



BRP321608-ATC2

Dual Wavelength SMD Type Emitter

Features

- Top view 1206 package
- Viewing Angle = $\pm 65^\circ$
- Compatible with infrared and vapor phase reflow solder process
- High reliability
- Dual dominant wavelength (B=470nm , R=621nm)
- RoHS compliance

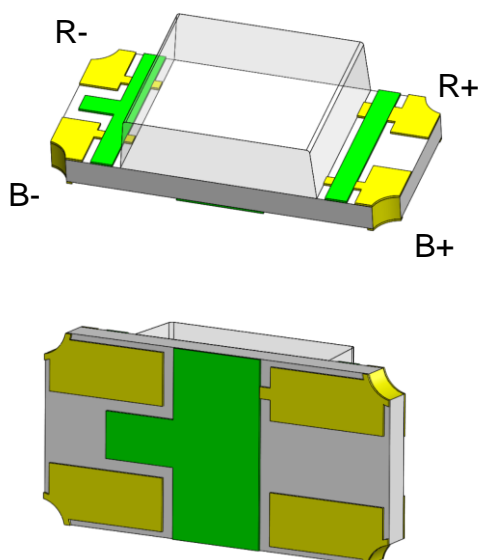
Applications

- Optical indicator.
- Switch and Symbol Display.

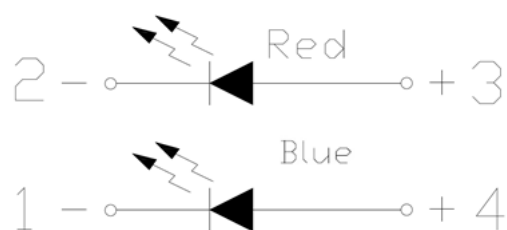
Description

The BRP321608-ATC2 is a double LED housed in a miniature SMD package. The device has a dominant wavelength of 470nm and 621nm LED.

Package Outline



Schematic





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Absolute Maximum Rating at 25°C

Symbol	Parameters		Ratings	Units	Notes
I _F	Continuous Forward Current	B	25	mA	
		R	25		
I _{FP}	Peak Forward Current	B	60	mA	1
		R	60		
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	B	60	mW	
		R	95		

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

Optical Characteristics (Blue)

Symbol	Parameters	Test Conditions	Min	Typ	Max	Units	Notes
I _v	Luminous Intensity	I _F =20mA	90	-	225	mcd	3
λ _p	Peak Wavelength	I _F =20mA	-	466	-		
λ _d	Dominant Wavelength	I _F =20mA	460	-	475	nm	4
θ _{1/2}	Angle of Half Intensity	I _F =20mA	-	±65	-	deg	

Electrical Characteristics

Symbol	Parameters	Test Conditions	Min	Typ	Max	Units	Notes
V _F	Forward Voltage	I _F =20mA	2.7	-	3.5	V	
I _R	Reverse Current	V _R =5V	-	-	1	μA	



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Optical Characteristics (Red)

Symbol	Parameters	Test Conditions	Min	Typ	Max	Units	Notes
I _v	Luminous Intensity	I _F =20mA	72	-	180	mcd	3
λ _p	Peak Wavelength	I _F =20mA	-	632	-		
λ _d	Dominant Wavelength	I _F =20mA	-	621	-	nm	
θ _{1/2}	Angle of Half Intensity	I _F =20mA	-	±65	-	deg	

Electrical Characteristics

Symbol	Parameters	Test Conditions	Min	Typ	Max	Units	Notes
V _F	Forward Voltage	I _F =20mA	1.7	-	2.4	V	
I _R	Reverse Current	V _R =5V	-	-	1	μA	

Notes:

1. I_{FP} Conditions--Pulse Width ≤ 100μs and Duty ≤ 10%.
2. Soldering time ≤ 10 seconds.
3. Bin Range of Luminous Intensity

Blue				
Bin Code	Min	Max	Unit	Condition
QA	90	140	mcd	I _F =20mA
RA	140	225		
Red				
Q	72	112	mcd	I _F =20mA
R	112	180		

Tolerance of: Luminous Intensity ±10%

4. Bin Range of Dominant Wavelength

Blue				
Bin Code	Min	Max	Unit	Condition
A5	460	465	nm	I _F =20mA
A6	465	470		
A7	470	475		

Tolerance of Dominant Wavelength: ±1nm.



