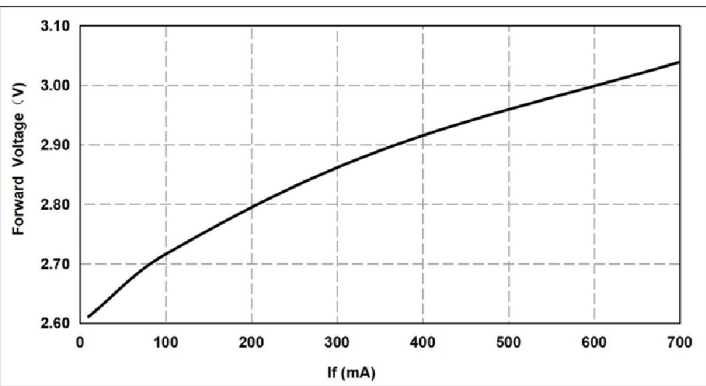
Spectral Distribution (Ta=25 °C/IF=350mA



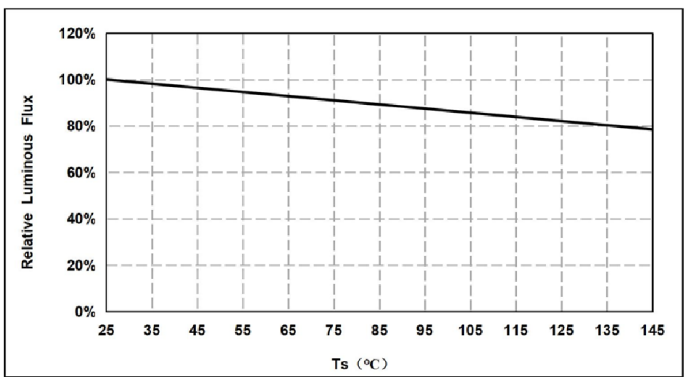
Forward Current Characteristics (Ta = 25 °C)



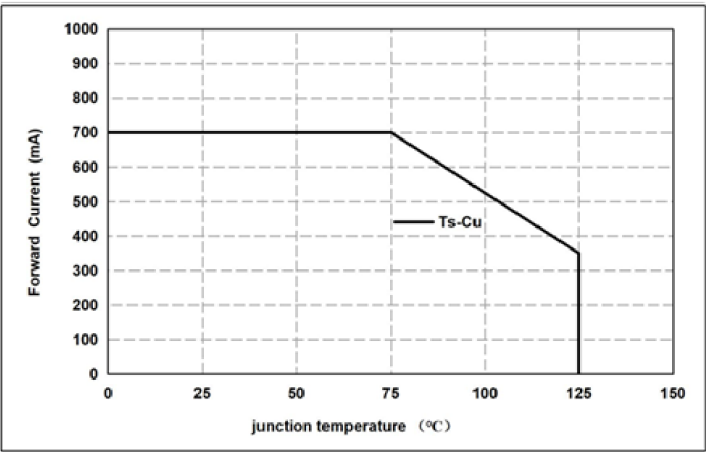
Forward Current Characteristics (Ta = 25 °C)



Temperature Characteristics (IF = 350mA)

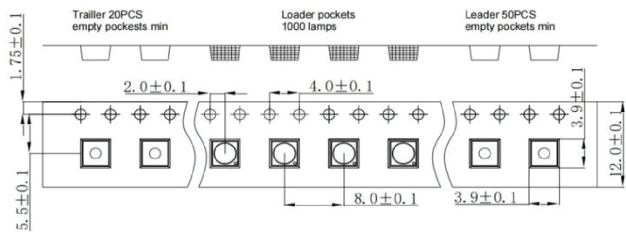


Temperature Characteristics (IF = 350mA)

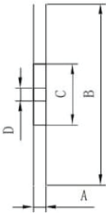
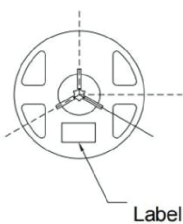


