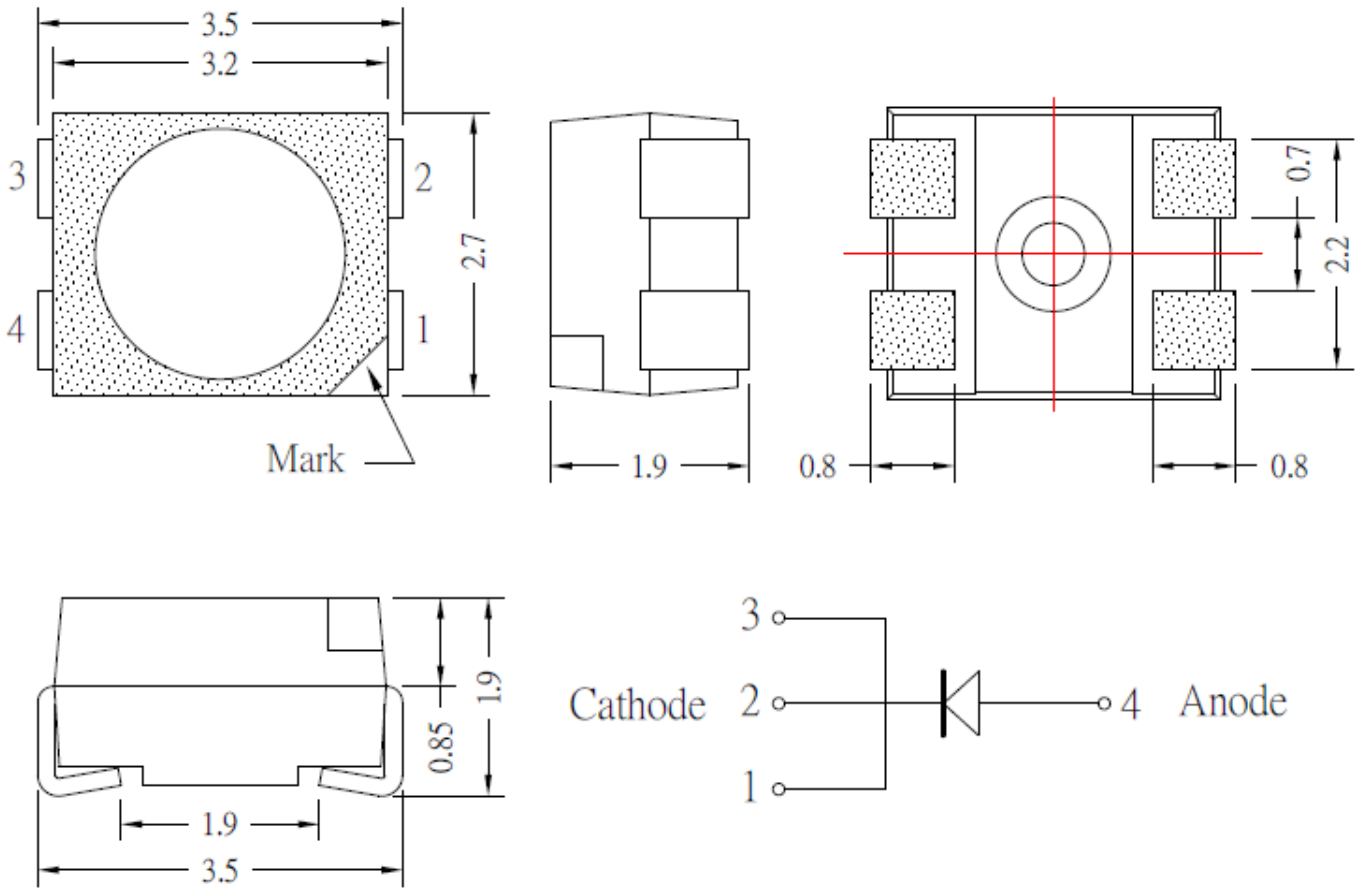


SPECIFICATION
CSP1311R3CB-4
PACKAGE OUTLINES

Notes:

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

Part Number	Chip Material	Color of Emission	Lens Type/Face	Viewing Angle
CSP1311R3CB-4	InGaAlP	Red	Water Clear/Black	120°



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ABSOLUTE MAXIMUM RATINGS
(TA=25°C)

