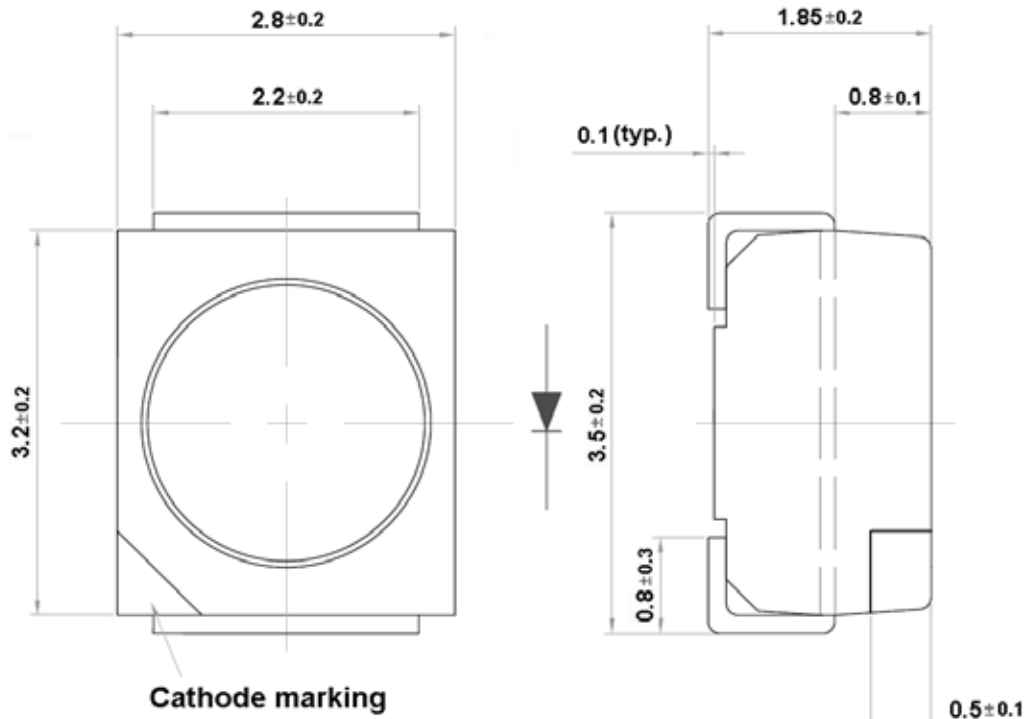


**SPECIFICATION** **CSP1311N3C**
**PACKAGE OUTLINES**

**Notes:**

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

Part Number	Chip Material	Color of Emission	Lens Type	Viewing Angle
CSP1311N3C	InGaAlP	Orange	Water Clear	120°



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**ABSOLUTE MAXIMUM RATINGS**
**(TA=25°C)**

Parameter	Symbol	Max Rating	Unit
Forward Current	I <sub>F</sub>	30	mA
Reverse Current @ 5V	I <sub>R</sub>	10	μA
Power Dissipation	P <sub>d</sub>	75	mW
Operating Temperature Range	T <sub>OP</sub>	-40~+100	°C
Storage Temperature Range	T <sub>STG</sub>	-40~+100	°C
Peak Pulsing Current (1/10 duty f = 10KHz)	I <sub>FP</sub>	100	mA
Soldering Temperature	T <sub>SOL</sub>	Max 260°C for 5 sec Max	

