



BC2808O12-B20

SMD Type Blue Emitter

Features

- Small double-end package
- Viewing Angle = $\pm 60^\circ$
- High reliability
- Ultra bright Blue
- RoHS compliance

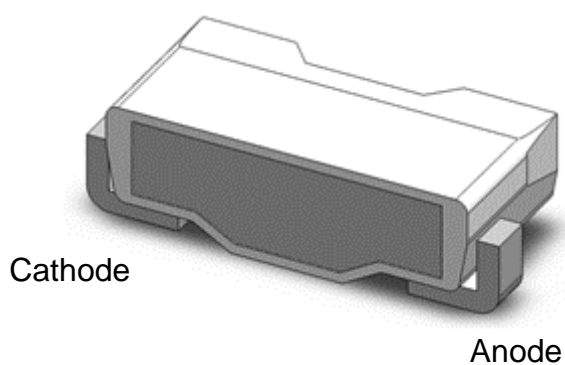
Applications

- Blue sensor

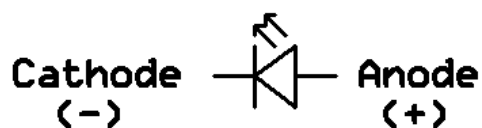
Description

The BC2808O12-B20 is an InGaN Blue LED housed in a miniature SMD package. The device has a dominant wavelength of 470nm LED.

Package Outline



Schematic





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Absolute Maximum Rating at 25°C

Symbol	Parameters	Ratings	Units	Notes
I _F	Continuous Forward Current	20	mA	
I _{FP}	Peak Forward Current	50	mA	1
V _R	Reverse Voltage	5	V	
T _{opr}	Operating Temperature	-40 ~ +85	°C	
T _{stg}	Storage Temperature	-40 ~ +100	°C	
T _{sol}	Soldering Temperature	260	°C	2
P _D	Power Dissipation at(or below) 25°C Free Air Temperature	78	mW	

Electro-Optical Characteristics *T_A = 25°C (unless otherwise specified)*

Optical Characteristics

Symbol	Parameters	Test Conditions	Min	Typ	Max	Units	Notes
I _v	Luminous Intensity	I _F =20mA	360	450	560	mcd	3
λ _d	Dominant Wavelength	I _F =20mA	460	470	476	nm	4
λ _p	Peak Wavelength	I _F =20mA	-	464	-	nm	
Δλ	Spectral Bandwidth	I _F =20mA	-	25	-	nm	
θ _{1/2}	Angle of Half Intensity	I _F =20mA	-	±60	-	deg	

Electrical Characteristics

Symbol	Parameters	Test Conditions	Min	Typ	Max	Units	Notes
V _F	Forward Voltage	I _F =20mA	2.3	2.8	3.3	V	5
I _R	Reverse Current	V _R =5V	-	-	10	μA	



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Notes:

1. I_{FP} Conditions--Pulse Width $\leq 100\mu s$ and Duty $\leq 1\%$.
2. Soldering time ≤ 5 seconds.
3. Tolerance of Luminous Intensity: $\pm 10\%$.

Color	Bin Code	Spec Range
Blue	U	360-450 mcd
	V	450-560 mcd

4. Tolerance of Dominant Wavelength: ± 1 nm.

Color	Bin Code	Spec Range
Blue	A	460-464 nm
	B	464-468 nm
	C	468-472 nm
	D	472-476 nm

5. Tolerance of Forward voltage: $\pm 0.1V$.

Color	Bin Code	Spec Range
Blue	F8	2.3-2.5 V
	G7	2.5-2.7 V
	G8	2.7-2.9 V
	H7	2.9-3.1 V
	H8	3.1-3.3 V