Parameter	Symbol	Max Rating	Unit
Forward Current	IF	70	mA
Reverse Current @ 5V	IR	10	μA
Power Dissipation	Pd	130	mW
Operating Temperature Range	TOP	-40~+100	°C
Storage Temperature Range	TSTG	-40~+100	°C
Peak Pulsing Current (1/10 duty f = 10KHz)	IFP	100	mA
Soldering Temperature	TSOL	Max 265°C for 10 sec Max	

OPTICAL-ELECTRICAL CHARACTERISTICS
(TA=25°C)

Parameter	Symbol	Test Condition	Value			Unit
			Min	Typ	Max	
Luminous Intensity	Iv	IF = 50mA	1500	2200	-	mcd
Forward Voltage	VF	IF = 50mA	-	2.2	2.6	V
Reverse Leakage Current	IR	VR = 5V	-	-	10	μA
Viewing Angle at 50% Iv	2θ1/2	IF = 50mA	-	120	-	Deg
Peak Wavelength	λP	IF = 50mA	-	635	-	nm
Dominant Wavelength	λD	IF = 50mA	615	625	635	nm

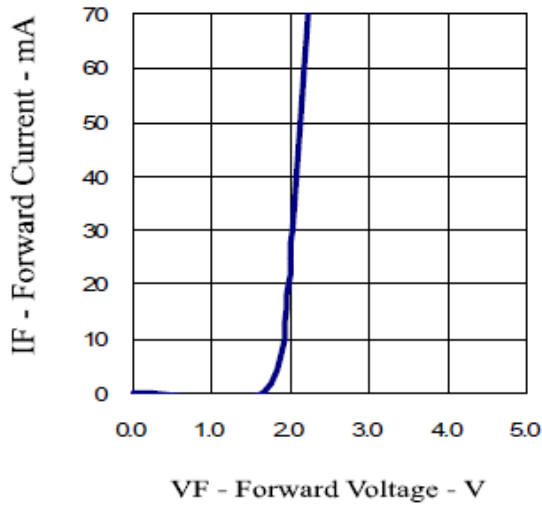
*Tolerance of viewing angle: -10 / +5 deg.



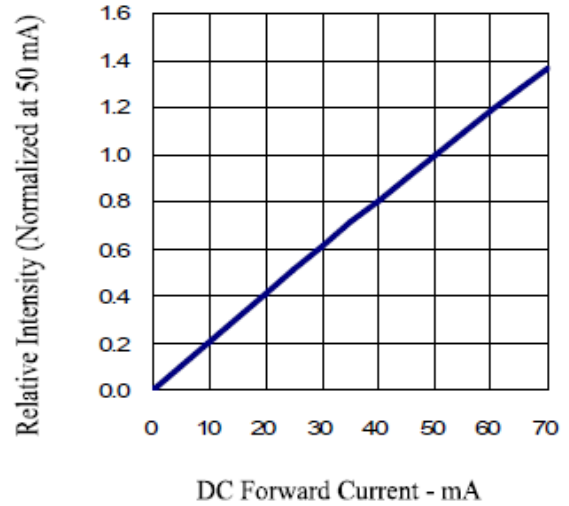
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OPTICAL CHARACTERISTIC CURVES

