



# RP160806-ATC4

## SMD Type Red Emitter

### Features

- Top view 0603 package
- Viewing Angle =  $\pm 60^\circ$
- Compatible with infrared and vapor phase reflow solder process
- High reliability
- Ultra bright Red
- RoHS compliance

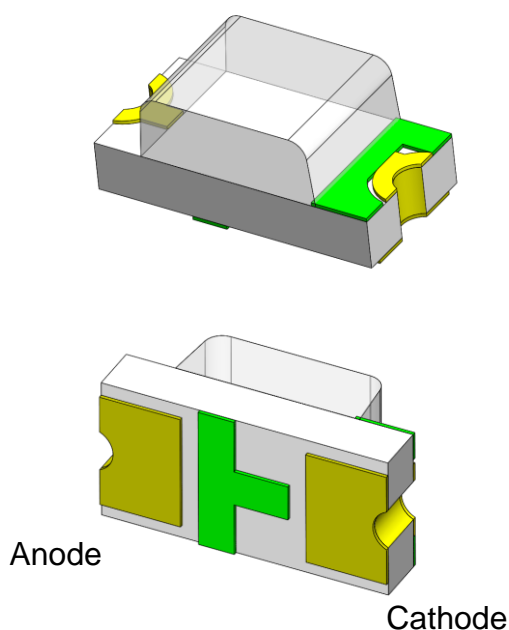
### Applications

- Optical indicator.
- Switch and Symbol Display.

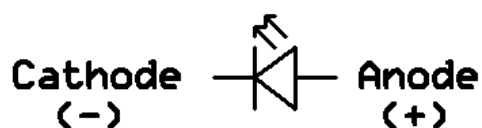
### Description

The RP160806-ATC4 is an AlGaInP Red LED housed in a miniature SMD package. The device has a dominant wavelength of 620nm LED.

### Package Outline



### Schematic





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### Absolute Maximum Rating at 25°C

Symbol	Parameters	Ratings	Units	Notes
I <sub>F</sub>	Continuous Forward Current	25	mA	
I <sub>FP</sub>	Peak Forward Current	60	mA	1
V <sub>R</sub>	Reverse Voltage	5	V	
T <sub>opr</sub>	Operating Temperature	-40 ~ +85	°C	
T <sub>stg</sub>	Storage Temperature	-40 ~ +100	°C	
T <sub>sol</sub>	Soldering Temperature	260	°C	2
P <sub>D</sub>	Power Dissipation at(or below) 25°C Free Air Temperature	65	mW	

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

#### Optical Characteristics

Symbol	Parameters	Test Conditions	Min	Typ	Max	Units	Notes
I <sub>v</sub>	Luminous Intensity	I <sub>F</sub> =20mA	150	-	250	mcd	3
λ <sub>d</sub>	Dominant Wavelength	I <sub>F</sub> =20mA	617	-	625	nm	
θ <sub>1/2</sub>	Angle of Half Intensity	I <sub>F</sub> =20mA	-	±60	-	deg	

#### Electrical Characteristics

Symbol	Parameters	Test Conditions	Min	Typ	Max	Units	Notes
V <sub>F</sub>	Forward Voltage	I <sub>F</sub> =20mA	1.9	-	2.4	V	4
I <sub>R</sub>	Reverse Current	V <sub>R</sub> =5V	-	-	1	μA	

#### Notes:

1. I<sub>FP</sub> Conditions--Pulse Width ≤ 100μs and Duty ≤ 10%.
2. Soldering time ≤ 10 seconds.



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#### 3. Bin Range of Luminous Intensity

Bin Code	Min	Max	Unit	Condition
n	150	180	mcd	$I_F=20\text{mA}$
o	180	216		
p	216	250		

Tolerance of: Luminous Intensity  $\pm 10\%$

#### 4. Bin Range of Forward Voltage

Bin Code	Min	Max	Unit	Condition
a2	1.9	2.0	V	$I_F=20\text{mA}$
a3	2.0	2.1		
a4	2.1	2.2		
a5	2.2	2.3		
a6	2.3	2.4		

Tolerance of Forward Voltage  $\pm 0.05\text{V}$ .



