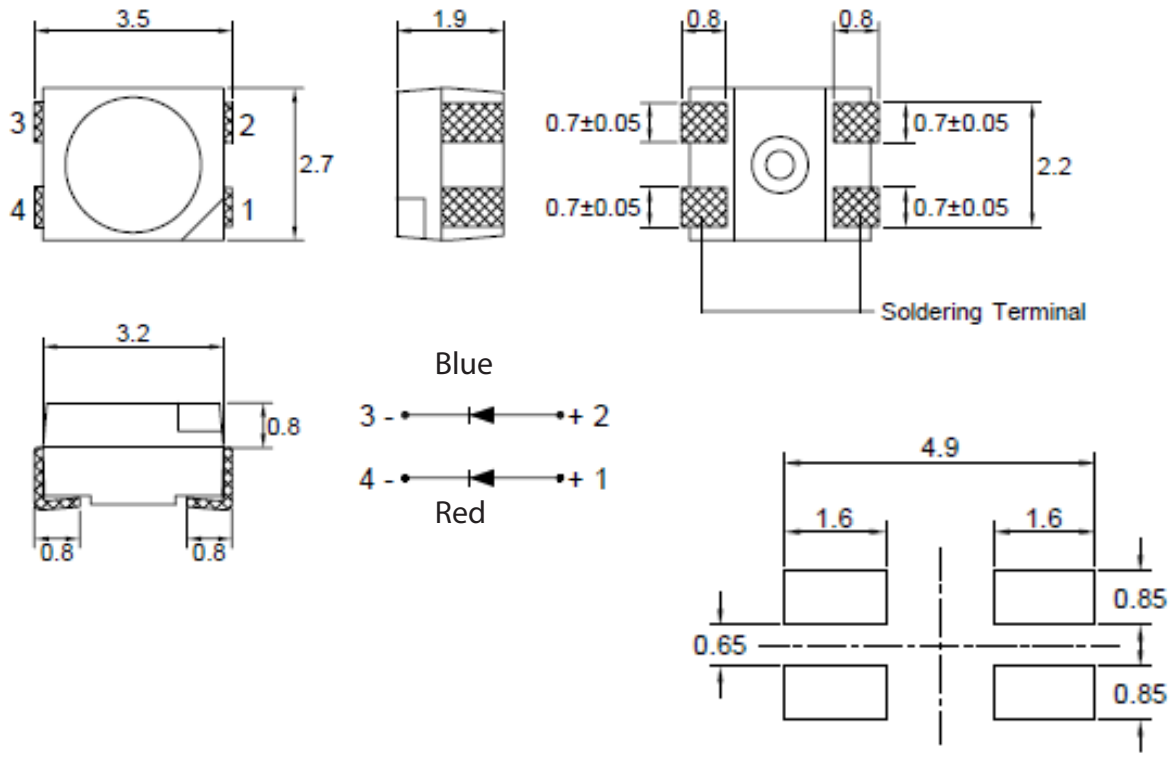


SPECIFICATIONS CSP1311R2B2C

OUTLINES DIMENSIONS



- 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	Viewing Angle
CSP1311R2B2C	InGaAlP/InGaN	Red/Blue	Water Clear	120°



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ABSOLUTE MAXIMUM RATINGS
(TA=25°C)

Parameter	Symbol	Color	Max Rating	Unit
Power Dissipation	PD	Red	120	mW
		Blue	108	
Pulse Current Forward Current	IFP	Red	130	mA
		Blue	100	
Continuous Forward Current	IF	Red	50	mA
		Blue	30	
Reverse Voltage	VR	5		V
Operating Temperature Range	TOPR	-40~+85		°C
Storage Temperature Range	TSTG	-40~+100		°C

IFP = Pulse Width ≤ 10 ms, Duty Ratio ≤ 1/8. Soldering Condition: 260 °C/ 5sec

OPTICAL-ELECTRICAL CHARACTERISTICS
(TA=25°C)