**OPTICAL-ELECTRICAL CHARACTERISTICS**
**(TA=25°C)**

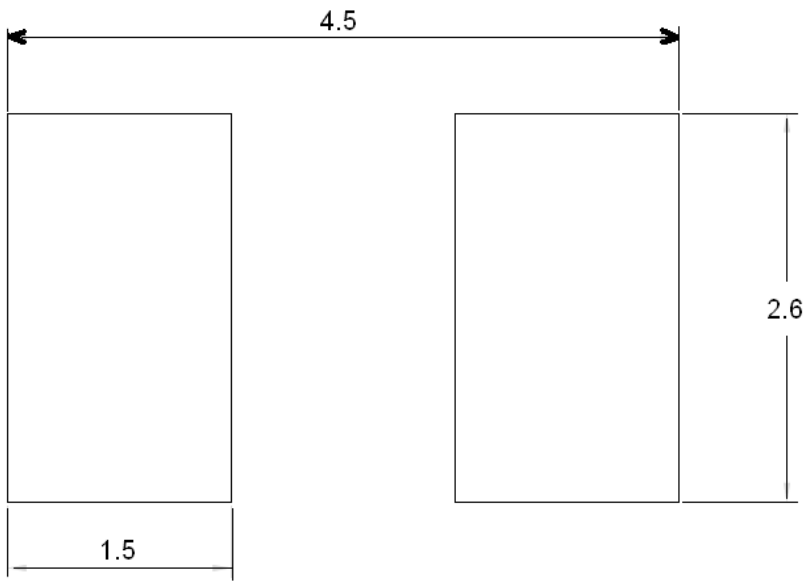
Parameter	Symbol	Test Condition	Value			Unit
			Min	Typ	Max	
Luminous Intensity	I <sub>v</sub>	I <sub>F</sub> = 20mA	450	900	-	mcd
Forward Voltage	V <sub>F</sub>	I <sub>F</sub> = 20mA	-	2.1	2.6	V
Reverse Leakage Current	I <sub>R</sub>	V <sub>R</sub> = 5V	-	-	10	μA
Viewing Angle at 50% I <sub>v</sub>	2θ <sub>1/2</sub>	I <sub>F</sub> = 20mA	-	120	-	Deg
Peak Wavelength	λ <sub>P</sub>	I <sub>F</sub> = 20mA	-	612	-	nm
Dominant Wavelength	λ <sub>D</sub>	I <sub>F</sub> = 20mA	-	605	-	nm

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



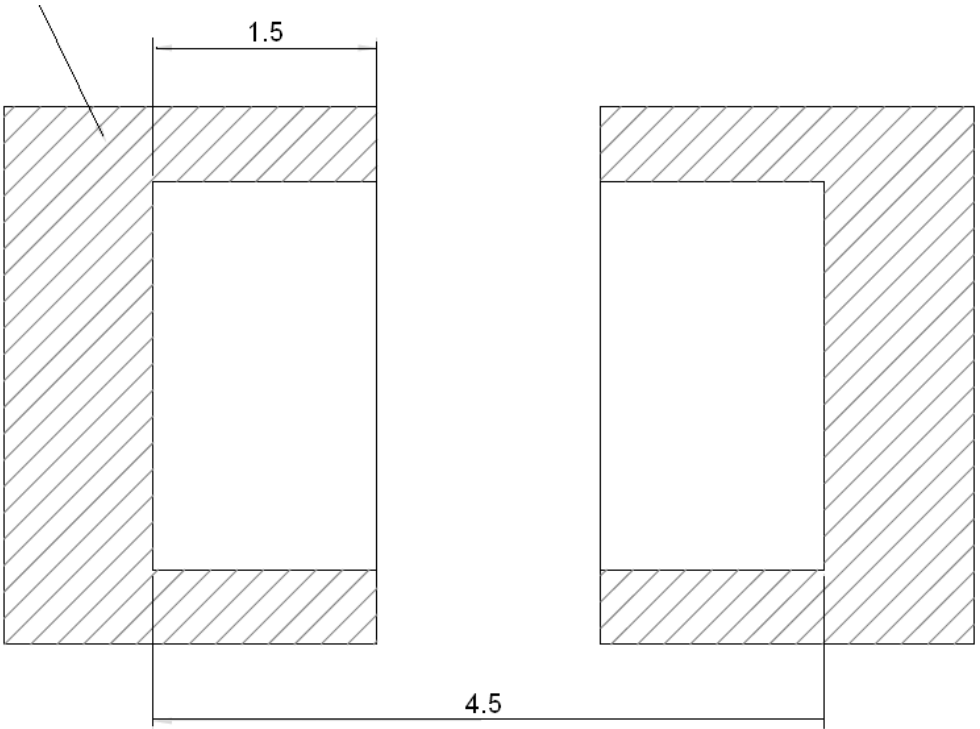
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RECOMMENDED SOLDER PAD