Typical Characteristic Curves

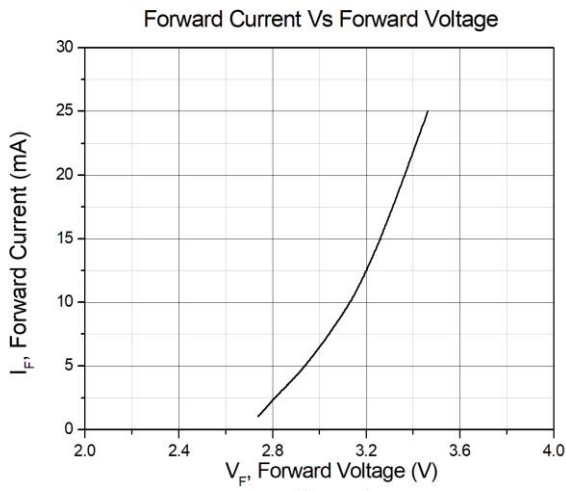


Figure 1

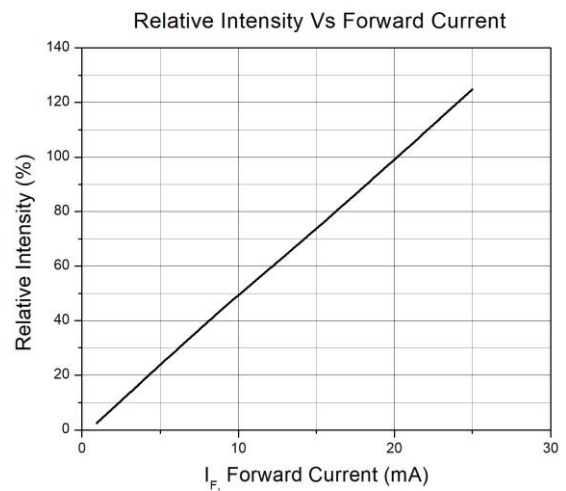


Figure 2

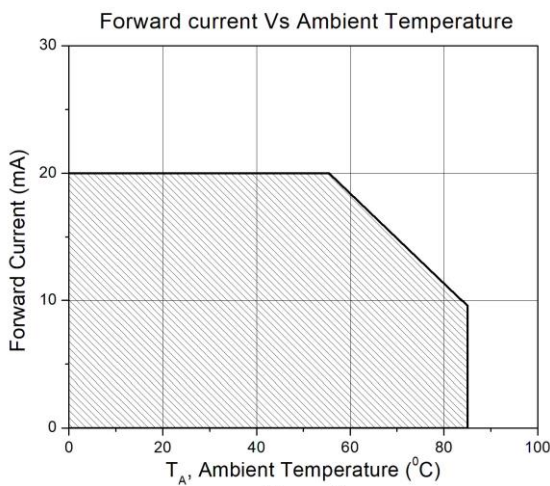


Figure 3

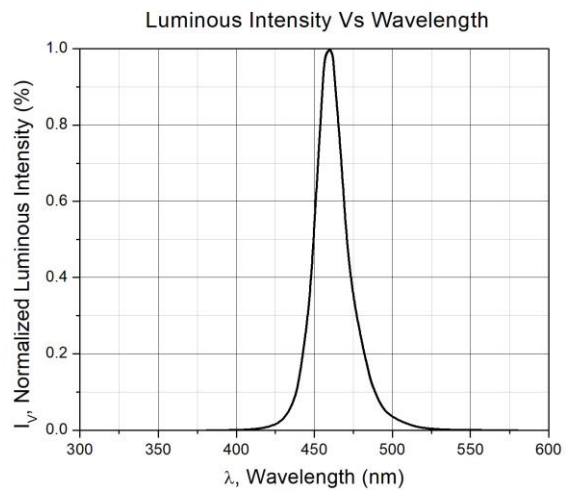


Figure 4

