



HIRP3216Q18-C0

SMD Type 850nm Infrared Emitter

Features

- Small double-end package
- Viewing Angle = $\pm 10^\circ$
- High radiant intensity
- High reliability
- Good spectral matching to Si photo detector
- RoHS compliance

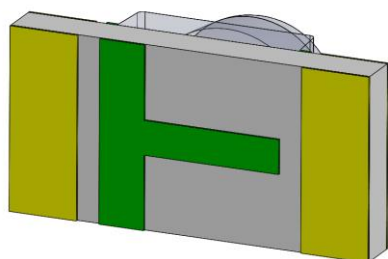
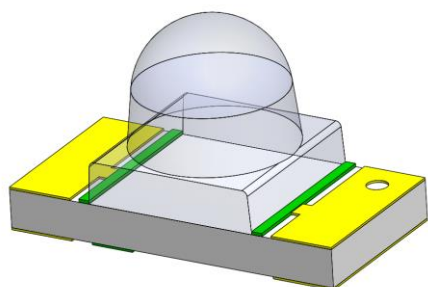
Applications

- Infrared sensor

Description

The HIRP3216Q18-C0 is a GaAlAs infrared LED housed in a miniature SMD package. The device has a peak wavelength of 850nm LED spectrally matched with phototransistor or photodiode.

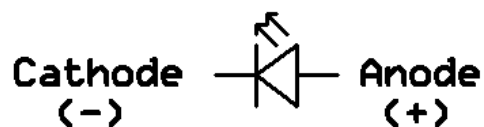
Package Outline



Cathode

Anode

Schematic





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Absolute Maximum Rating at 25°C

Symbol	Parameters	Ratings	Units	Notes
I _F	Continuous Forward Current	70	mA	
I _{FP}	Peak Forward Current	0.7	A	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	140	mW	
R _{THJA}	Junction to Ambient Thermal Resistance	540	°C/W	

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

Optical Characteristics

Symbol	Parameters	Test Conditions	Min	Typ	Max	Units	Notes
I _e	Radiant Intensity	I _F =20mA	12.5	20	-	mW/sr	-
		I _F =70mA	-	65	-		
λ _p	Peak Wavelength	I _F =20mA	830	850	870	nm	
Δλ	Spectral Bandwidth	I _F =20mA	-	30	-	nm	
θ _{1/2}	Angle of Half Intensity	I _F =20mA	-	±10	-	deg	

Electrical Characteristics

Symbol	Parameters	Test Conditions	Min	Typ	Max	Units	Notes
V _F	Forward Voltage	I _F =20mA	1.30	1.40	1.7	V	
		I _F =70mA	1.40	1.56	2.0		
I _R	Reverse Current	V _R =5V	-	-	10	μA	

Notes:

