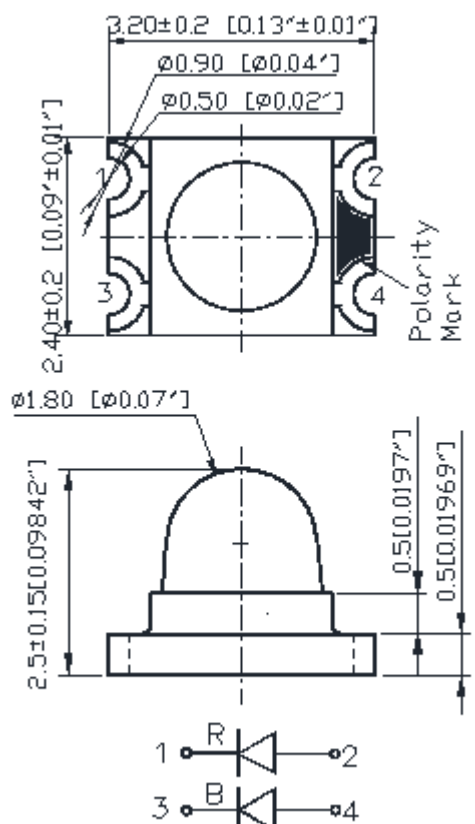
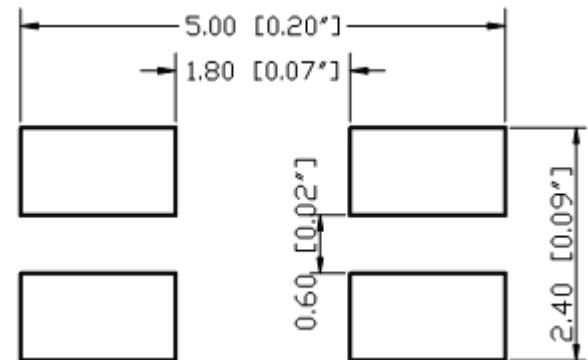


**SPECIFICATIONS** **CSDB131R2B2C**

### OUTLINES DIMENSIONS



**RECOMMEND PAD LAYOUT**



ITEM	MATERIALS	
Resin (mold)	Epoxy	
Lens color	Water transparent	
Dice	Red	AlGaInP/GaAs
	Blue	InGaN

**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
CSDB131R2B2C	InGaAlP	Red	Water Clear	60°
	InGaN	Blue		



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

Parameter	Symbol	Max Rating	Unit
Power Dissipation	PD	75	mW
Pulse Forward Current	IFP	125	mA
Continuous Forward Current	IF	30	mA
Reverse Voltage	VR	5	V
Operating Temperature Range	TOPR	-40~+80	°C
Storage Temperature Range	TSTG	-40~+85	°C
IFP = 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	IV	IF = 20mA	80	100	-	mcd
Forward Voltage	VF	IF = 20mA	-	2.0	2.5	V
Reverse Leakage Current	IR	VR = 40V	-	-	10	µA
Peak Wavelength	λP	IF = 20mA	-	630	-	nm
Dominant Wavelength	λD	IF = 20mA	-	620	-	nm
Spectral Radiation Bandwidth	Δλ	IF = 20mA	-	20	-	nm



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**ABSOLUTE MAXIMUM RATINGS - BLUE (InGaN)**
**(TA=25°C)**

Parameter	Symbol	Max Rating	Unit
Power Dissipation	PD	102	mW
Pulse Forward Current	IFP	125	mA
Continuous Forward Current	IF	30	mA
Reverse Voltage	VR	5	V
Operating Temperature Range	TOPR	-40~+80	°C
Storage Temperature Range	TSTG	-40~+85	°C
IFP = Pulse Width ≤ 10 ms, Duty Ratio ≤1/10. Soldering Condition: 260 °C/ 5sec			

