



# RC283507-GTC4

## SMD Type Red Emitter

### Features

- Top view 2835 package
- Viewing Angle =  $\pm 60^\circ$
- Compatible with infrared and vapor phase reflow solder process
- High reliability
- Ultra bright Red
- RoHS compliance

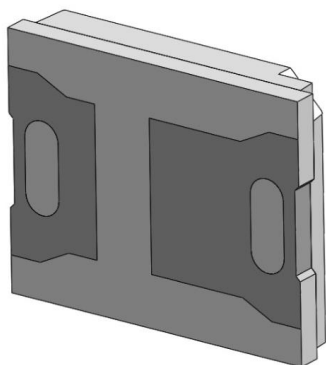
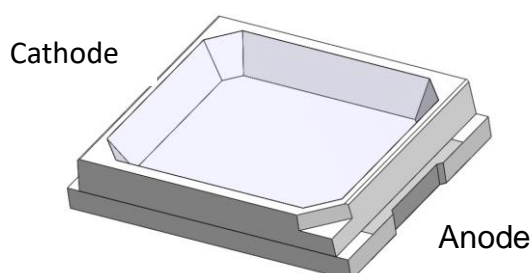
### Applications

- Optical indicator.
- Switch and Symbol Display.

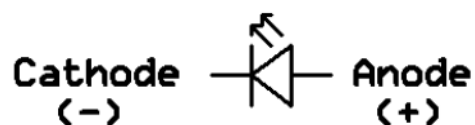
### Description

The RC283507-GTC4 AlGaInP Red LED housed in a miniature SMD package. The device has a dominant wavelength of 640 nm 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	250	mA	
I <sub>FP</sub>	Peak Forward Current	400	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	0.3	W	

### 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 Flux	I <sub>F</sub> =150mA	5	-	8	lm	3
λ <sub>d</sub>	Dominant Wavelength	I <sub>F</sub> =150mA	633.5	-	645.5	nm	4
θ <sub>1/2</sub>	Angle of Half Intensity	I <sub>F</sub> =150mA	-	60	-	deg	

#### Electrical Characteristics

Symbol	Parameters	Test Conditions	Min	Typ	Max	Units	Notes
V <sub>F</sub>	Forward Voltage	I <sub>F</sub> =150mA	1.9	-	2.4	V	
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 Flux

Bin Code	Min	Max	Unit	Condition
L15	5	6	lm	$I_F=150\text{mA}$
L16	6	7		
L17	7	8		

Tolerance of Luminous Intensity  $\pm 10\%$

#### 4. Bin Range of Dominant Wavelength

Bin Code	Min	Max	Unit	Condition
R8	633.5	637.5	nm	$I_F=150\text{mA}$
R9	637.5	641.5		
RA	641.5	645.5		

Tolerance of Dominant Wavelength:  $\pm 1\text{nm}$

#### 5. Bin Range of Forward Voltage

Bin Code	Min	Max	Unit	Condition
26	1.9	2.0	V	$I_F=150\text{mA}$
27	2.0	2.1		
28	2.1	2.2		
29	2.2	2.3		
30	2.3	2.4		