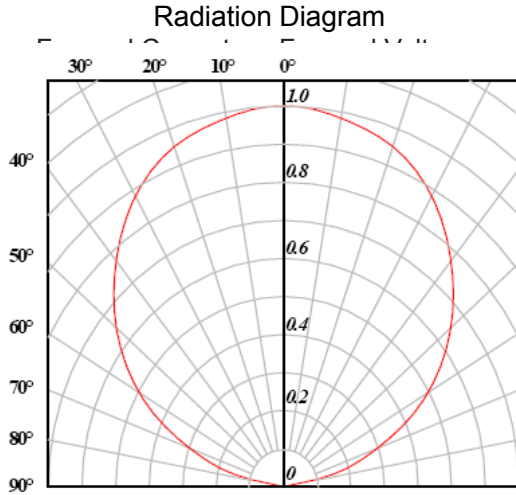
Additional Cu area for improved heat dissipation > 16mm sq.

 Solder resist

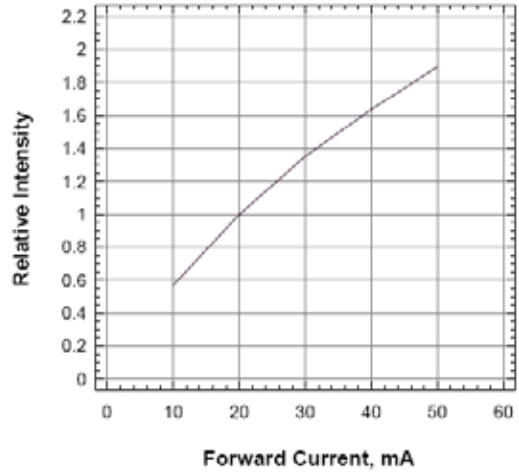


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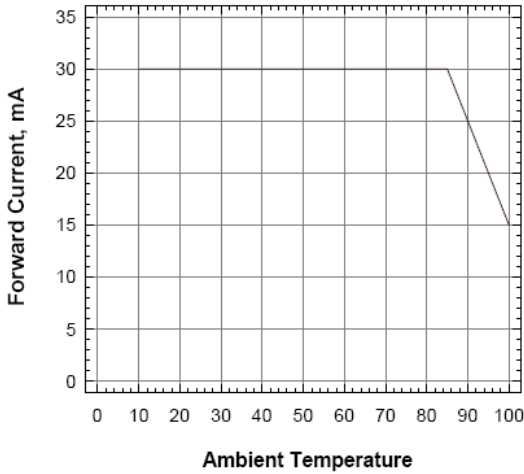
## OPTICAL CHARACTERISTIC CURVES



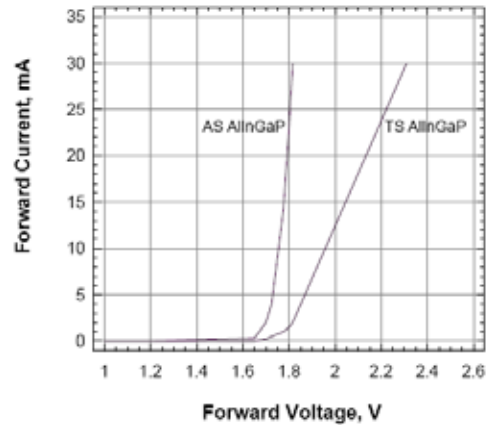
### Relative Intensity vs. Forward Current