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

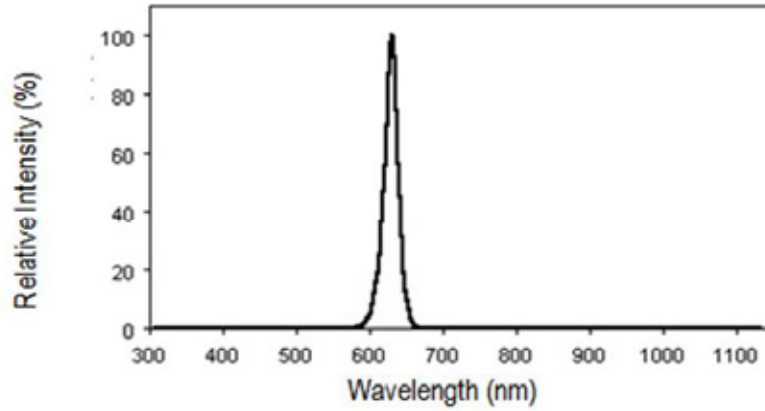
Parameter	Symbol	Test Condition	Value			Unit
			Min	Typ	Max	
Luminous Intensity	IV	IF = 20mA	30	50	-	mcd
Forward Voltage	VF	IF = 20mA	-	2.8	3.4	V
Reverse Leakage Current	IR	VR = 40V	-	-	10	µA
Peak Wavelength	λP	IF = 20mA	-	465	-	nm
Dominant Wavelength	λD	IF = 20mA	-	470	-	nm
Spectral Radiation Bandwidth	Δλ	IF = 20mA	-	20	-	nm



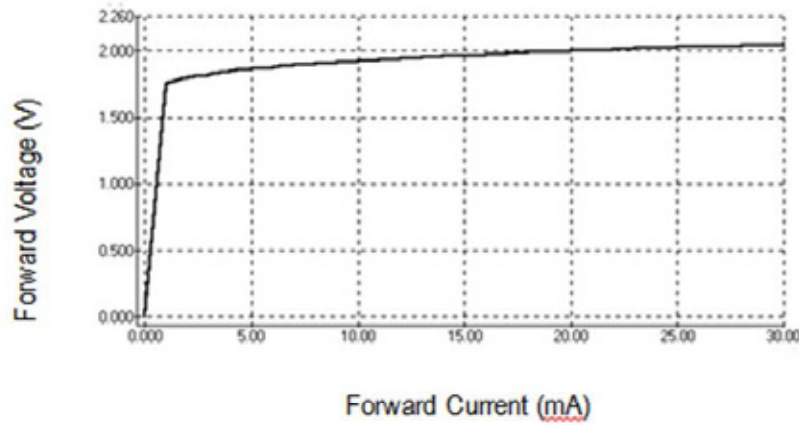
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OPTICAL CHARACTERISTIC CURVES - RED