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



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## SMD Type Red Emitter

### Typical Characteristic Curves

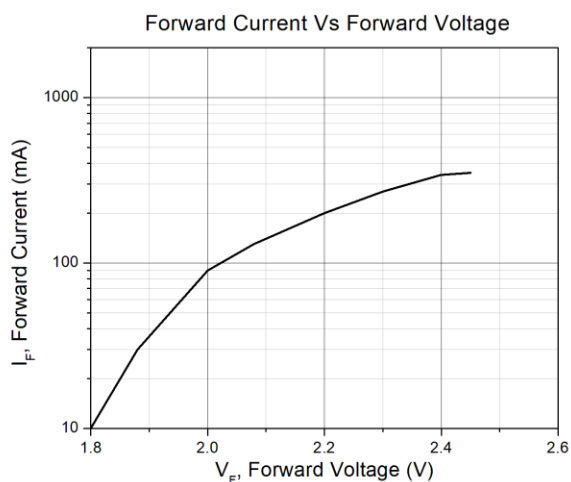


Figure 1

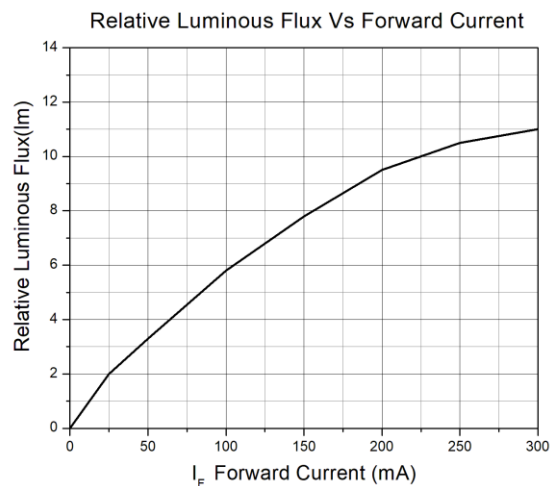