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### Typical Characteristic Curves

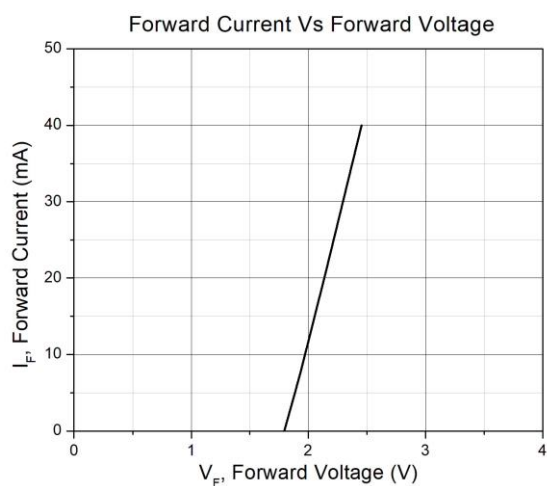


Figure 1

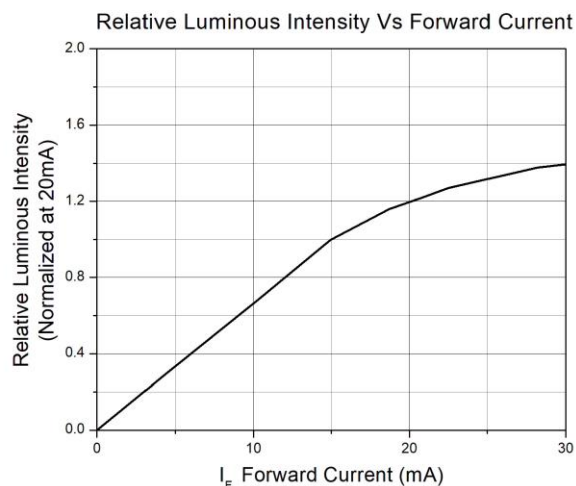


Figure 2

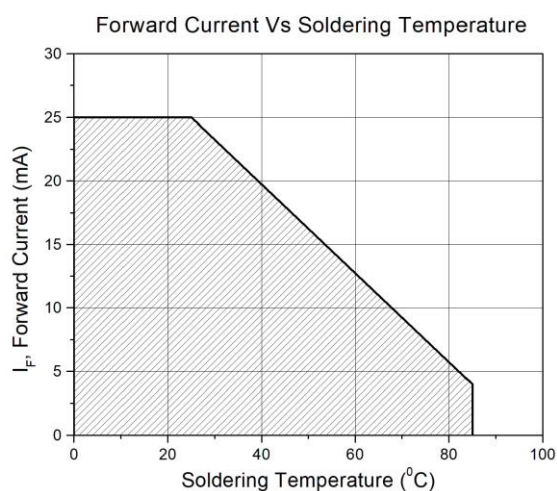


Figure 3

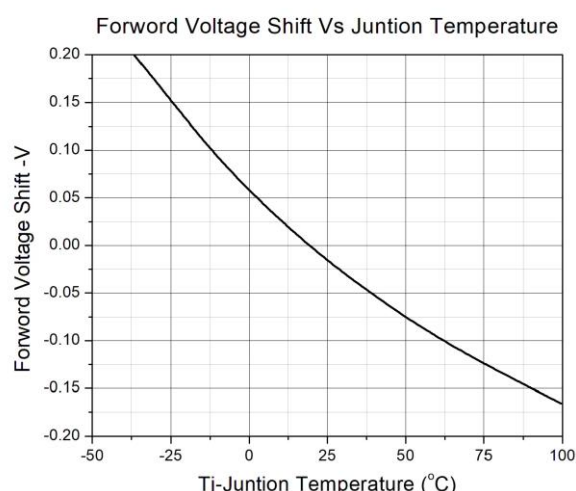


Figure 4

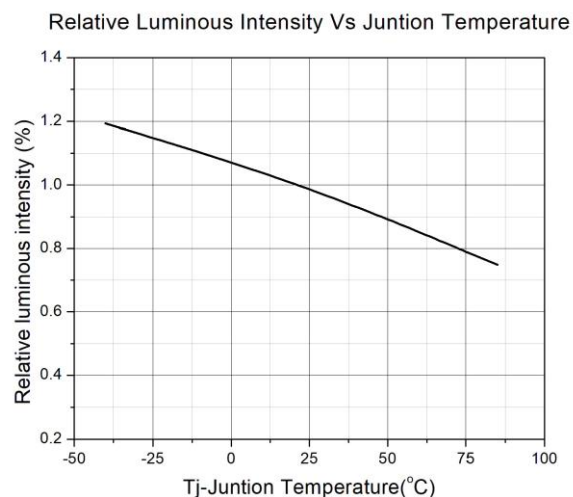


Figure 5

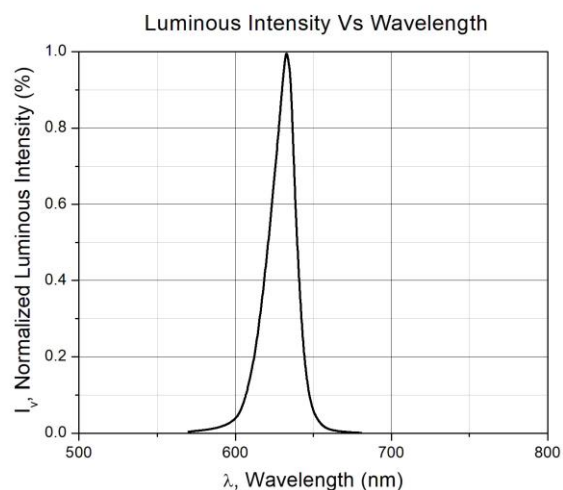


Figure 6



## Typical Characteristic Curves

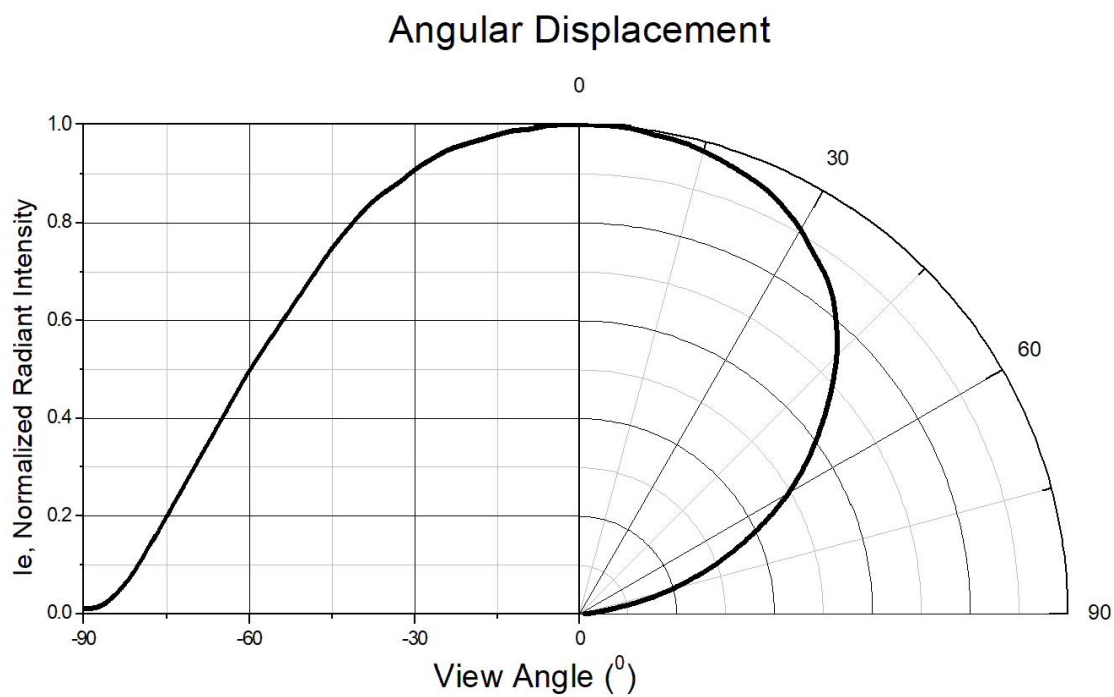


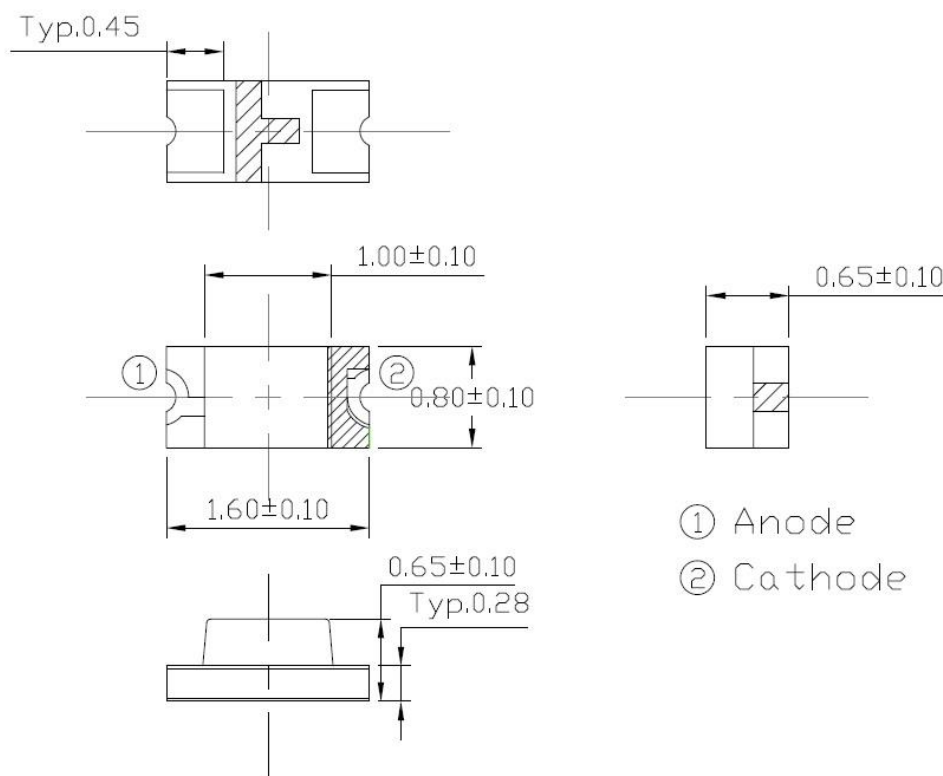
Figure 7



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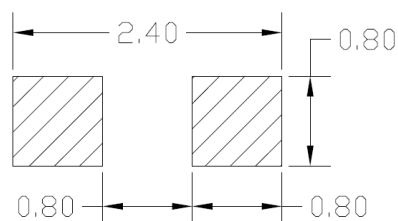
## SMD Type Red Emitter

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



Note: Tolerance unless mentioned is  $\pm 0.1$  mm.

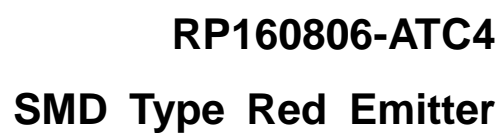
### Recommended Soldering Mask *All dimensions are in mm, unless otherwise stated*



Note: Tolerance unless mentioned is  $\pm 0.1$  mm.

### Ordering Information

Part Number	Description	Quantity
RP160806-ATC4	Tape & Reel	4000 pcs