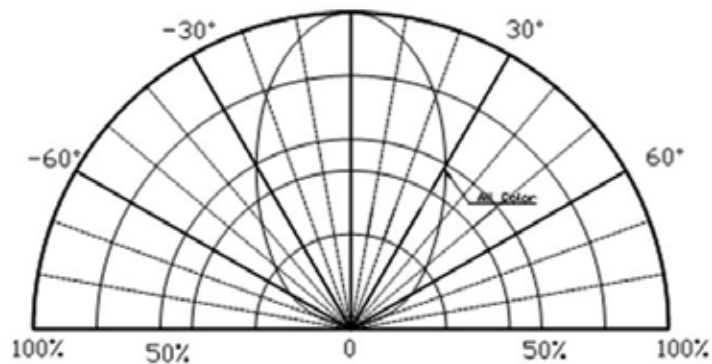
Relative Intensity vs. Wavelength



Forward Current vs. Forward Voltage



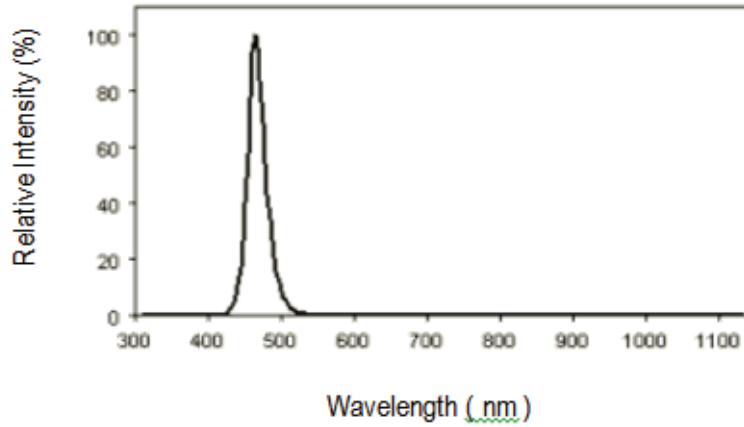
Directive Characteristics



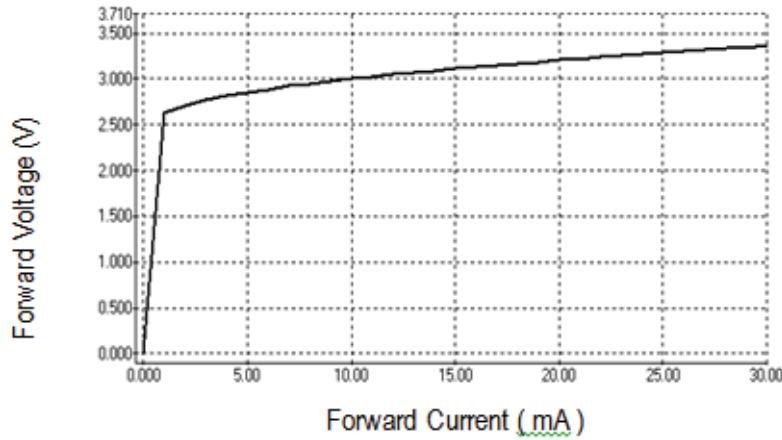
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OPTICAL CHARACTERISTIC CURVES - BLUE

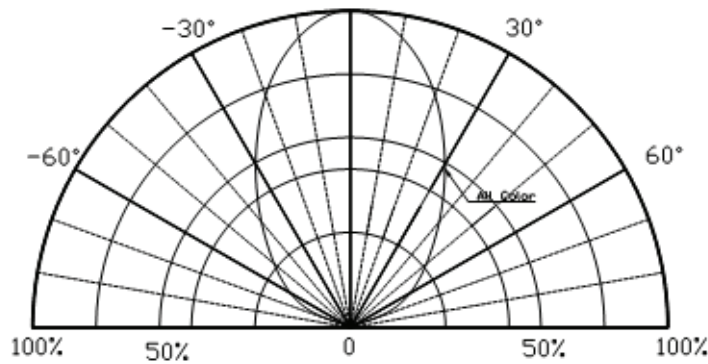
Relative Intensity vs. Wavelength



Forward Current vs. Forward Voltage



Directive Characteristics

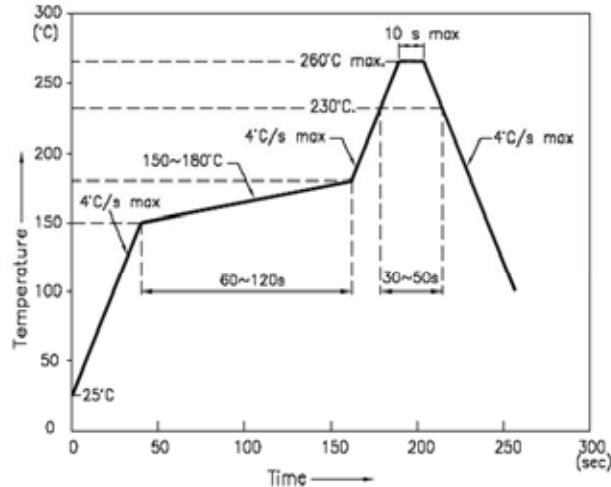


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## RECOMMENDED SOLDERING PROFILE

### REFLOW PROFILE

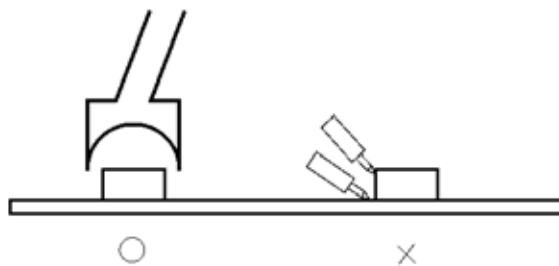
- Reflow Temp/Time



Notes:

1. We recommend the reflow temperature 245°C (±5°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 ≤ 5 sec when 260°C. If temperature is higher, time should be shorter (+10°C → -1 sec). Power dissipation of iron should be smaller than 20W and temperature should be controllable. Surface temperature of 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.