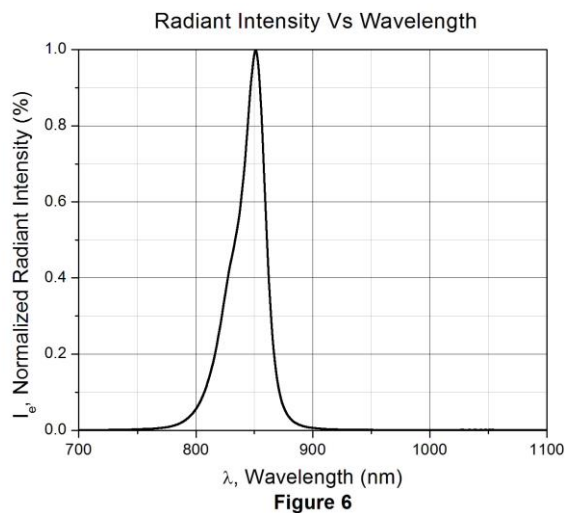
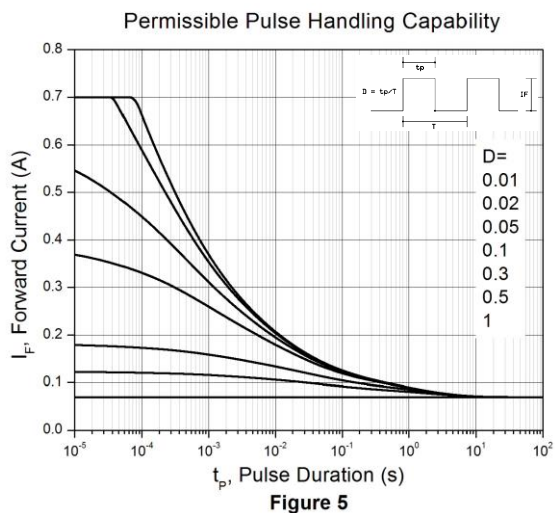
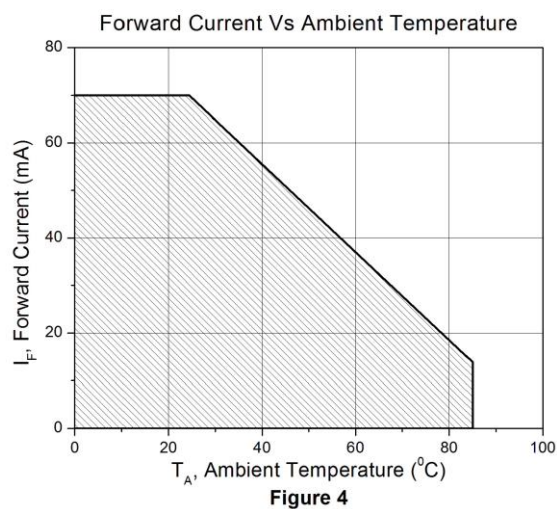
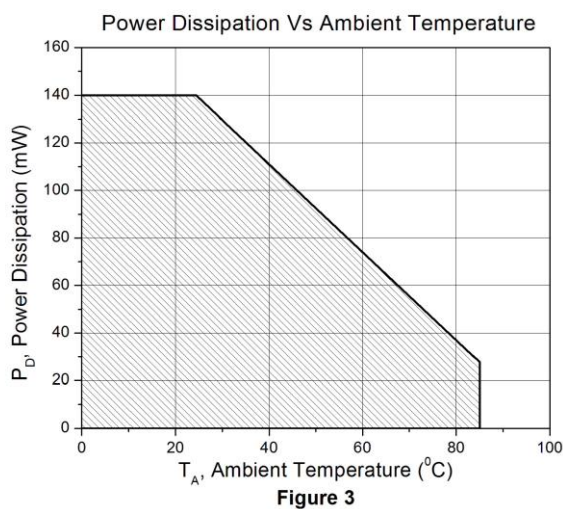
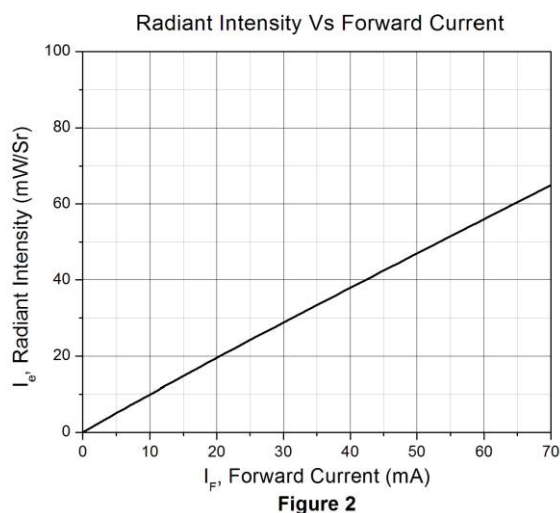
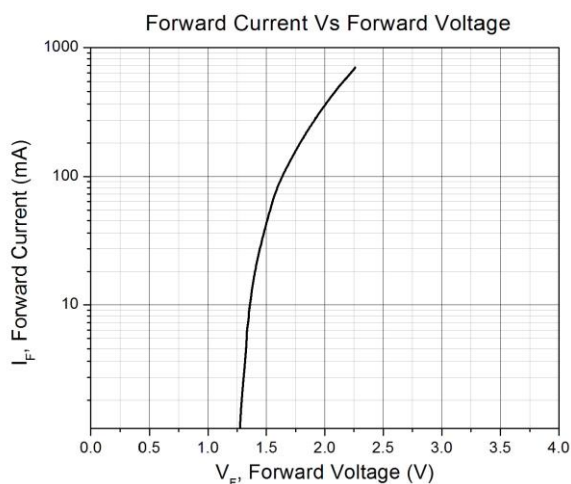
- 1 : I_{FP} Conditions--Pulse Width ≤ 100μs and Duty ≤ 1%.
- 2 : Soldering time ≤ 5 seconds.