Typical Characteristic Curves

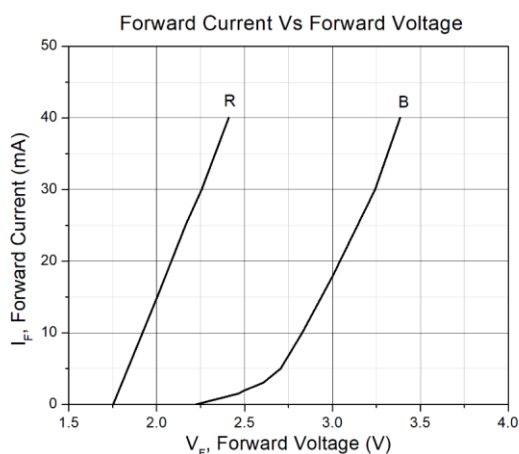


Figure 1

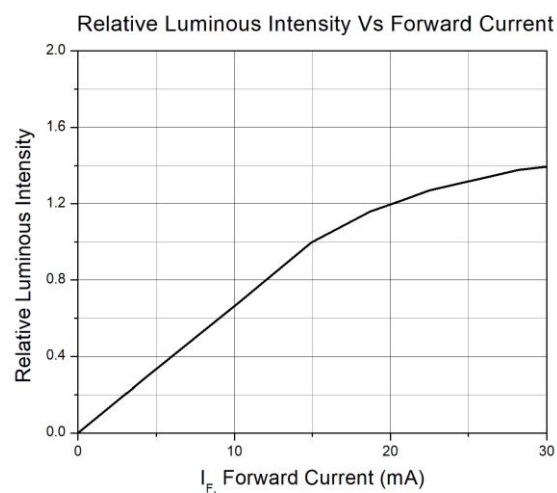


Figure 2

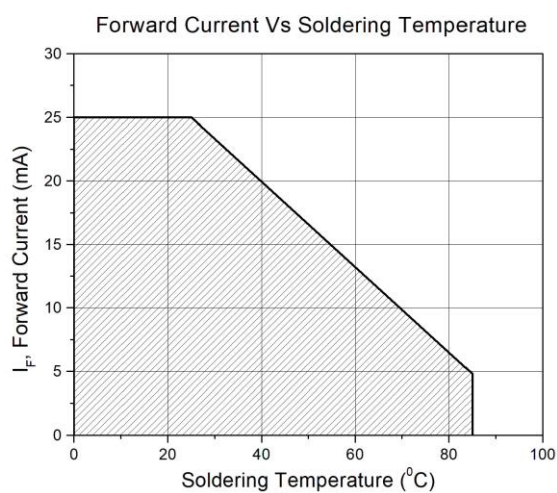


Figure 3

