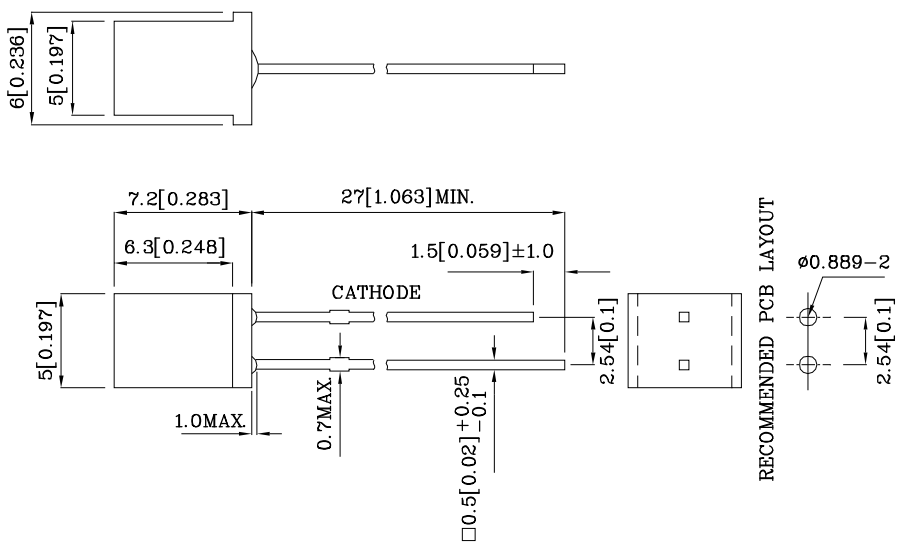
Part Number: XSMDK23MB

5.0x5.0mm ICE CUBE LED

Features

- Radial / Through hole package
- Reliable & robust
- Low power consumption
- Available on tape and reel
- RoHS Compliant

Package Schematics



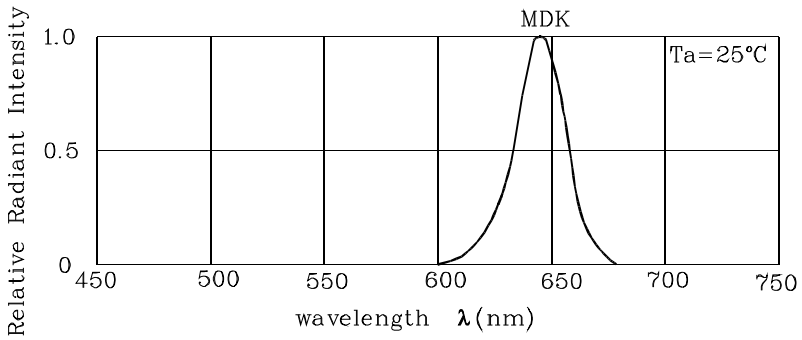
Notes:
1. All dimensions are in millimeters (inches).
2. Tolerance is ±0.25(0.01") unless otherwise noted.
3. Specifications are subject to change without notice.

Absolute Maximum Ratings (T_A=25°C)		**MDK (AlGaInP)**	**Unit**
Reverse Voltage	V_R	5	V
Forward Current	I_F	30	mA
Forward Current (Peak) 1/10 Duty Cycle 0.1ms Pulse Width	i_{FS}	185	mA
Power Dissipation	P_D	75	mW
Operating Temperature	T_A	-40 ~ +85	°C
Storage Temperature	Tstg	-40 ~ +85	
Lead Solder Temperature [2mm Below Package Base]	260°C For 3 Seconds		
Lead Solder Temperature [5mm Below Package Base]	260°C For 5 Seconds		