Parameter	Symbol	Test Condition	Color	Value			Unit
				Min	Typ	Max	
Luminous Intensity	IV	IF = 20mA	Red	500	800	-	mcd
			Blue	200	400	-	
Forward Voltage	VF	IF = 20mA	Red	-	2.0	2.6	V
			Blue	-	3.3	3.6	
Reverse Leakage Current	IR	VR = 5V	Red	-	-	10	µA
			Blue	-	-	10	
Viewing Angle	2θ1/2	IF = 10mA	Red	-	120	-	deg
			Blue	-	120	-	
Dominant Wavelength	λD	IF = 20mA	Red	-	625	-	nm
			Blue	-	467	-	

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



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OPTICAL CHARACTERISTIC CURVES (RED)

Fig.1 Forward current vs. Forward Voltage

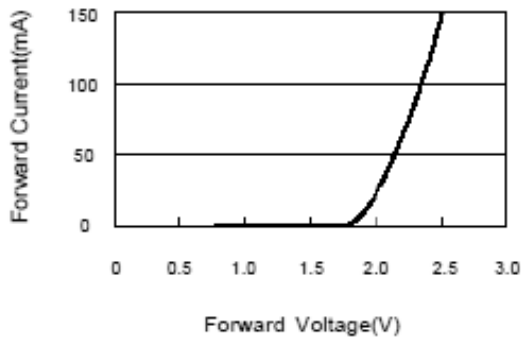


Fig.2 Luminous Intensity vs. Forward Current

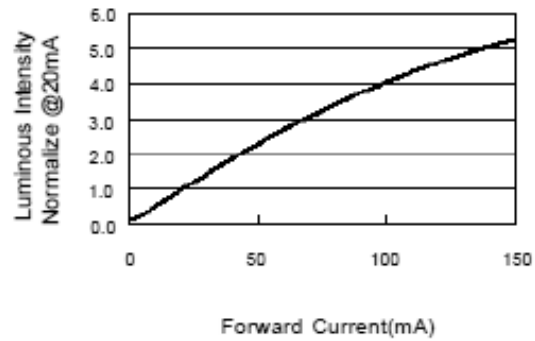


Fig.3 Forward Voltage vs. Temperature

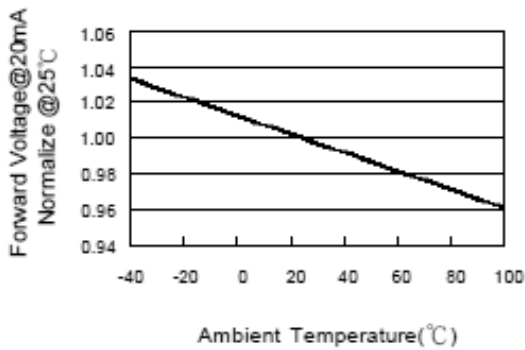


Fig.4 Luminous Intensity vs. Temperature

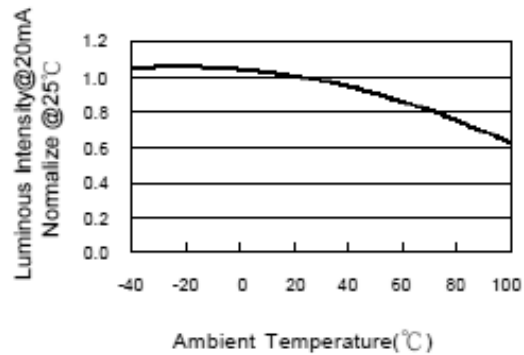


Fig.5 Relative Intensity vs. Wavelength

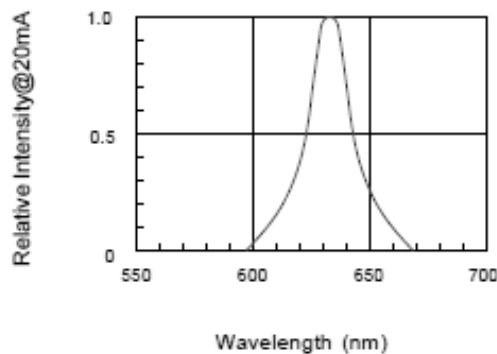
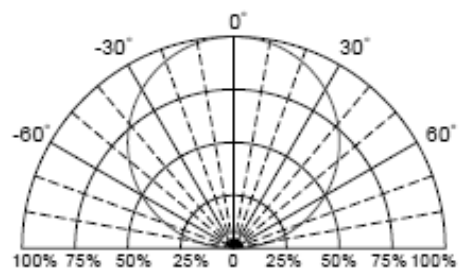


Fig.6 Directive Radiation



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OPTICAL CHARACTERISTIC CURVES (BLUE)