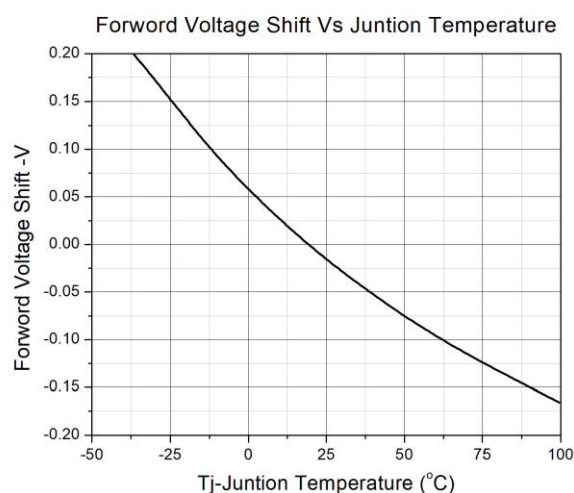


Figure 4

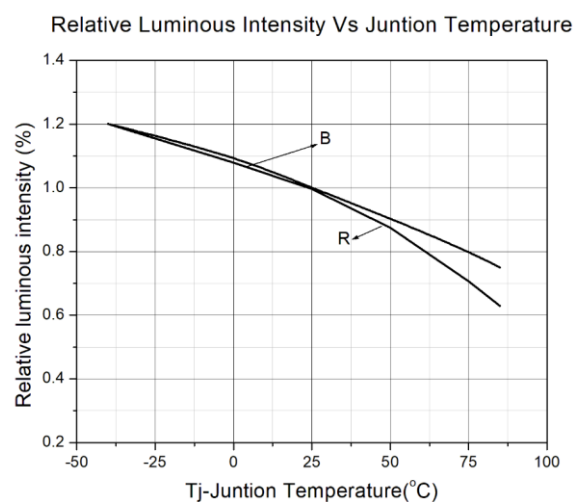


Figure 5

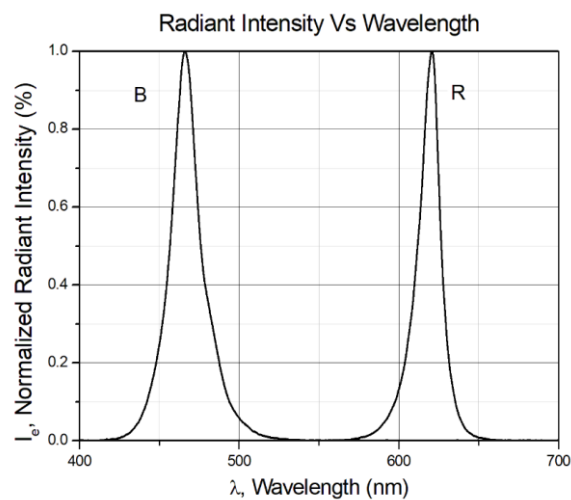
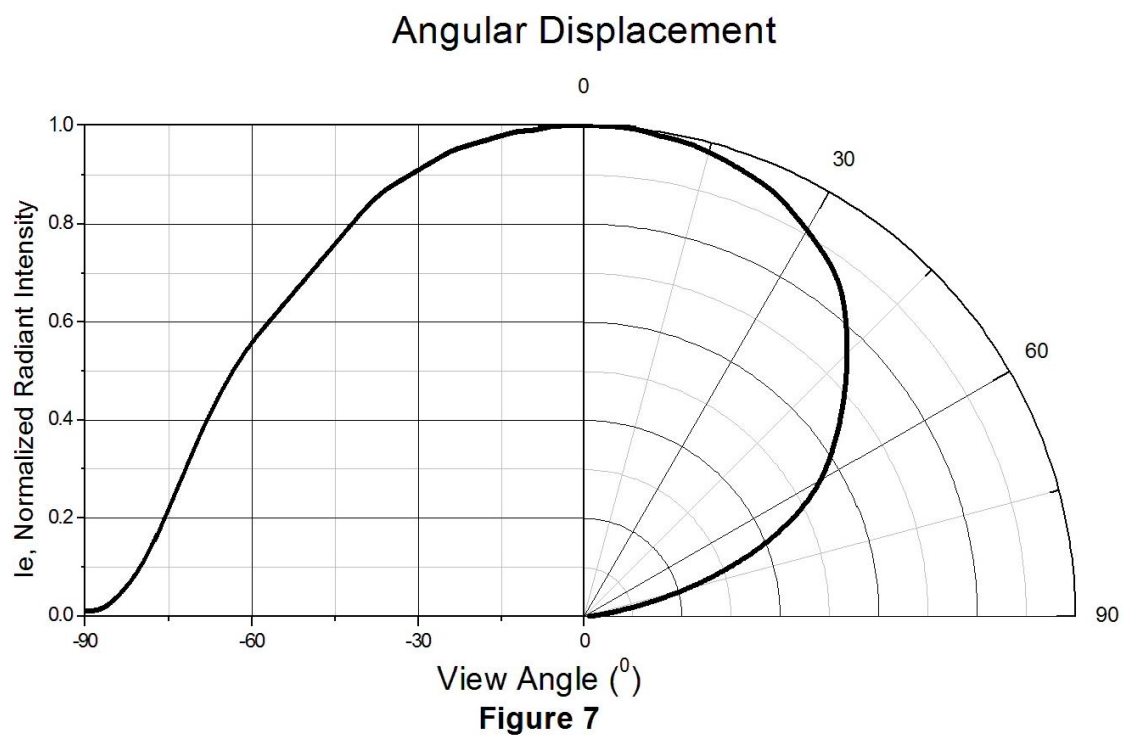