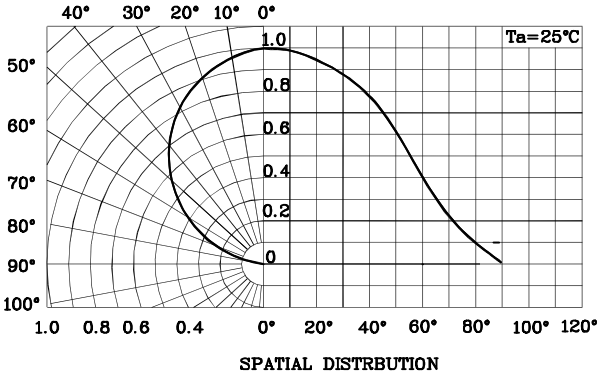
Operating Characteristics (T_A=25°C)		**MDK (AlGaInP)**	**Unit**
Forward Voltage (Typ.) (I_F=20mA)	V_F	1.95	V
Forward Voltage (Max.) (I_F=20mA)	V_F	2.5	V
Reverse Current (Max.) (V_R=5V)	I_R	10	uA
Wavelength of Peak Emission CIE127-2007*(Typ.) (I_F=20mA)	λP	645*	nm
Wavelength of Dominant Emission CIE127-2007*(Typ.) (I_F=20mA)	λD	630*	nm
Spectral Line Full Width At Half-Maximum (Typ.) (I_F=20mA)	△λ	28	nm
Capacitance (Typ.) (V_F=0V, f=1MHz)	C	35	pF

Part Number	Emitting Color	Emitting Material	Lens-color	Luminous Intensity CIE127-2007* (I_F=20mA) mcd		Wavelength CIE127-2007* nm λP	Viewing Angle 2θ 1/2
				min.	typ.		
XSMDK23MB	Red	AlGaInP	White Triple Diffused	40 12*	89 29*	645*	110°

*Luminous intensity value and wavelength are in accordance with CIE127-2007 standards.

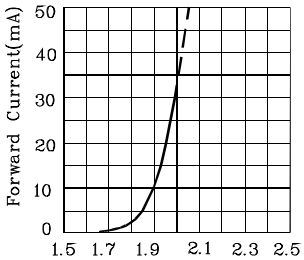


RELATIVE INTENSITY Vs. CIE WAVELENGTH

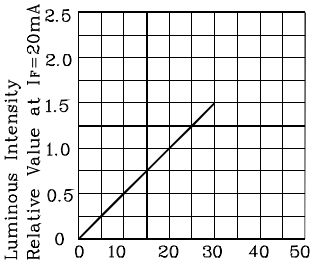


SPATIAL DISTRBUTION

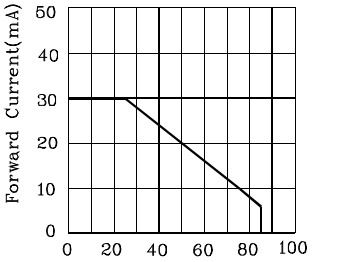
❖ MDK



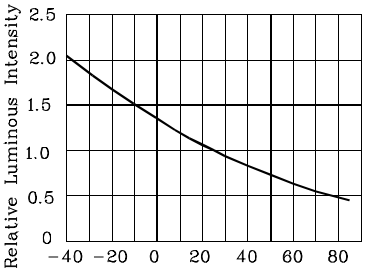
FORWARD CURRENT Vs. FORWARD VOLTAGE



LUMINOUS INTENSITY Vs. FORWARD CURRENT

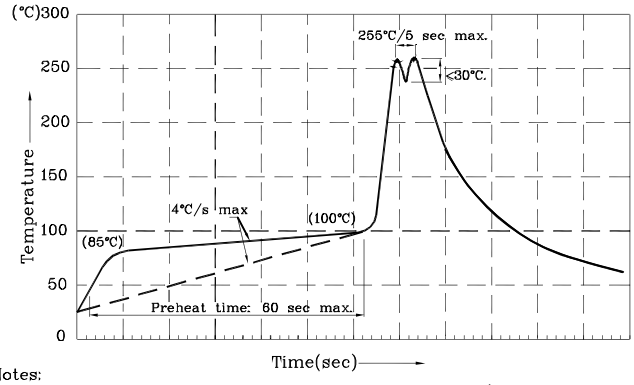


FORWARD CURRENT DERATING CURVE



LUMINOUS INTENSITY Vs. AMBIENT TEMPERATURE

Wave Soldering Profile For Thru-Hole Products (Pb-Free Components)