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Typical Characteristic Curves

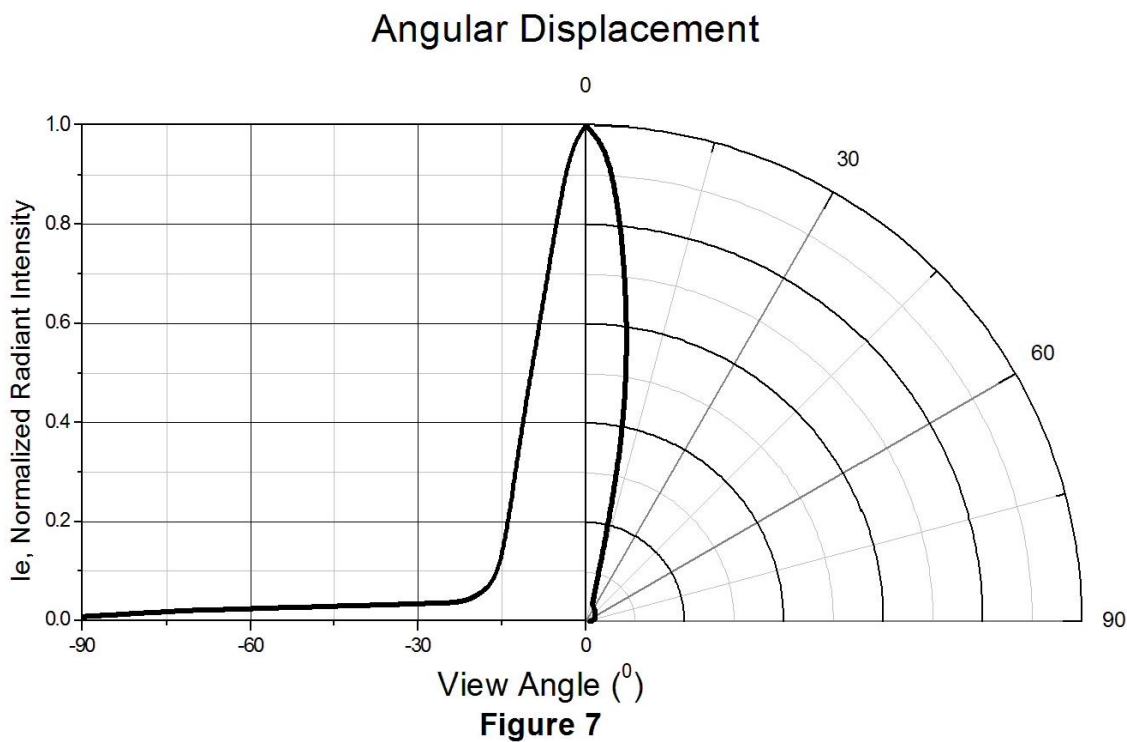




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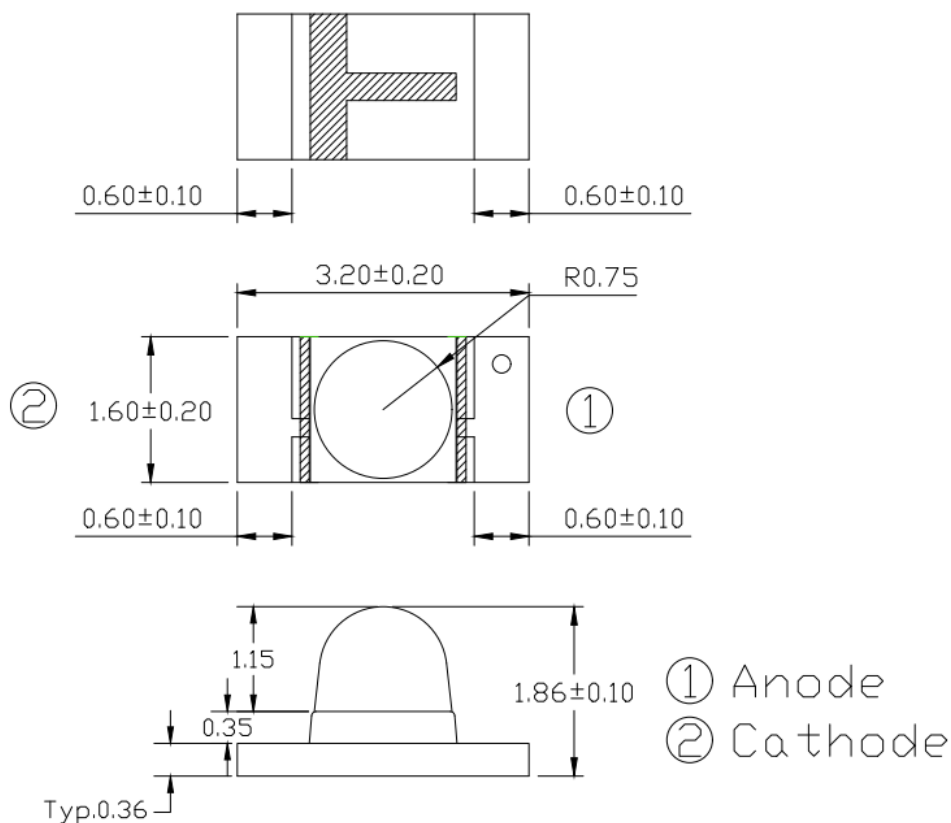
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Typical Characteristic Curves