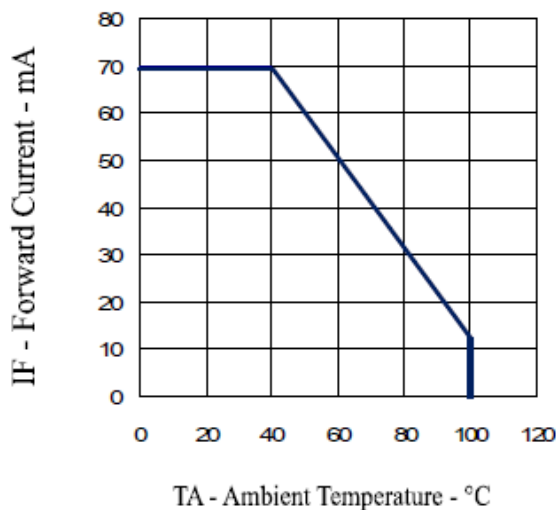
Forward Current vs. Forward Voltage



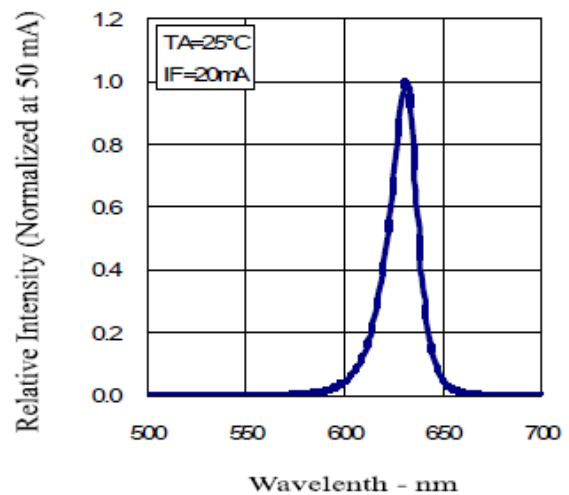
Relative Intensity vs. Forward Current



Forward Current vs. Ambient Temperature



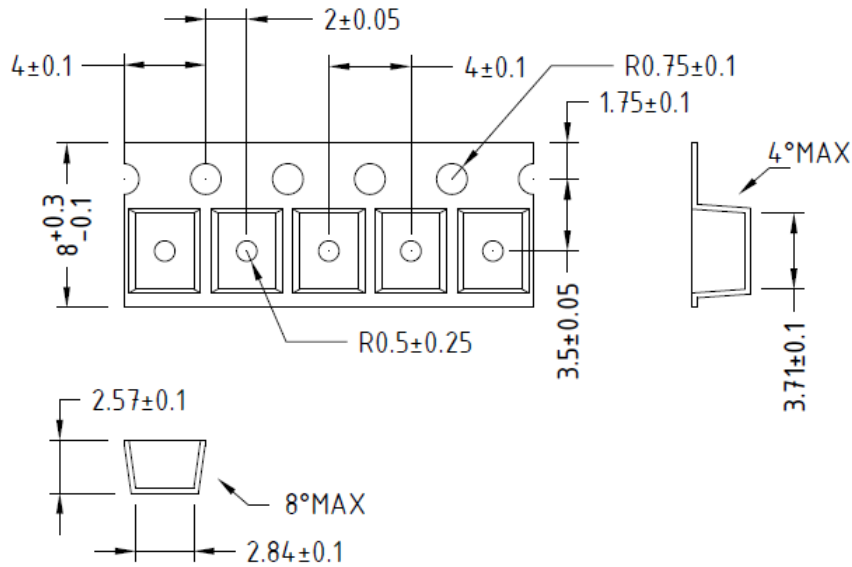
Relative Intensity vs. Wavelength



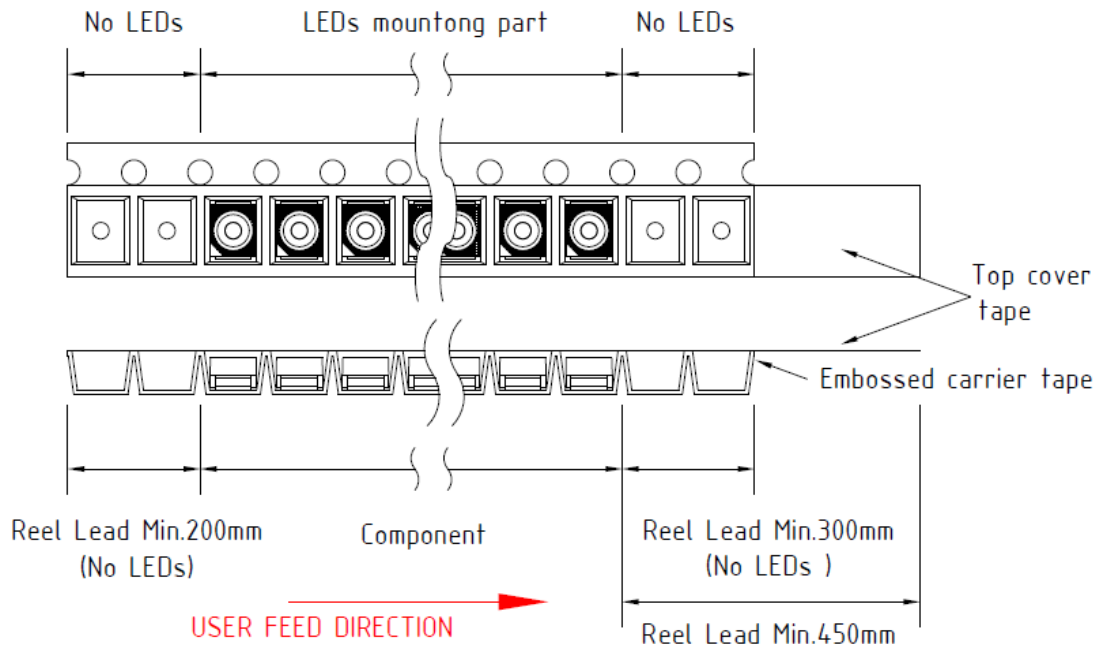
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PACKAGING SPECIFICATION