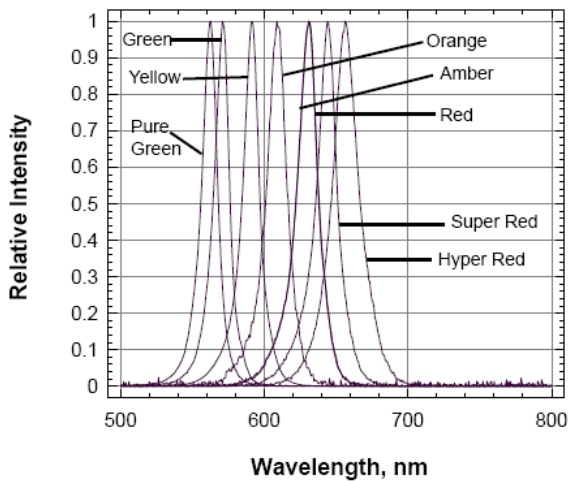
### Max Forward Current vs. Temp



### Forward Current vs. Forward Voltage



### Relative Intensity vs. Wavelength



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# SOLDERING CONDITIONS

## RECOMMENDED Sn-PB IR-Reflow Soldering Profile



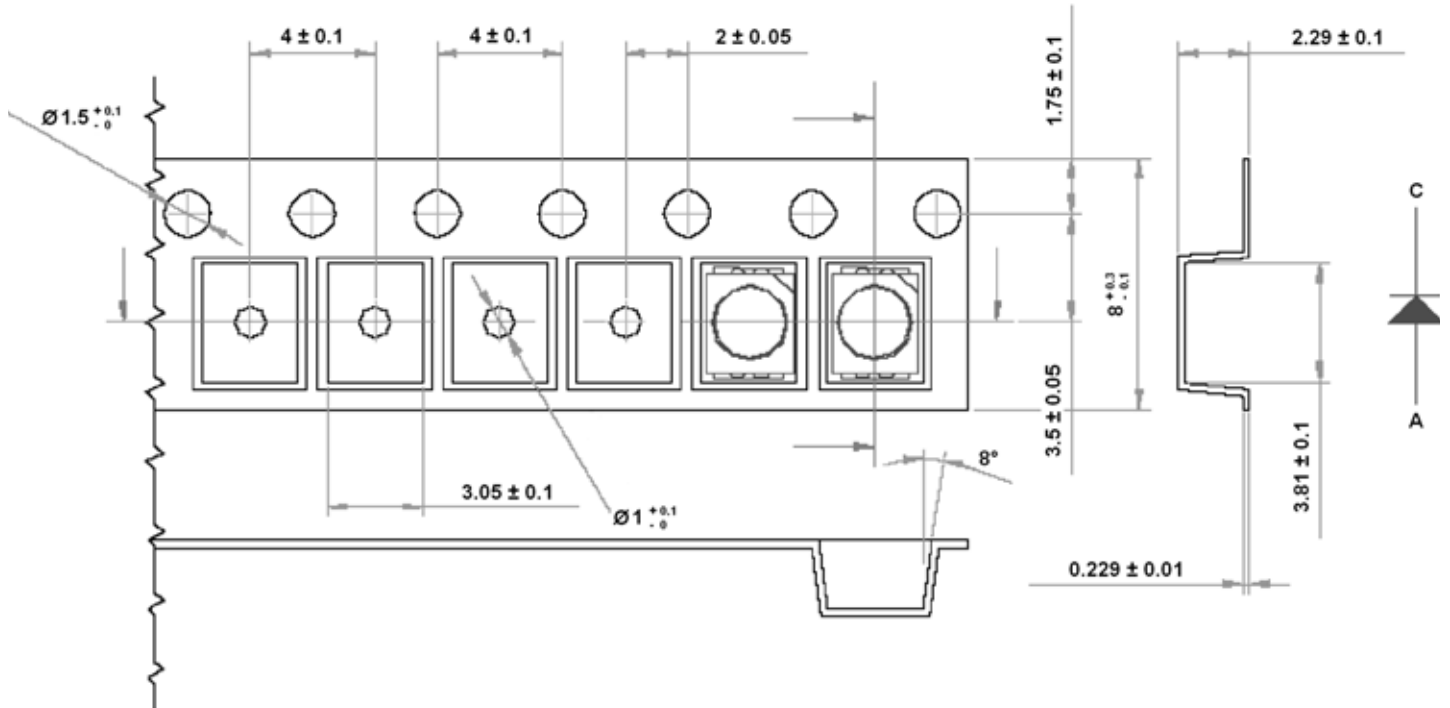
## RECOMMENDED Pb-Free Soldering Profile