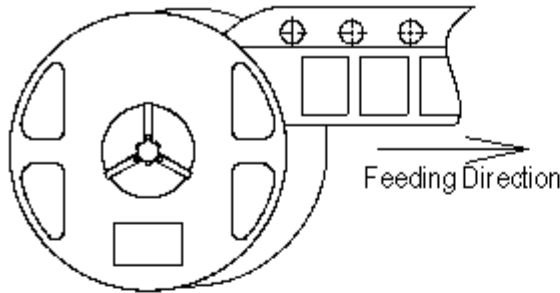
**AVOID RUBBING OR SCRAPING THE RESIN BY ANY OBJECT DURING HIGH TEMPERATURE SUCH AS REFLOW AND/OR SOLDER etc.**



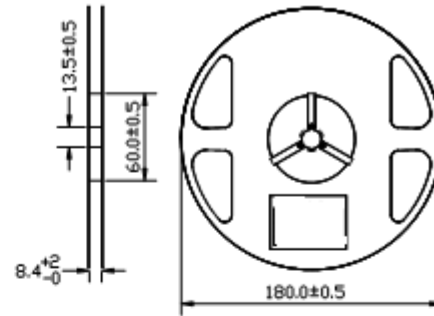
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## PACKAGING SPECIFICATIONS

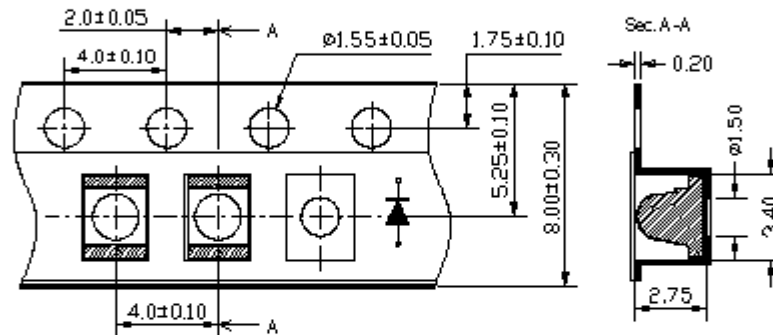
● Feeding Direction



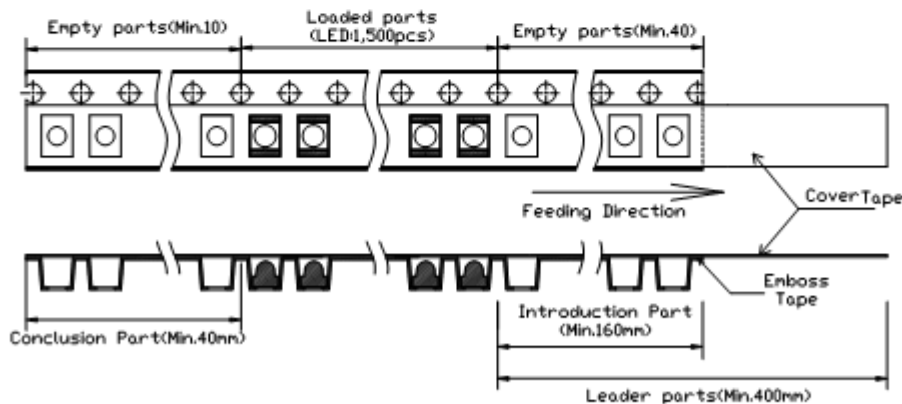
● Dimensions of Reel (Unit: mm)



● 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. The cathode is oriented towards the tape sprocket hole.
4. 1,500 pcs/Reel



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