Technical drawing of a circular mechanical part. The top view shows a circular outer boundary with a central circular feature containing a cross-shaped slot and a small circle. Four teardrop-shaped cutouts are arranged around the center. A rectangular label is positioned at the top, containing the text "Label". The side view shows the part's profile with a total height of 180 and a central section height of 60. The bottom view shows the part's base with a width of 9 and a depth of 11.4.

Technical drawing of a rectangular plate with dimensions and features:

- Input Direction:** Indicated by an arrow pointing right at the top.
- Dimensions:**
  - Overall width: 8.00
  - Overall height: 3.50
  - Top flange thickness: 1.75
  - Bottom flange thickness: 0.80
  - Distance between centerlines of the first two holes: 4.00
  - Distance between centerlines of the last two holes: 4.00
  - Distance between the centerline of the second hole and the centerline of the third hole: 2.00
- Holes:**
  - Seven circular holes with a diameter of  $\varnothing 1.50$ .
  - Two rectangular holes with a width of 0.80.
- Other Features:**
  - A polarity symbol (triangle pointing up) is shown on the left.
  - A zigzag line is shown on the right.

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### SMD Type Red Emitter

#### Label Form Specification

CT Micro  
International Corporation

MSL-X  
MADE IN CHINA

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.





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## SMD Type Red Emitter

### Reflow Profile



Profile Feature	Pb-Free Assembly Profile
Temperature Min. (Tssmin)	150°C
Temperature Max. (Tsmax)	200°C
Time (ts) from (Tssmin to Tsmax)	60-120 seconds
Ramp-up Rate (tL to tp)	3°C/second max.
Liquidous Temperature (TL)	217°C
Time (tL) Maintained Above (TL)	60 – 150 seconds
Peak Body Package Temperature	260°C +0°C / -5°C
Time (tp) within 5°C of 260°C	30 seconds
Ramp-down Rate (TP to TL)	6°C/second max
Time 25°C to Peak Temperature	8 minutes max.



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