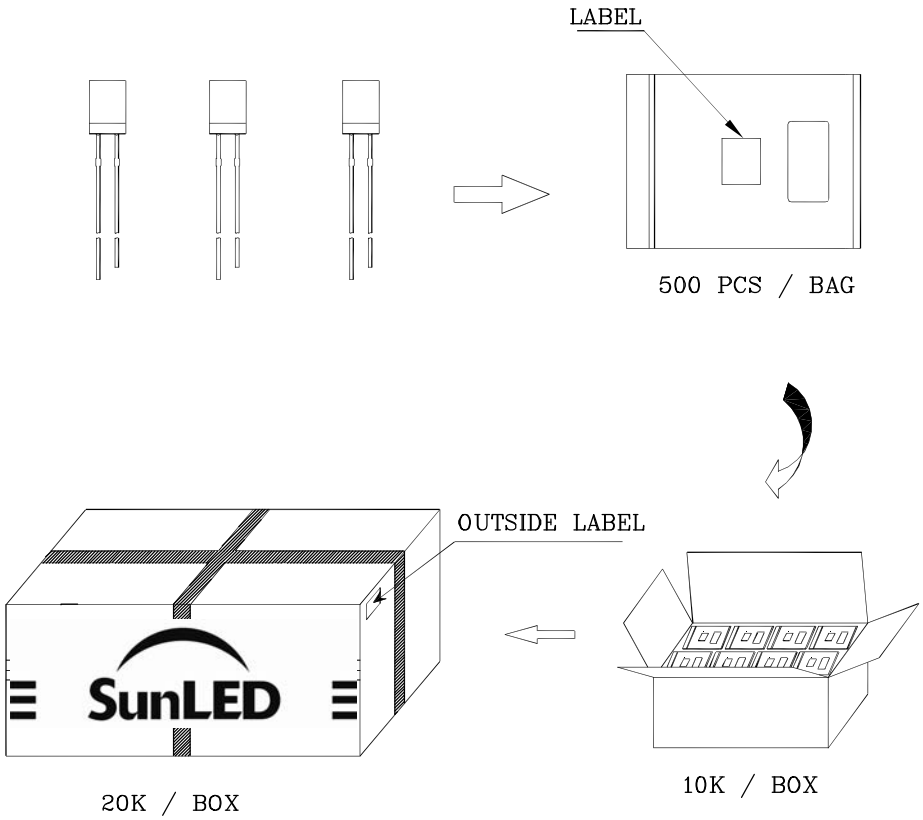


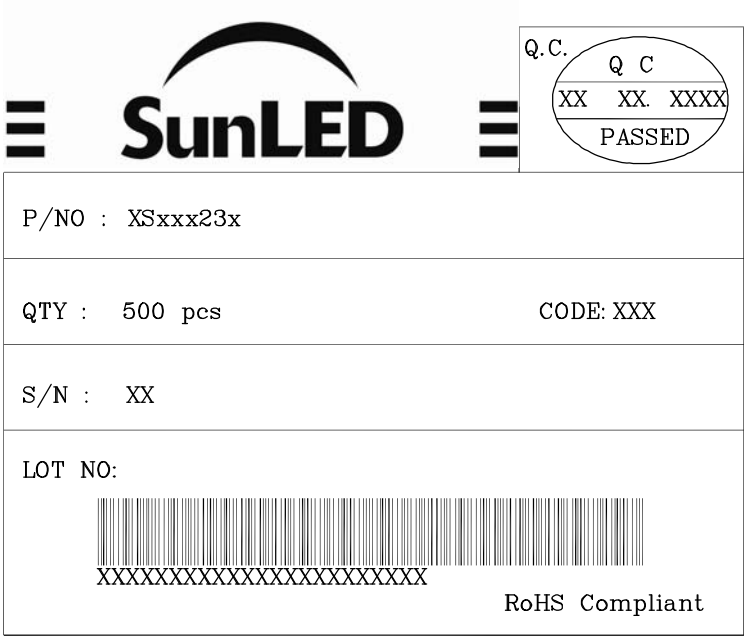
Notes:
1. Recommend pre-heat temperature of 105℃ or less (as measured with a thermocouple attached to the LED pins) prior to immersion in the solder wave with a maximum solder bath temperature of 260℃
2. Peak wave soldering temperature between 245℃ ~ 255℃ for 3 sec (5 sec max).
3. Do not apply stress to the epoxy resin while the temperature is above 85℃.
4. Fixtures should not incur stress on the component when mounting and during soldering process.
5. SAC 305 solder alloy is recommended.
6. No more than one wave soldering pass.

Remarks:

If special sorting is required (e.g. binning based on forward voltage, luminous intensity / luminous flux, or wavelength),
the typical accuracy of the sorting process is as follows:
1. Wavelength: +/-1nm
2. Luminous Intensity / Luminous Flux: +/-15%
3. Forward Voltage: +/-0.1V
Note: Accuracy may depend on the sorting parameters.

PACKING & LABEL SPECIFICATIONS





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