



HIRP3010Q20-B30

SMD Type 850nm Infrared Emitter

Features

- Small double-end package
- Viewing Angle at X axis (Note3) = $\pm 65^\circ$
- High reliability
- Good spectral matching to Si photo detector
- RoHS compliance

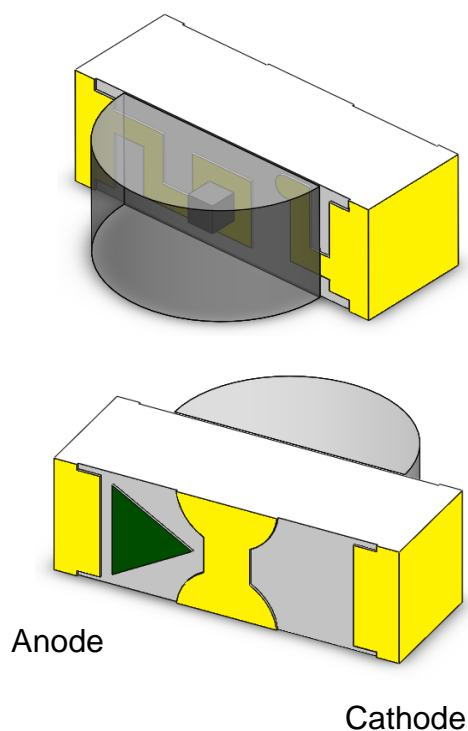
Applications

- Infrared sensor
- Light barrier
- Infrared Touch Panel Solutions

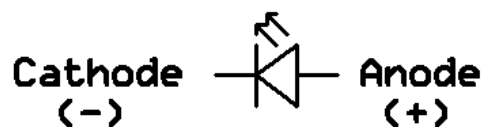
Description

The HIRP3010Q20-B30 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



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	

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

Optical Characteristics

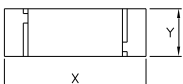
Symbol	Parameters	Test Conditions	Min	Typ	Max	Units	Notes
I _e	Radiant Intensity	I _F =20mA	1.0	2.1	-	mW/sr	
		I _F =70mA	-	6.0	-		
λ _p	Peak Wavelength	I _F =20mA	830	850	870	nm	
Δλ	Spectral Bandwidth	I _F =20mA	-	30	-	nm	
θ _{1/2}	Angle of Half Intensity (X)	I _F =20mA	-	±65	-	deg	3
	Angle of Half Intensity (Y)		-	±65	-		

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.
- 3 : Test condition :





