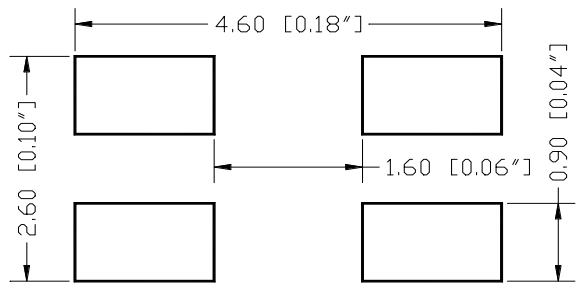
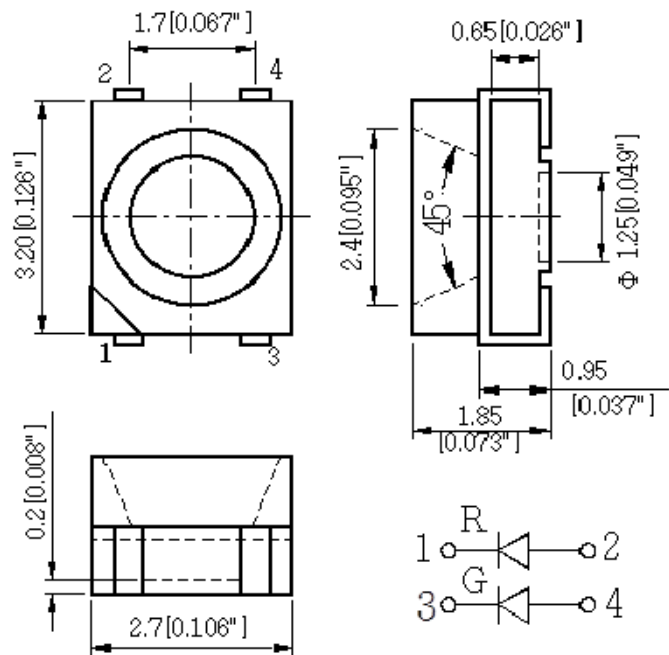


SPECIFICATIONS **CSP1311R2G2C-1**

OUTLINES DIMENSIONS

PACKAGE OUTLINES

RECOMMEND PAD LAYOUT



ITEM	MATERIALS	
Resin	Silicon	
Lens color	Water transparent	
Dice	Red	AlGaInP/GaAs
	Green	AlGaInP/GaAs

- Notes:
- All Dimensions are in millimeters (inches).
 - Tolerance is $\pm 0.25\text{mm}$ ($0.01''$) unless otherwise noted.
 - Specifications are subject to change without notice.

Part Number	Chip Material	Color of Emission	Lens Type	Viewing Angle
CSP1311R2G2C-1	InGaAIP	Red	Water Clear	120°
	InGaAIP	Green		



ChromeLED Corp. reserves the right to make changes at any time in order to supply the best product possible. The most current version of this document will always be available at: www.chromeled.com

ABSOLUTE MAXIMUM RATINGS - RED (InGaAlP)
(TA=25°C)

Parameter	Symbol	Max Rating	Unit
Power Dissipation	P _D	75	mW
Pulse Forward Current	I _{FP}	125	mA
Continuous Forward Current	I _F	30	mA
Reverse Voltage	V _R	5	V
Operating Temperature Range	T _{OPR}	-40~+80	°C
Storage Temperature Range	T _{STG}	-40~+85	°C
I _{FP} = Pulse Width ≤ 10 ms, Duty Ratio ≤ 1/10. Soldering Condition: 260 °C/ 5sec			

OPTICAL-ELECTRICAL CHARACTERISTICS - RED (InGaAlP)
(TA=25°C)