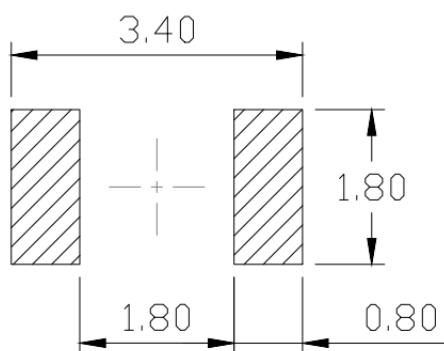




Package Dimension *All dimensions are in mm, unless otherwise stated*



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

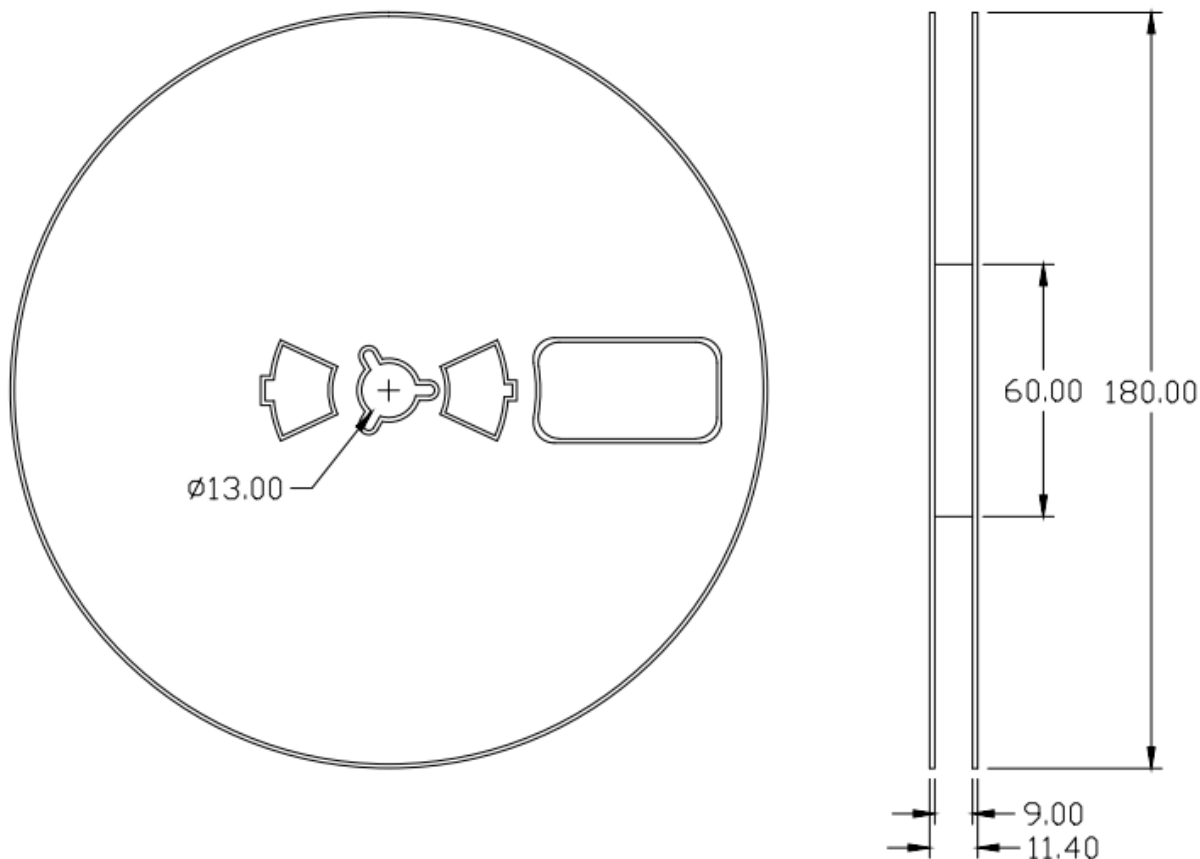


Ordering Information

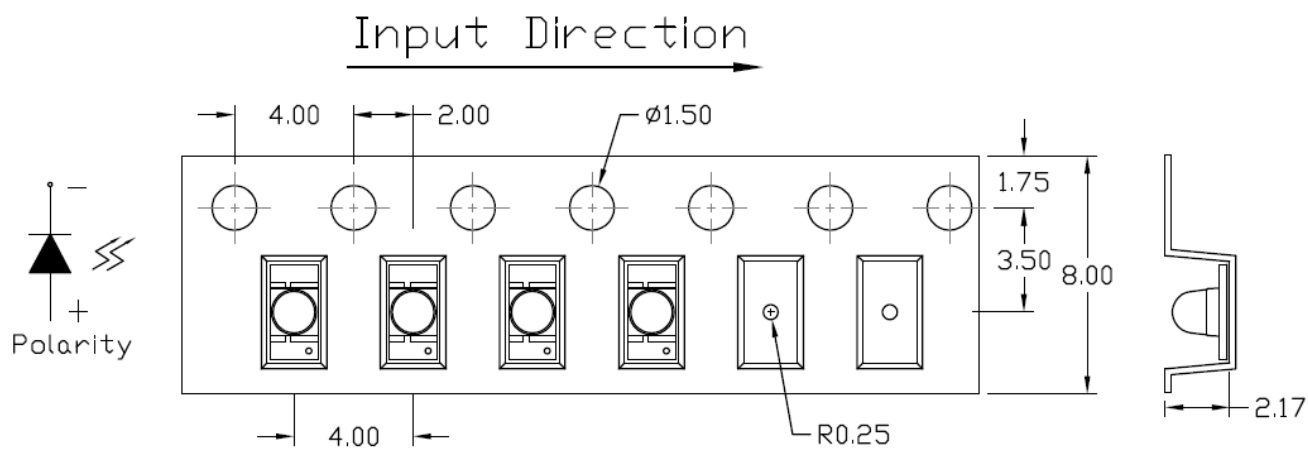
Part Number	Description	Quantity
HIRP3216Q18-C0	Tape & Reel	2000 pcs