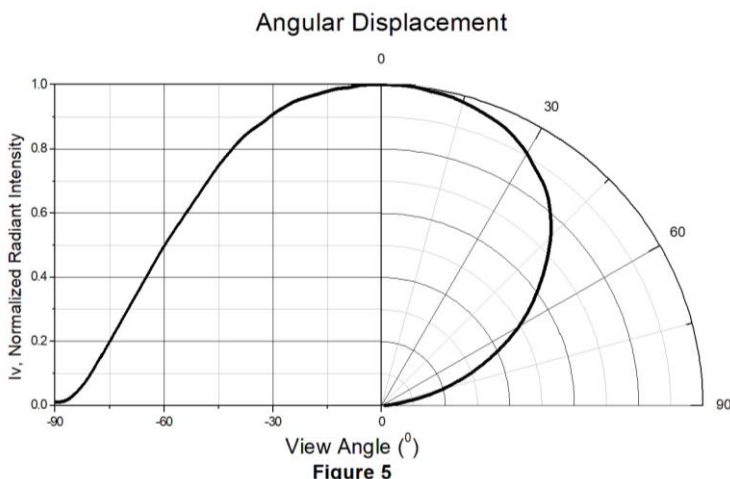


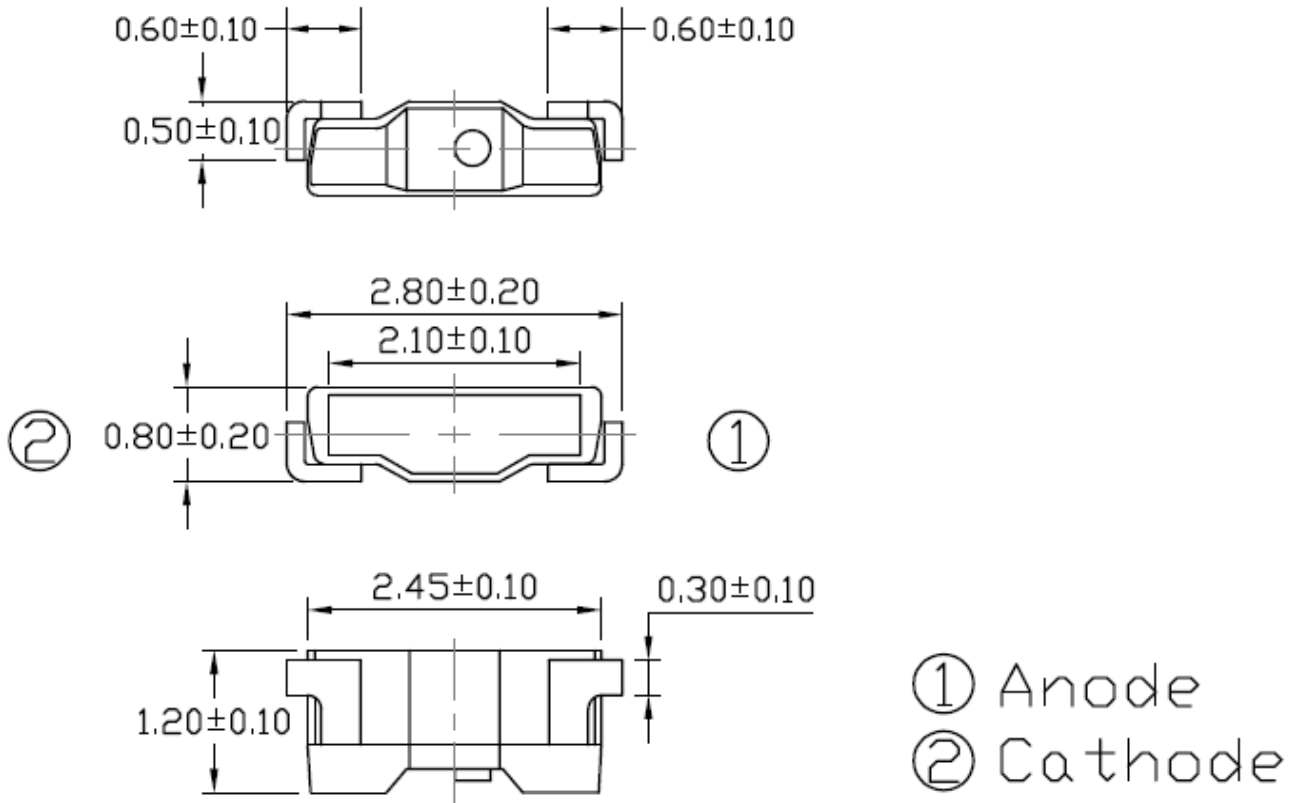
Figure 5



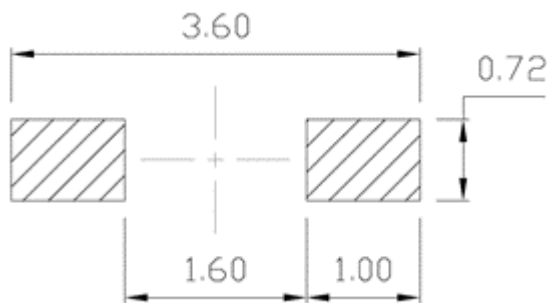
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Package Dimension *All dimensions are in mm, unless otherwise stated*