Parameter	Symbol	Test Condition	Value			Unit
			Min	Typ	Max	
Luminous Intensity	I _V	I _F = 20mA	50	110	-	mcd
Forward Voltage	V _F	I _F = 20mA	-	2.0	2.5	V
Reverse Leakage Current	I _R	V _R = 40V	-	-	10	μA
Peak Wavelength	λ _P	I _F = 20mA	-	640	-	nm
Dominant Wavelength	λ _D	I _F = 20mA	-	630	-	nm
Spectral Radiation Bandwidth	Δλ	I _F = 20mA	-	18	-	nm



ChromeLED Corp. reserves the right to make changes at any time in order to supply the best product possible. The most current version of this document will always be available at: www.chromeled.com

ABSOLUTE MAXIMUM RATINGS - GREEN (InGaAlP)
(TA=25°C)

Parameter	Symbol	Max Rating	Unit
Power Dissipation	P _D	75	mW
Pulse Forward Current	I _{FP}	125	mA
Continuous Forward Current	I _F	30	mA
Reverse Voltage	V _R	5	V
Operating Temperature Range	T _{OPR}	-40~+80	°C
Storage Temperature Range	T _{STG}	-40~+85	°C
I _{FP} = Pulse Width ≤ 10 ms, Duty Ratio ≤ 1/10. Soldering Condition: 260 °C/ 5sec			

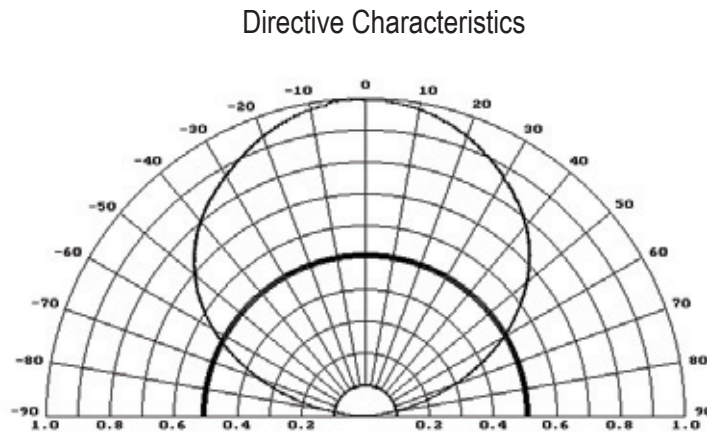
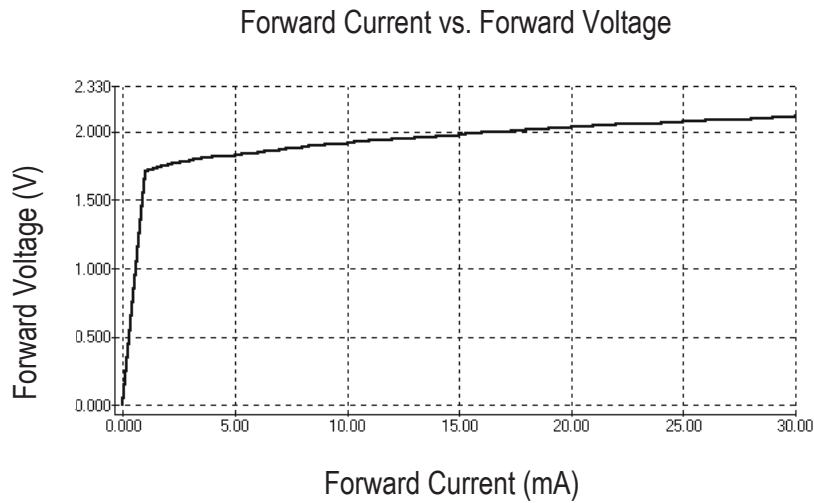
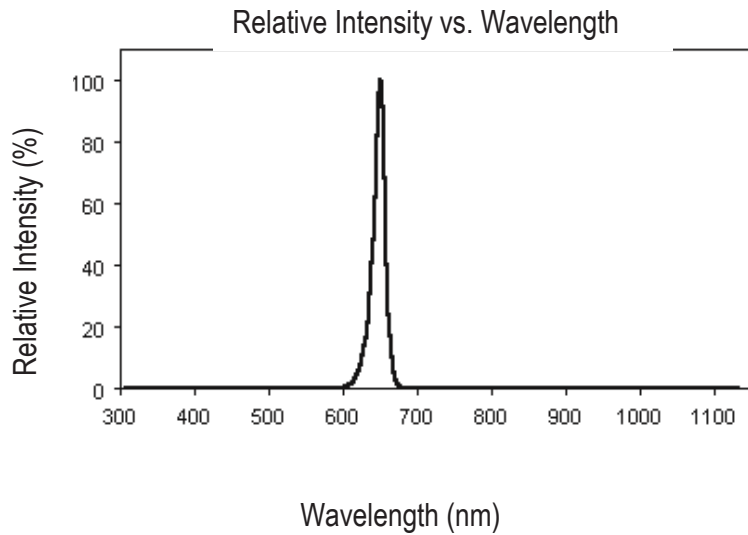
OPTICAL-ELECTRICAL CHARACTERISTICS - GREEN (InGaAlP)
(TA=25°C)