Figure 2

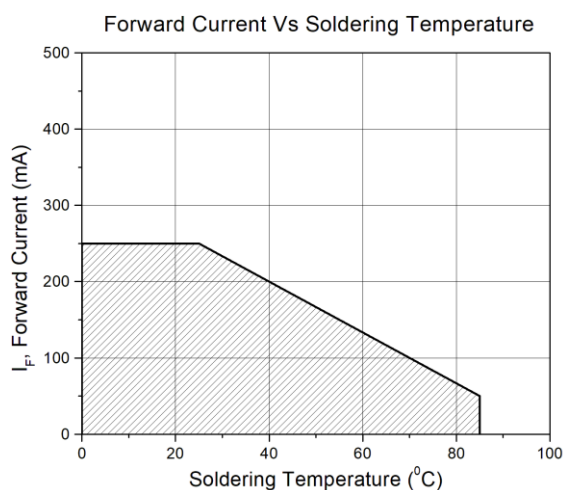


Figure 3

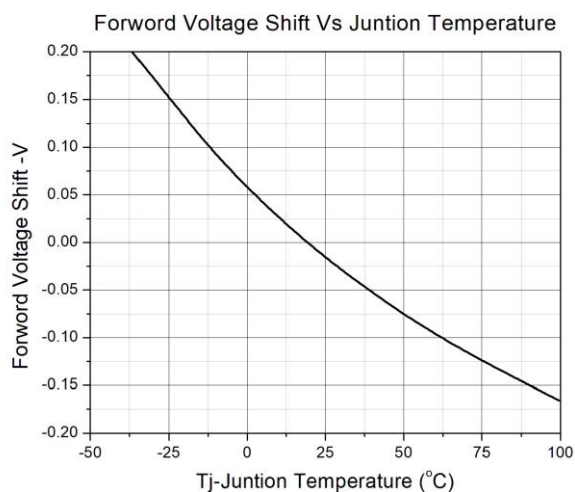


Figure 4

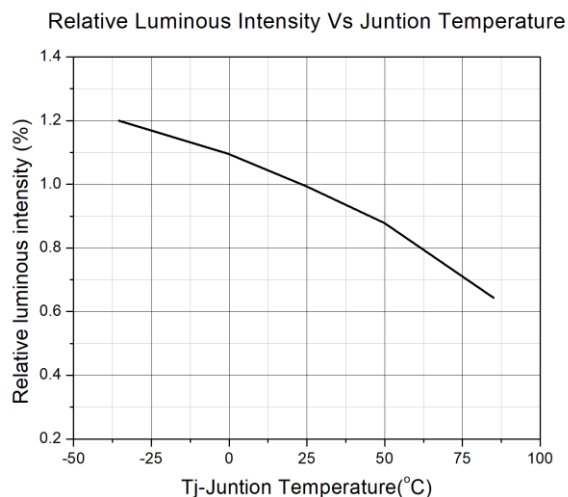


Figure 5

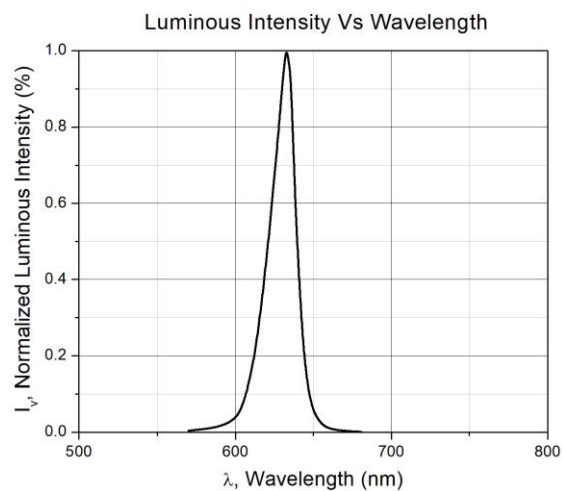
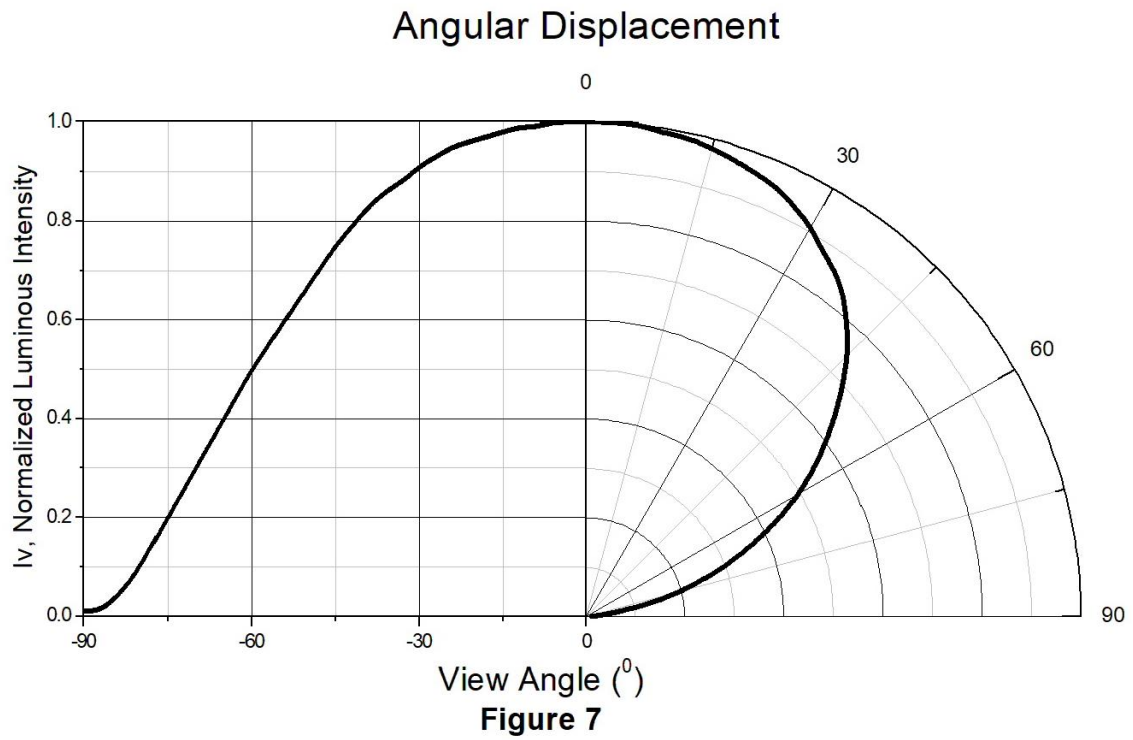