Recommended Soldering Mask *All dimensions are in mm, unless otherwise stated*



Ordering Information

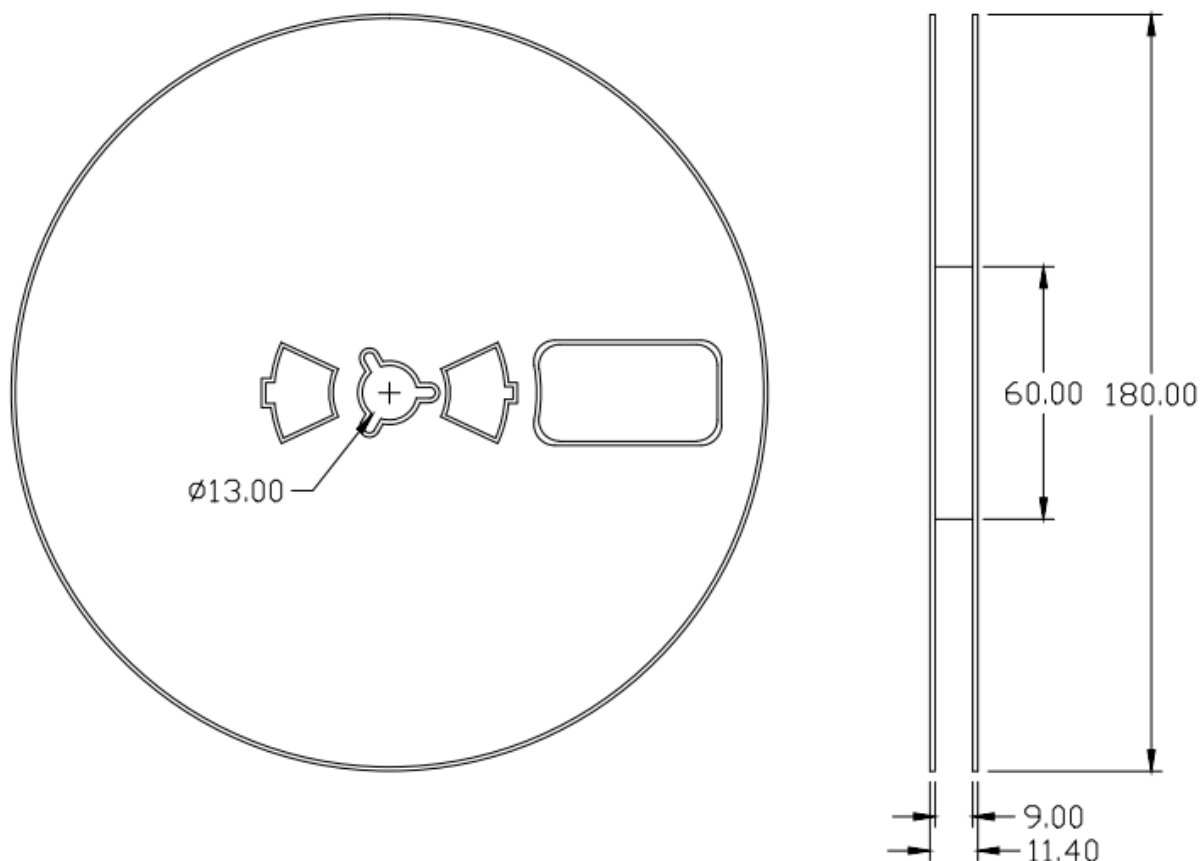
Part Number	Description	Quantity
BC2808O12-B20	Tape & Reel	2000 pcs