Parameter	Symbol	Test Condition	Value			Unit
			Min	Typ	Max	
Luminous Intensity	I _V	I _F = 20mA	40	90	-	mcd
Forward Voltage	V _F	I _F = 20mA	-	2.0	2.5	V
Reverse Leakage Current	I _R	V _R = 40V	-	-	10	μA
Peak Wavelength	λ _P	I _F = 20mA	-	572	-	nm
Dominant Wavelength	λ _D	I _F = 20mA	-	570	-	nm
Spectral Radiation Bandwidth	Δλ	I _F = 20mA	-	18	-	nm



ChromeLED Corp. reserves the right to make changes at any time in order to supply the best product possible. The most current version of this document will always be available at: www.chromeled.com

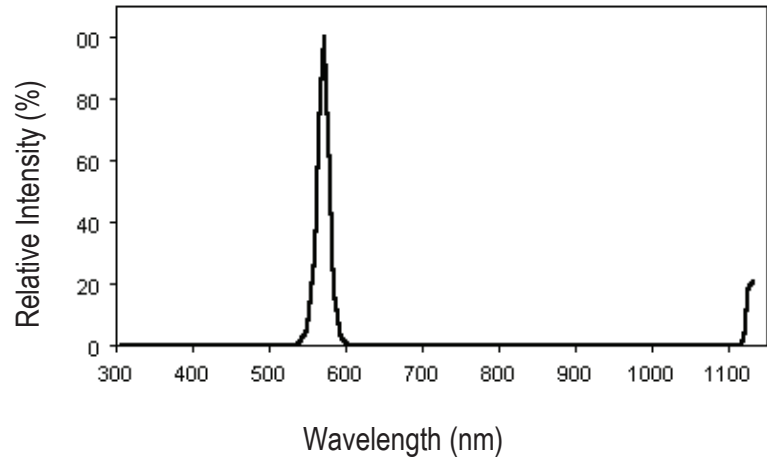
OPTICAL CHARACTERISTIC CURVES - RED



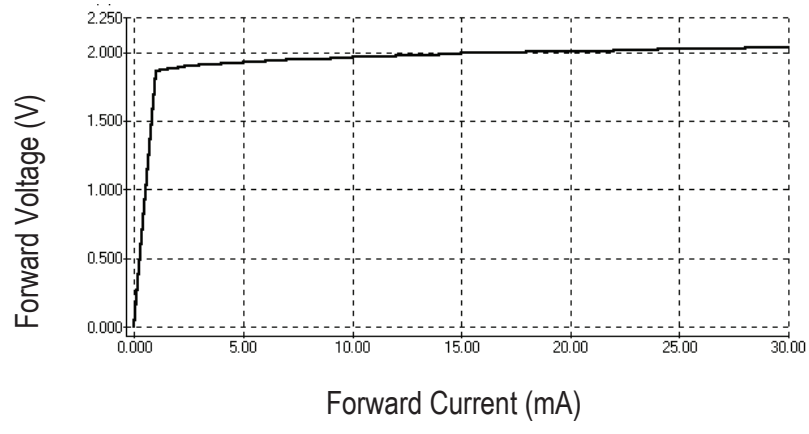
ChromeLED Corp. reserves the right to make changes at any time in order to supply the best product possible. The most current version of this document will always be available at: www.chromeled.com