Fig.1 Forward current vs. Forward Voltage

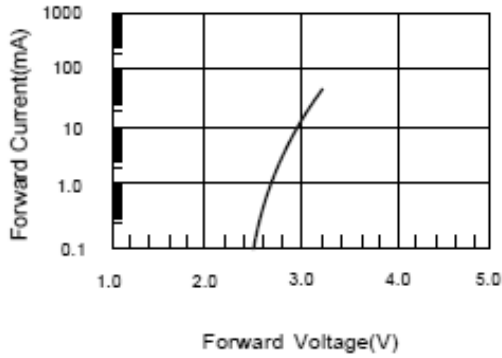


Fig.2 Relative Intensity vs. Forward Current

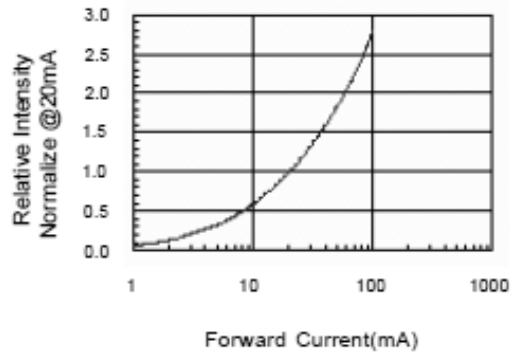


Fig.3 Forward Voltage vs. Temperature

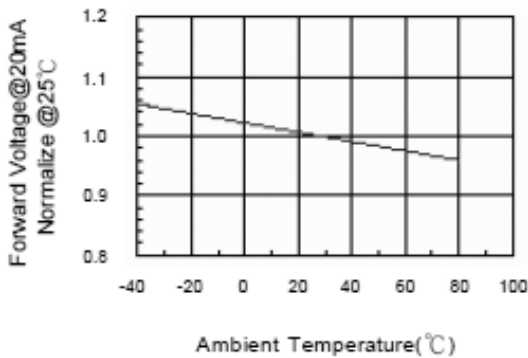


Fig.4 Relative Intensity vs. Temperature

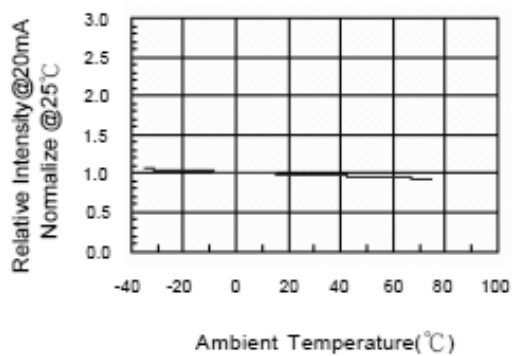


Fig.5 Relative Intensity vs. Wavelength

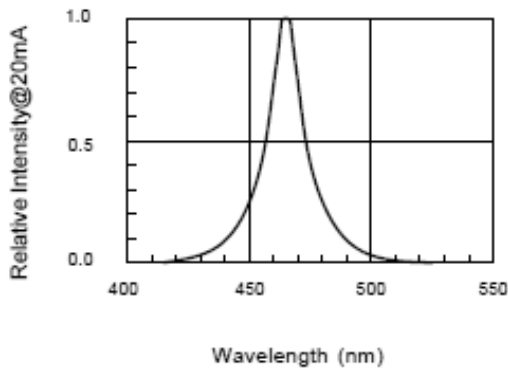
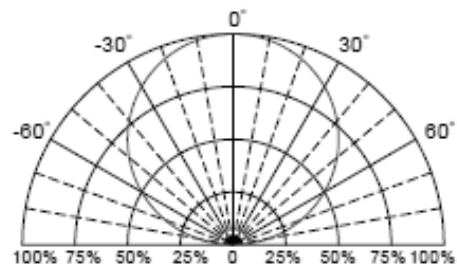


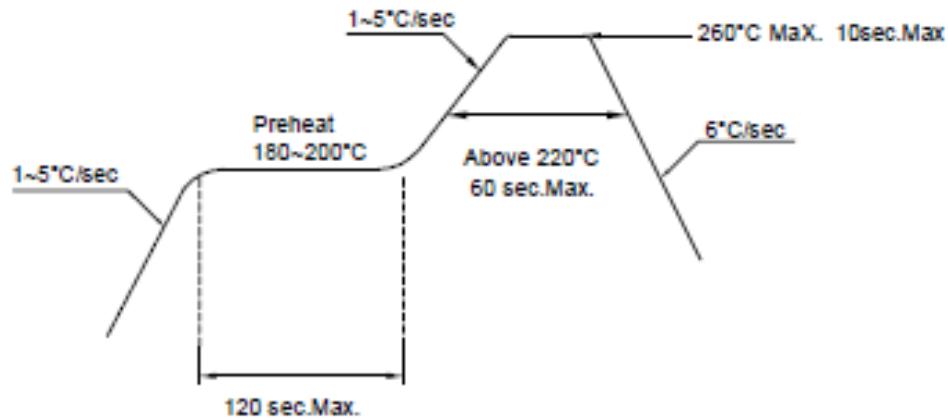
Fig.6 Directive Radiation