Figure 6



## Typical Characteristic Curves

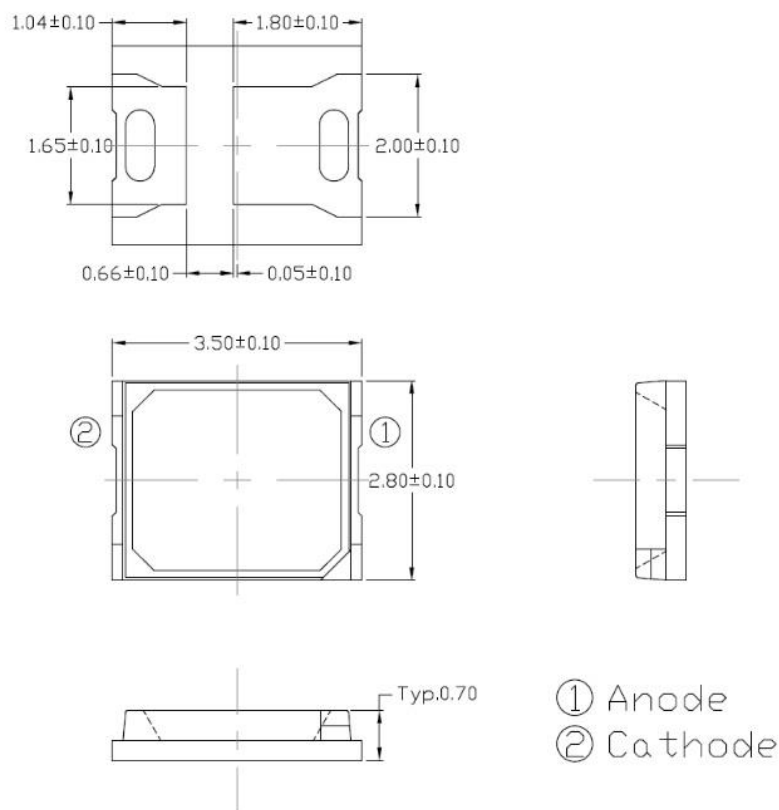




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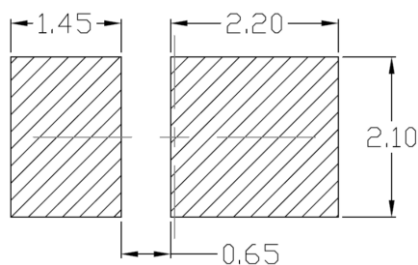
## SMD Type Red Emitter