OPTICAL CHARACTERISTIC CURVES - GREEN

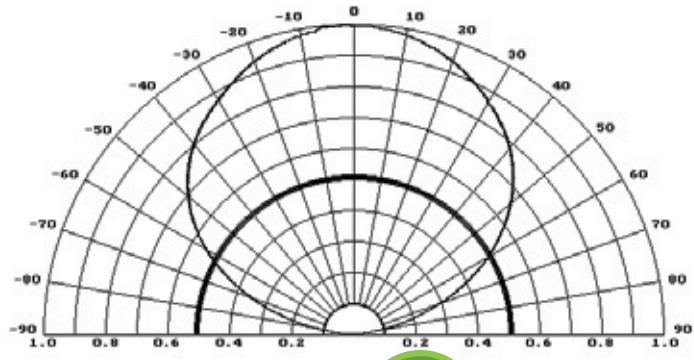
Relative Intensity vs. Wavelength



Forward Current vs. Forward Voltage



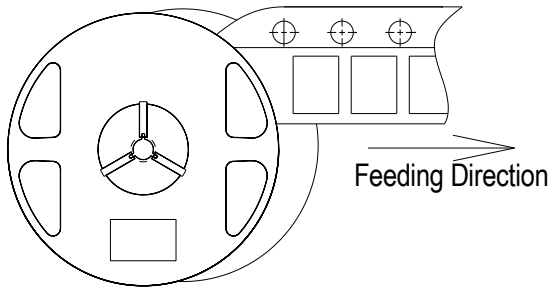
Directive Characteristics



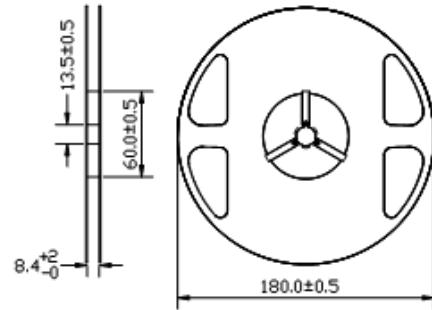
ChromeLED Corp. reserves the right to make changes at any time in order to supply the best product possible. The most current version of this document will always be available at: www.chromeled.com