TAPE DIMENSION



TAPE LEADER AND TRAILER DIMENSION

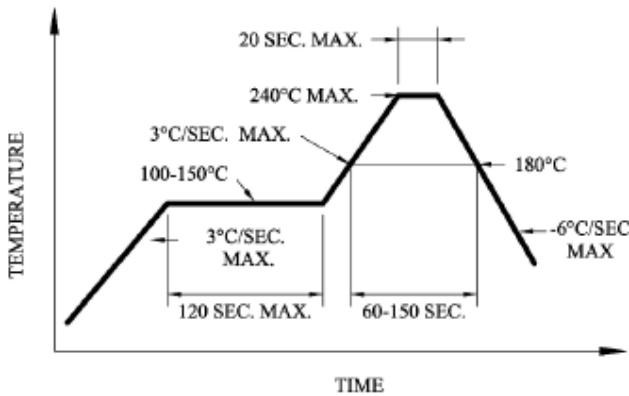
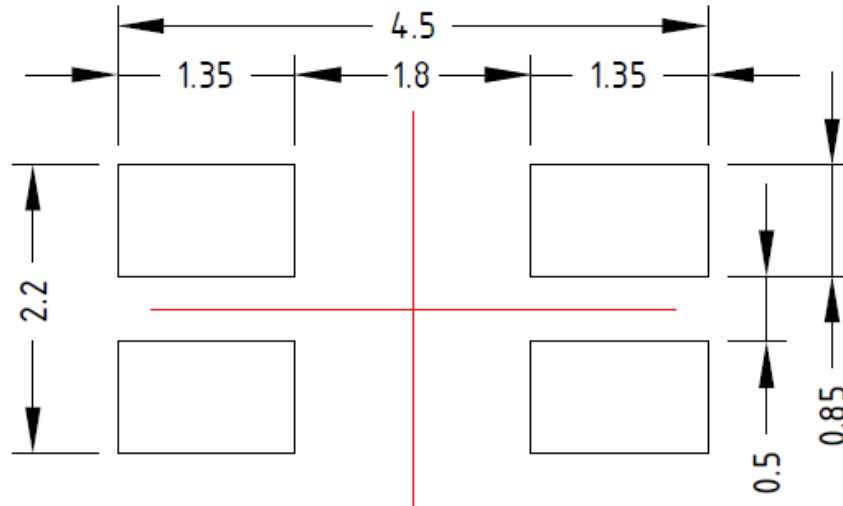
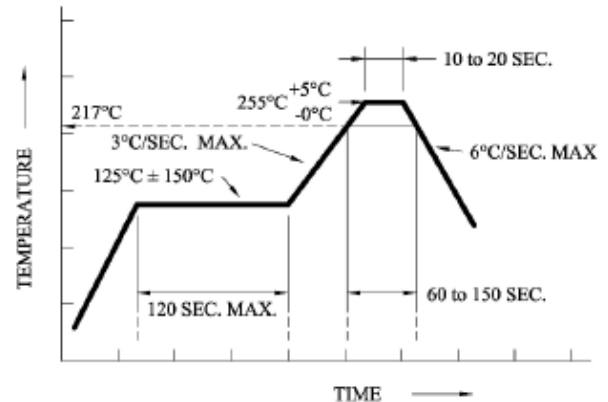


Notes:

1. Empty component pockets are sealed with top cover tape
2. The maximum number of missing lamps is two.
3. 2000 pcs/reel



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SOLDERING CONDITIONS
RECOMMENDED SOLDERING PAD PATTERN

Recommended reflow soldering profile

Recommended Pb-free reflow soldering profile.

- Repairing should not be done after the LEDs have been soldered. When repairing is unavoidable, a double-head soldering iron should be used. It should be confirmed beforehand whether the characteristics of the LEDs will or will not be damaged by repairing.
- Reflow soldering should not be done more than two times.
- When soldering, do not put stress on the LEDs during heating.
- After soldering, do not warp the circuit board



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