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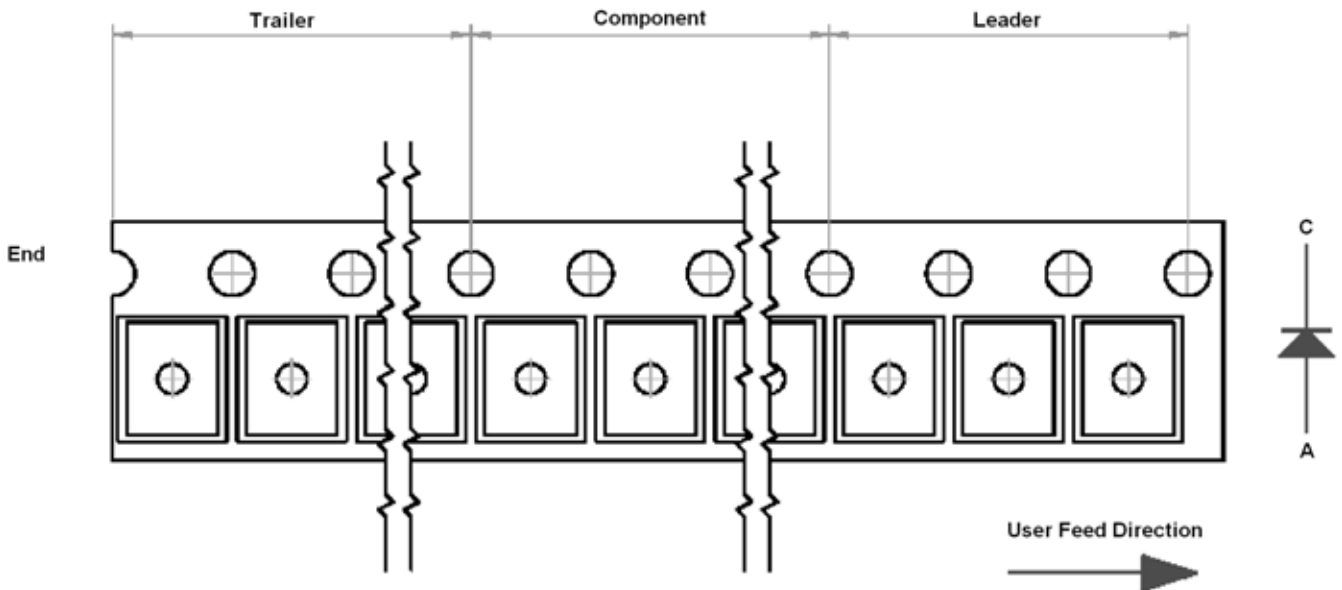
# PACKAGING SPECIFICATION

## TAPING SPECIFICATIONS



Notes: Reel packaging is 2000pcs/reel or 8000pcs/reel. Reel diameters are 180mm and 330mm respectively.

## TAPING ORIENTATION



- Notes:
- 1) 200mm min for Ø180 and Ø330 reel
  - 2) 480mm min for Ø180 reel
  - 3) 960mm min for Ø330 reel



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