PACKING INFORMATION

Embossed Tape Dimension



Reel Dimension



A	14.0±0.5mm
B	178±1mm
C	59±1mm
D	13.9±0.5mm

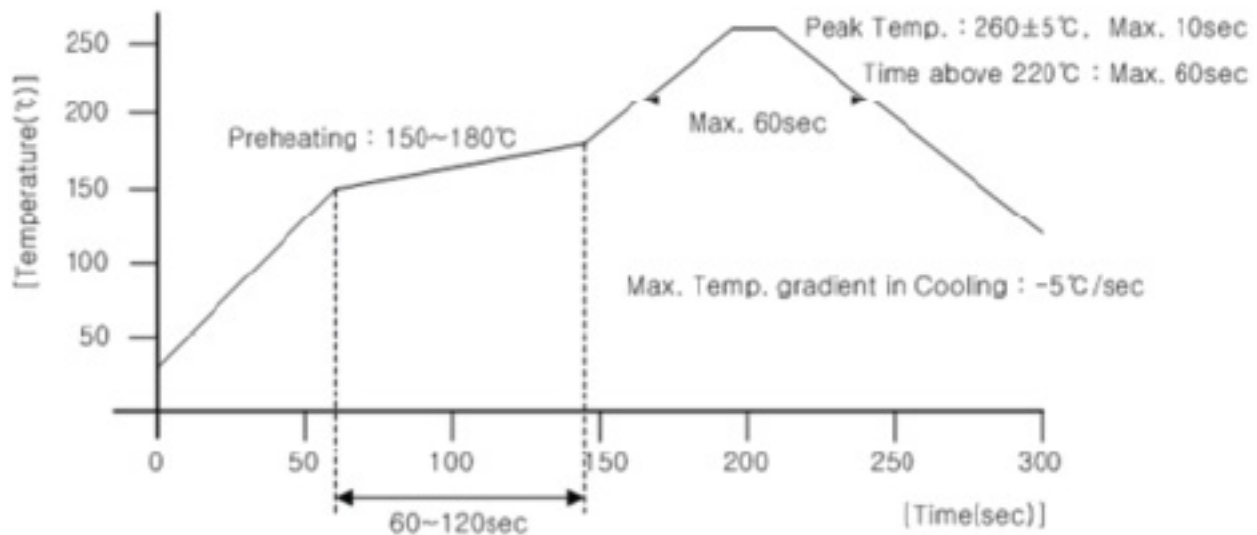
NOTE

- 1: Dimensions are in millimeters
2. The tolerances unless mentioned $\pm 0.1\text{mm}$

CAUTIONS

- For over current protection, users are recommended to apply resistors connected in series with the LEDs to mitigate sudden change of the forward current caused by shift of forward voltage.
- This device should not be used in any type of fluid such as water, oil, organic solvent, etc. When cleaning is required, IPA is recommended as the cleaning agent. Some solvent based cleaning agent may damage the silicone resins used in the device.
- When the device is in operation, the forward current should be carefully determined considering the maximum ambient temperature and corresponding junction temperature.
- LEDs must be stored in a clean environment. Shelf life of sealed bags is 12 months at temperature 0~40 °C, 0~90 % RH.
- When a storage bag is opened (prior to soldering, solder reflow or other high-temperature processes) the devices must be:
 - a) Mounted within 672 hours (28 days) at an assembly line with a condition of no more than 30 °C / 60 % RH, or
 - b) Stored at <10 RH
- Repack unused devices with anti moisture packing, fold to close any opening and then store in a dry place.
- Devices require baking before mounting, if humidity card reading is >60 at 23.5 °C.
- Devices must be baked for 1 hour at 60.5 °C, if baking is required.
- LEDs are sensitive to static electricity and current surges. Always use anti-static protection (such as a wrist band or anti-electrostatic gloves) when handling LEDs. (the rest of this bullet point text is fine).
- VOCs (Volatile Organic Compounds) can be generated from adhesives, flux, hardener or organic additives used in luminaire s (Transparent LED silicone encapsulant is permeable to those chemicals and they may lead to a discoloration of encapsulant when they exposed to heat or light. This phenomenon can cause a significant loss of light emitted (from the luminaires. In order to prevent these problems, we recommend users to know the physical properties of materials used in luminaires and they must be carefully selected.

Recommended Reflow Conditions



Reflow frequency: 2 times max