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SOLDERING CONDITIONS – LAMP TYPE LED

1. Hand Solder
Basic spec is $\leq 320^{\circ}\text{C}$ for 3 seconds one time only
2. PB-Free Reflow Solder



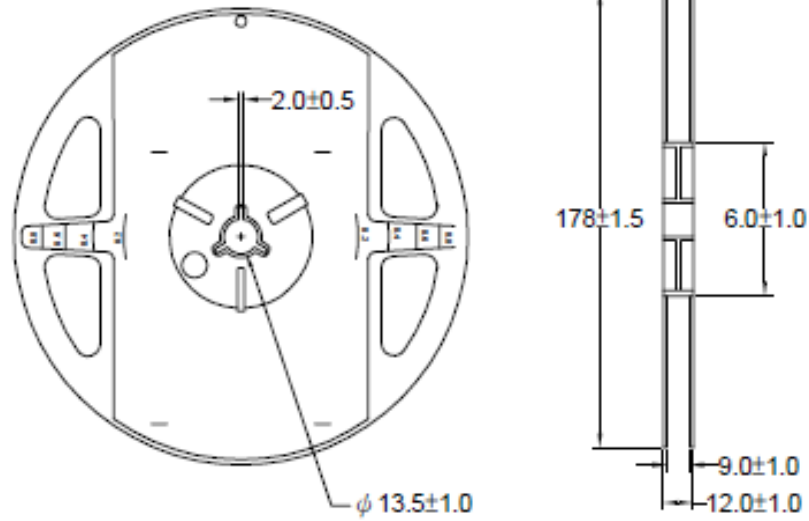
Notes:

1. Reflow soldering should not be done more than 2 times
2. When soldering, do not put stress on the LEDs during heating
3. After soldering, do not warp the circuit board



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PACKAGING SPECIFICATIONS



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