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

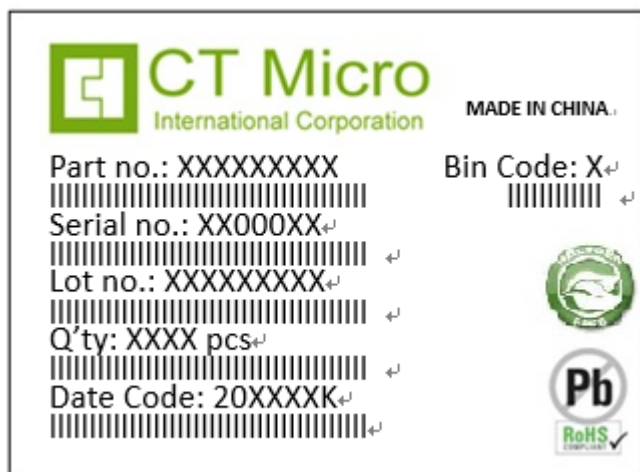


Tape Dimension *All dimensions are in mm, unless otherwise stated*





Label Form Specification



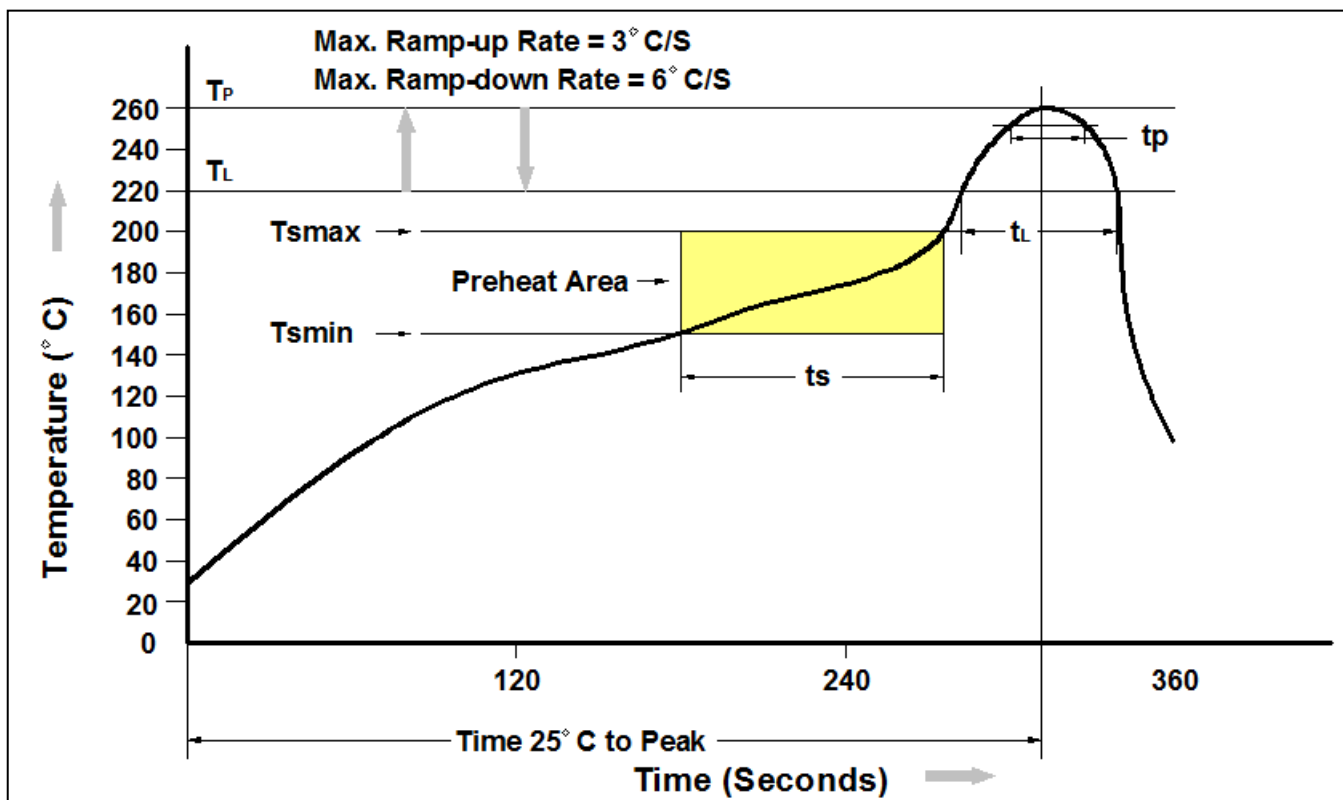
Part no: CTM Production Number
 Serial no: Production Number
 Lot no: Lot number
 Q'ty: Packing Quantity
 Date Code: Manufacture Date
 Bin Code: 1e Ranks
 MADE IN CHINA: Production Place

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. (Tsmin)	150°C
Temperature Max. (Tsmax)	200°C
Time (ts) from (Tsmin 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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