Figure 6



Typical Characteristic Curves

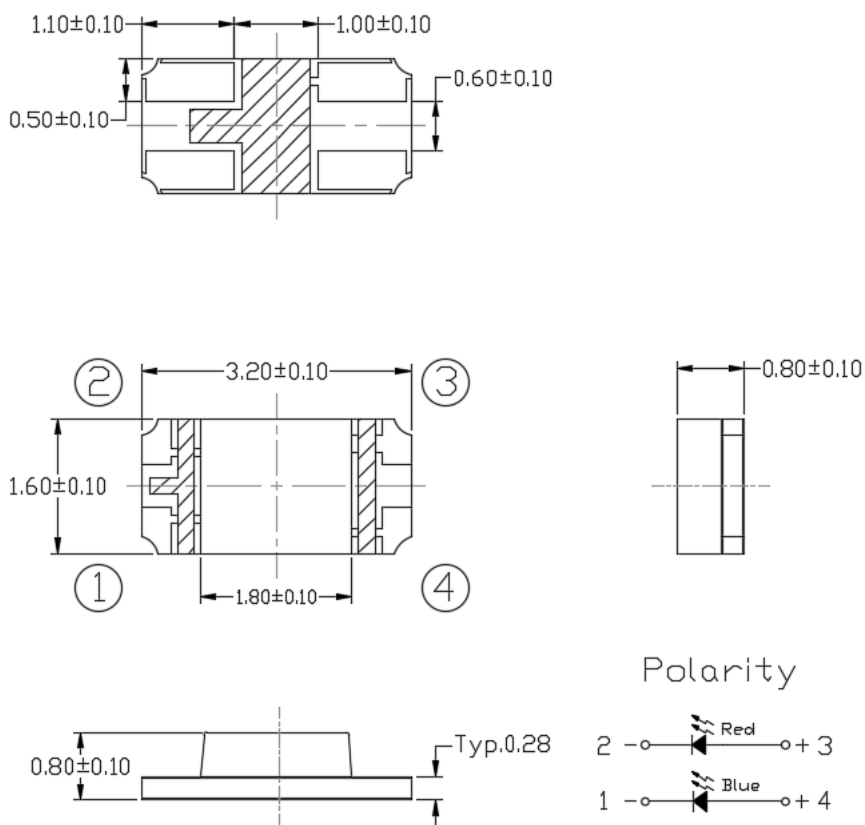




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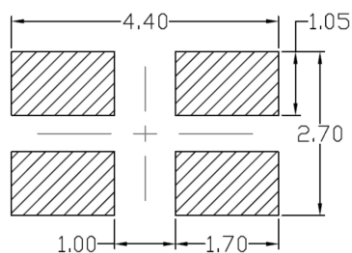
Dual Wavelength SMD Type Emitter

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



Note: Tolerance unless mentioned is ± 0.1 mm.

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



Note: Tolerance unless mentioned is ± 0.1 mm.

Ordering Information

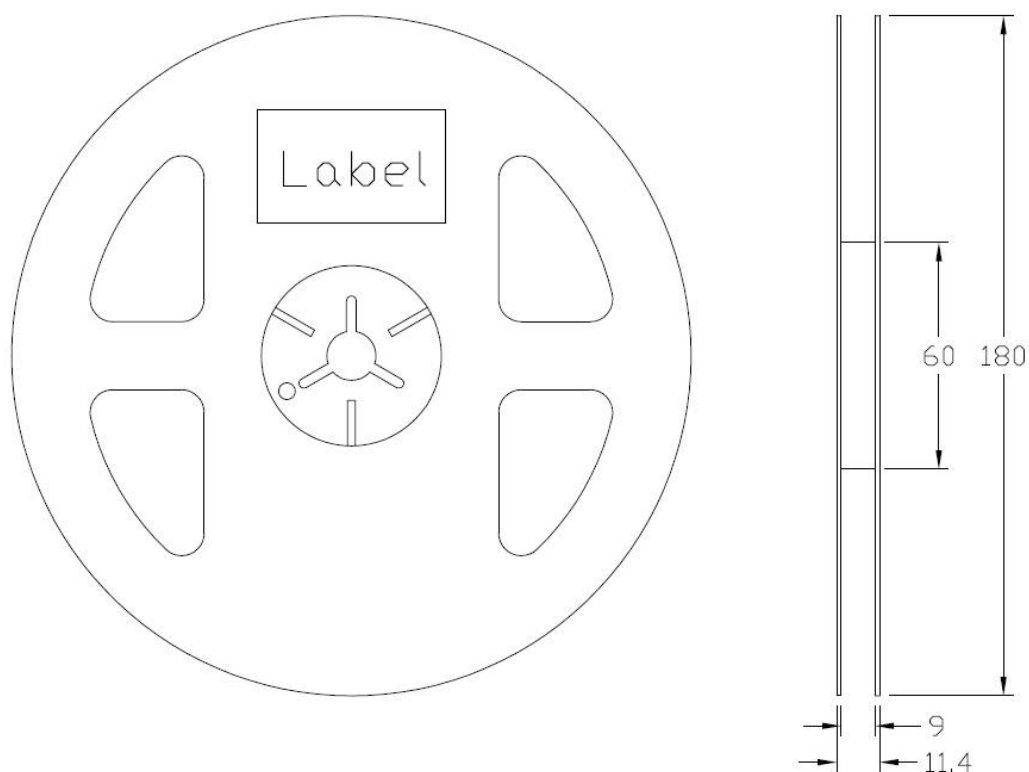
Part Number	Description	Quantity
BRP321608-ATC2	Tape & Reel	2000 pcs