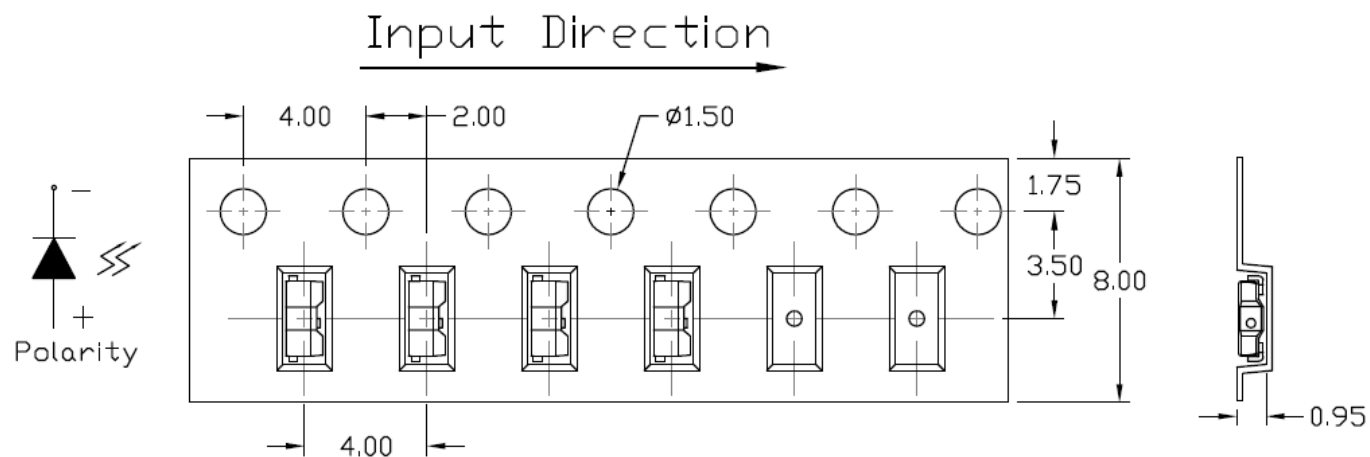
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Reel Dimension *All dimensions are in mm, unless otherwise stated*