PACKAGING SPECIFICATIONS

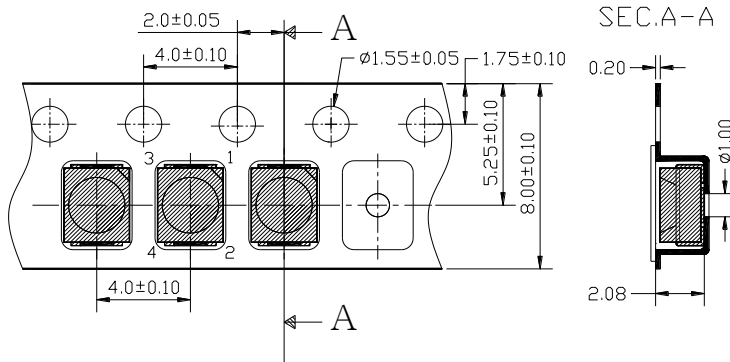
- Feeding Direction



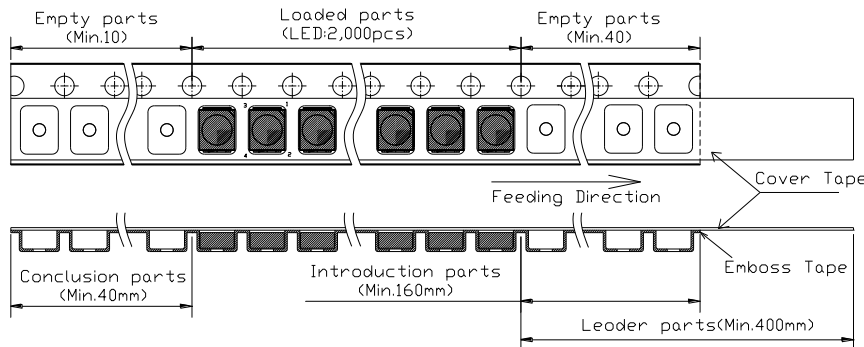
- Dimensions of Reel (Unit: mm)



- Dimensions of Tape (Unit: mm)



- Arrangement of Tape



Notes:

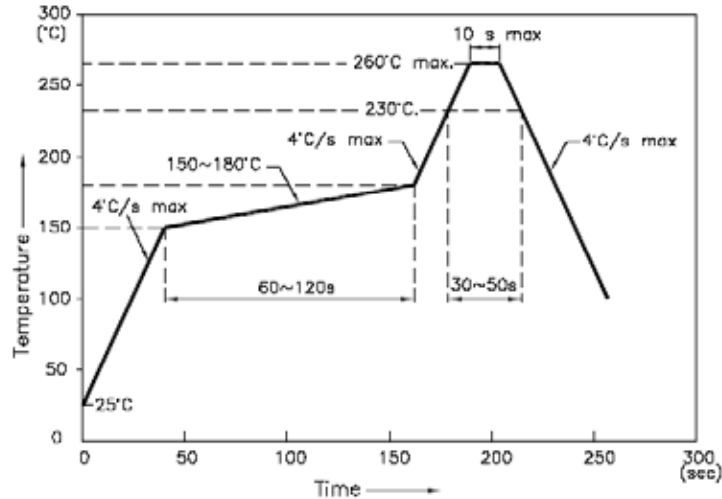
1. Empty component pockets are sealed with top cover tape.
2. The maximum number of missing lamps is two.
3. 2,000pcs/Reel



ChromeLED Corp. reserves the right to make changes at any time in order to supply the best product possible. The most current version of this document will always be available at: www.chromeled.com

RECOMMENDED SOLDERING PROFILE

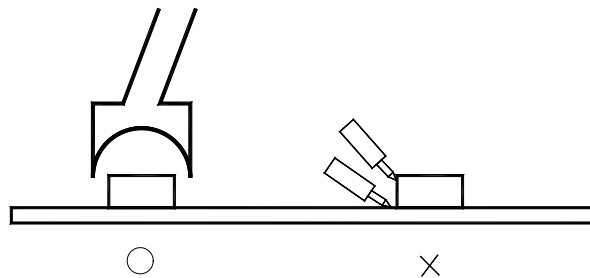
REFLOW PROFILE



1. We recommend the reflow temperature 245°C ($\pm 5^\circ\text{C}$). The maximum soldering temperature should be limited to 260°C.
2. Do not cause stress to the epoxy resin while it is exposed to high temperature.
3. Number of reflow process shall be 2 times or less.
 - Soldering iron
 - Basic spec is $\leq 5\text{sec}$ when 260°C. If temperature is higher, time should be shorter
 - (+10°C \rightarrow -1sec). Power dissipation of iron should be smaller than 20W, and temperatures should be controllable. Surface temperature of the device should be under 230°C.

Rework

1. Customer must finish rework within 5 sec under 260°C.
2. The head of iron cannot touch copper foil
3. Twin-head type is preferred.



ChromeLED Corp. reserves the right to make changes at any time in order to supply the best product possible. The most current version of this document will always be available at: www.chromeled.com