### 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
RC283507-GTC4	Tape & Reel	4000 pcs

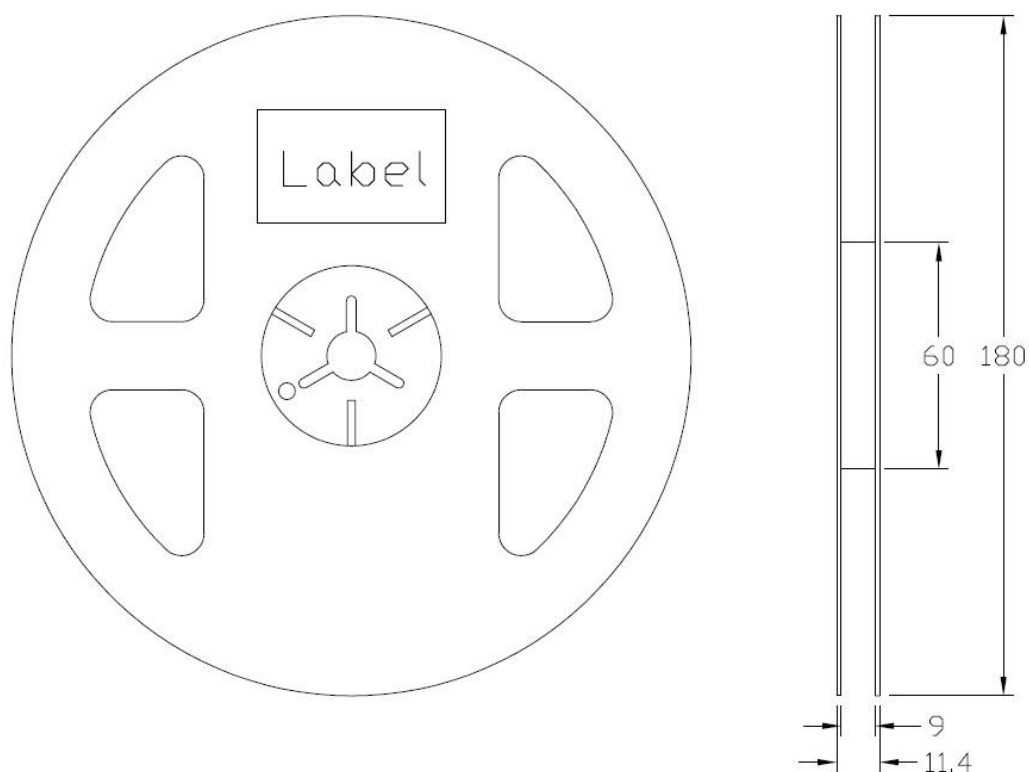


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## SMD Type Red Emitter

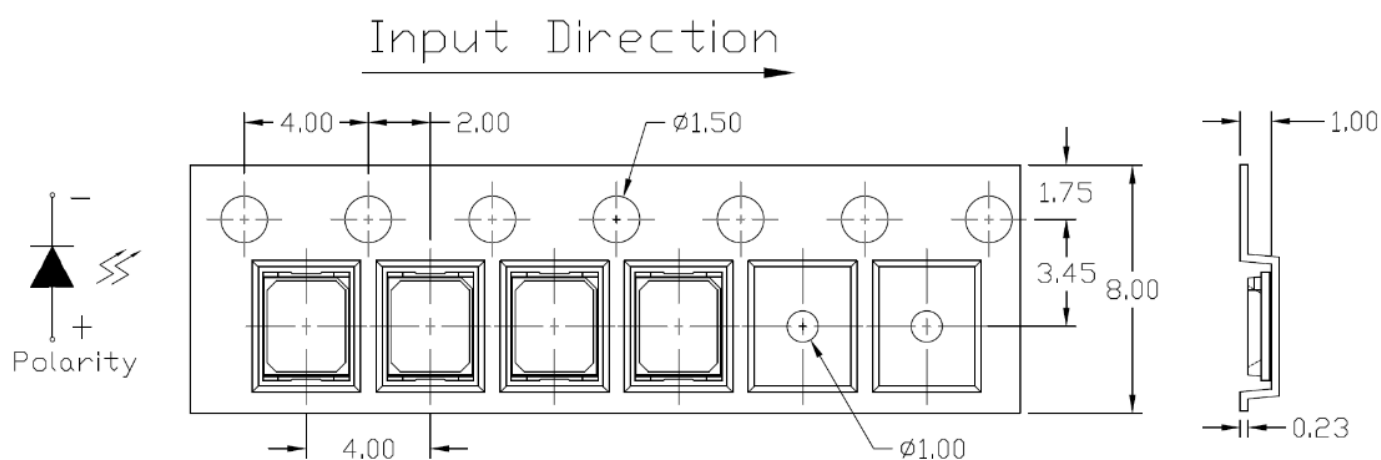
### Reel Dimension

All dimensions are in mm, unless otherwise stated



### Tape Dimension

All dimensions are in mm, unless otherwise stated



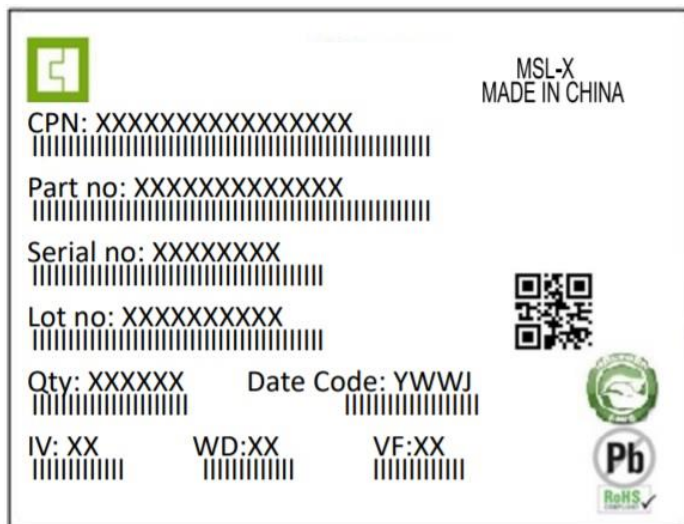
Note: Tolerance unless mentioned is  $\pm 0.1$ mm.



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## SMD Type Red Emitter

### Label Form Specification



The diagram shows a label form with various fields and a QR code. The fields are: CPN: XXXXXXXXXXXXXXXX, Part no: XXXXXXXXXXXXXXXX, Serial no: XXXXXXXX, Lot no: XXXXXXXX, Qty: XXXXXX, Date Code: YWWJ, IV: XX, WD: XX, VF: XX. The QR code is located in the center-right. The label also includes the text 'MSL-X MADE IN CHINA' and a 'Pb' symbol with 'RoHS' and a checkmark.

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 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.





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## SMD Type Red Emitter

### Reflow Profile



Profile Feature	Pb-Free Assembly Profile
Temperature Min. (T Amin)	150°C
Temperature Max. (Tsmax)	200°C
Time (ts) from (T Amin 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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