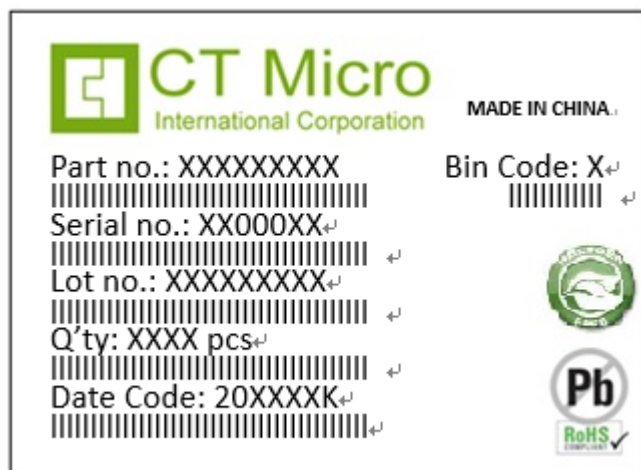


Tape Dimension *All dimensions are in mm, unless otherwise stated*





Label Form Specification



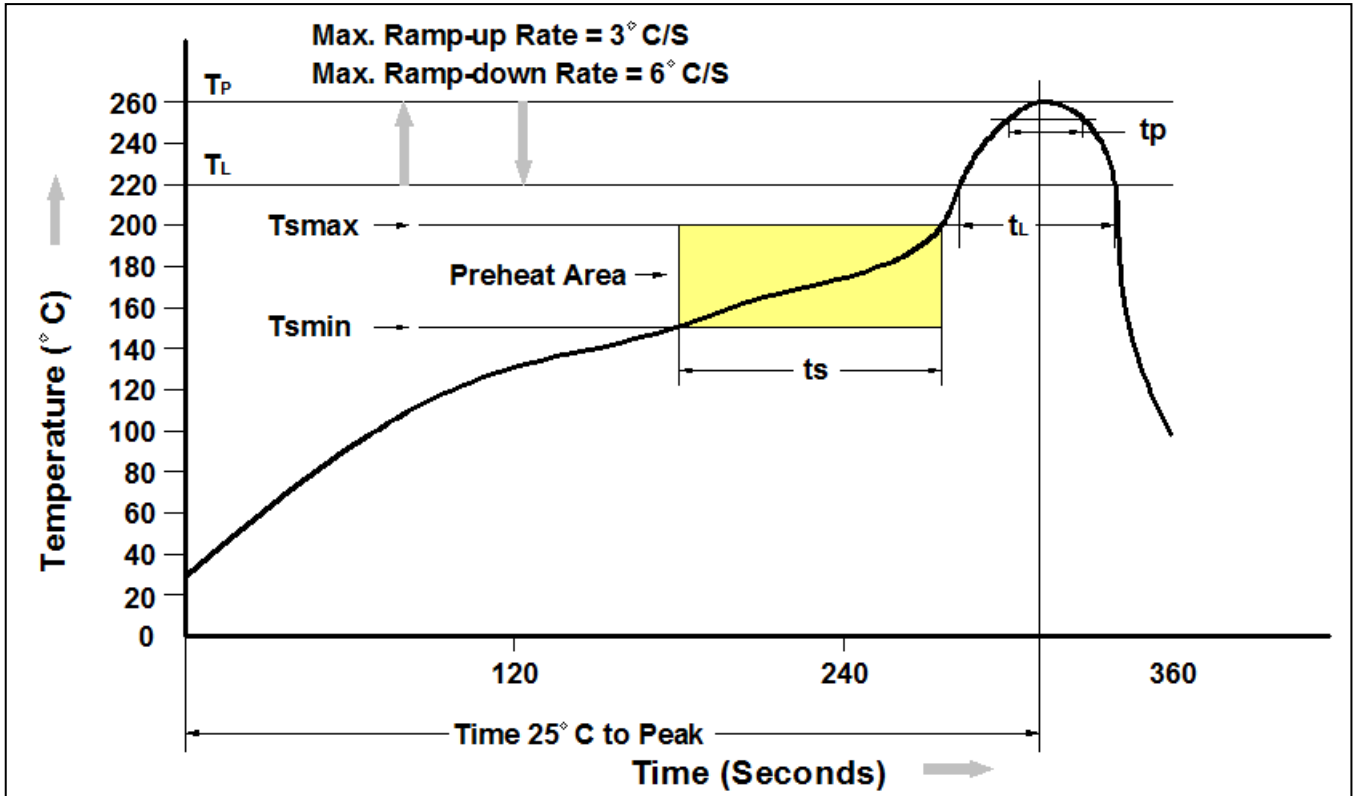
Part no: CTM Production Number
 Serial no: Production Number
 Lot no: Lot number
 Q'ty: Packing Quantity
 Date Code: Manufacture Date
 Bin Code: Iv Ranks
 MADE IN CHINA: Production Place

Storage Condition

1. Do not open moisture proof bag before the products are ready to use.
2. The moisture barrier bag should be stored at 30°C and 90%R.H. max. before opening.
Shelf life of non-opened bag is 12 months after the bag sealing date.
3. After opening the moisture barrier bag floor life is 168h at 30°C/60%RH. max. Unused LEDs should be resealed into moisture barrier bag. (Refer to J-STD-020 Standard)
4. If the moisture absorbent material has faded away or the LEDs have exceeded the storage time, baking treatment should be performed using the J-STD-033 Standard conditions.



Reflow Profile



Profile Feature	Pb-Free Assembly Profile
Temperature Min. (T _{sm})	150°C
Temperature Max. (T _{sm})	200°C
Time (t _s) from (T _{sm} to T _{sm})	60-120 seconds
Ramp-up Rate (t _l to t _p)	3°C/second max.
Liquidous Temperature (T _l)	217°C
Time (t _l) Maintained Above (T _l)	60 – 150 seconds
Peak Body Package Temperature	260°C +0°C / -5°C
Time (t _p) within 5°C of 260°C	30 seconds
Ramp-down Rate (T _p to T _l)	6°C/second max
Time 25°C to Peak Temperature	8 minutes max.



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