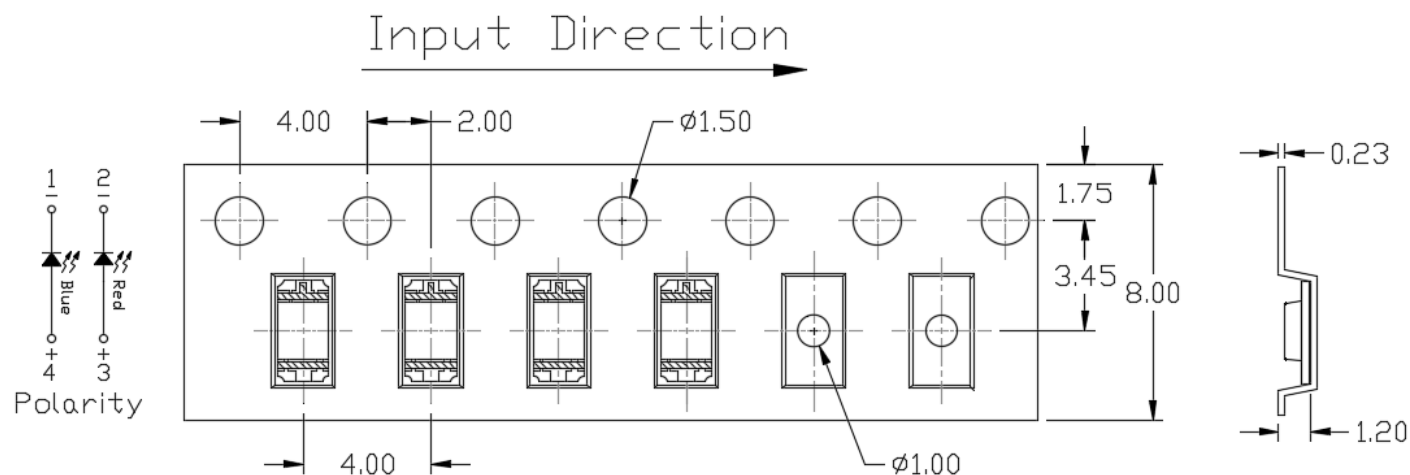
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Dual Wavelength SMD Type Emitter

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



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



Note: Tolerance unless mentioned is ± 0.1 mm.



Label Form Specification

MSL-X
MADE IN CHINA

CT Micro
International Corporation

CPN: XXXXXXXXXXXXXXXXXX
|||||

Part no: XXXXXXXXXXXXXXXX
|||||

Serial no: XXXXXXXX
|||||

Lot no: XXXXXXXX
|||||

Qty: XXXXXX Date Code: YWWJ
||||| |||||

IV: XX WD:XX VF:XX
||||| ||||| |||||

QR Code

Pb
RoHS

CPN : Customer Part Number
Part no: CTM Production Number
Serial no: Production Number
Lot no: Lot number
Q'ty: Packing Quantity
Date Code: Manufacture Date
IV : Bin Code of Luminous Intensity
WD : Bin Code of Dominant Wavelength
VF : Bin Code of Forward Voltage
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 1 year 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 _{smin})	150°C
Temperature Max. (T _{smax})	200°C
Time (t _s) from (T _{smin} to T _{smax})	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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- 2. A critical component is any component of a life support device or system whose failure to perform can be reasonably expected to cause the failure of the life support device or system, or to affect its safety or effectiveness.*