Typical Characteristic Curves

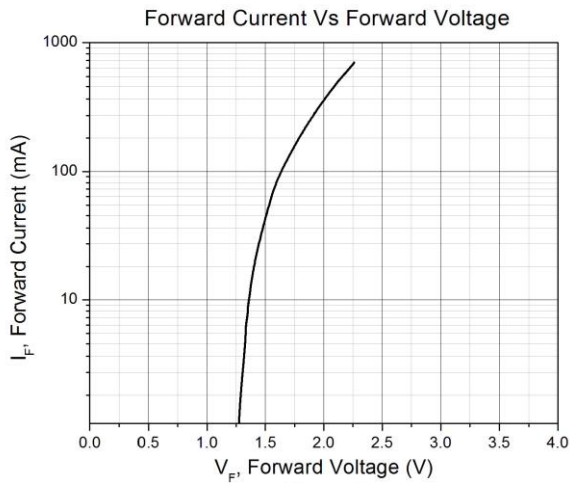


Figure 1

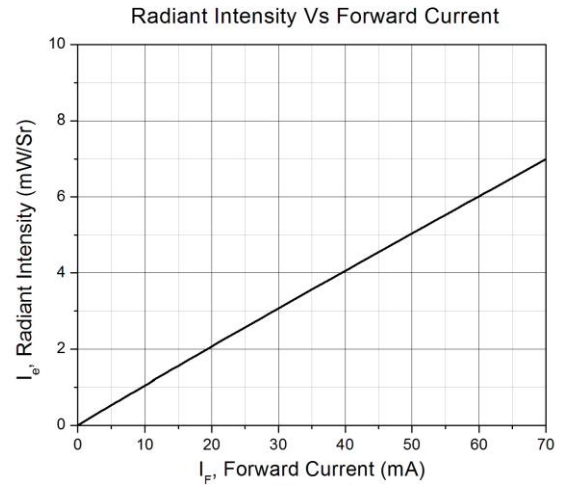


Figure 2

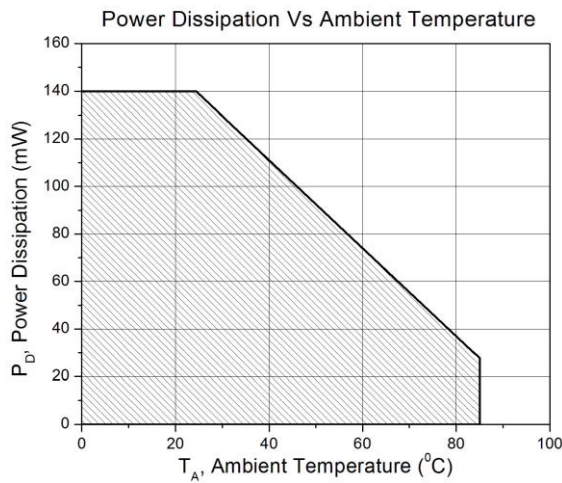


Figure 3

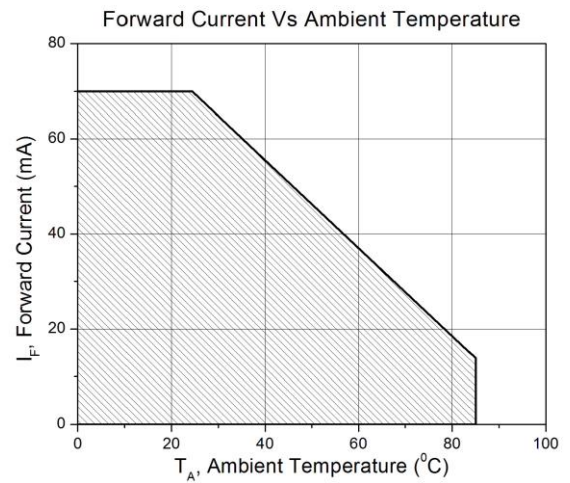


Figure 4

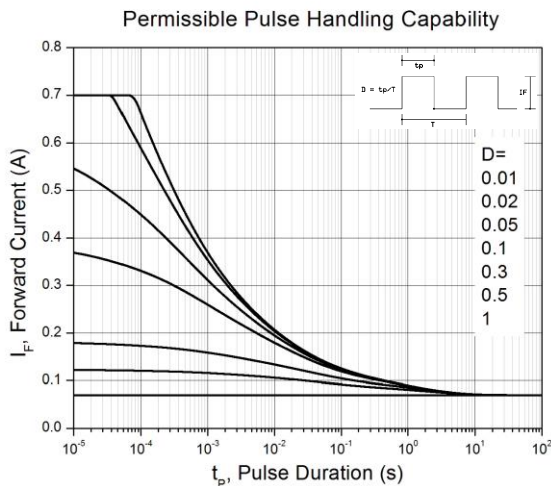


Figure 5

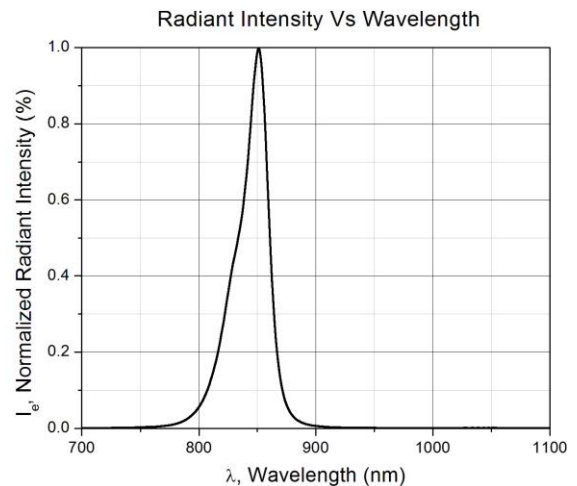


Figure 6



Typical Characteristic Curves

Angular Displacement at X axis

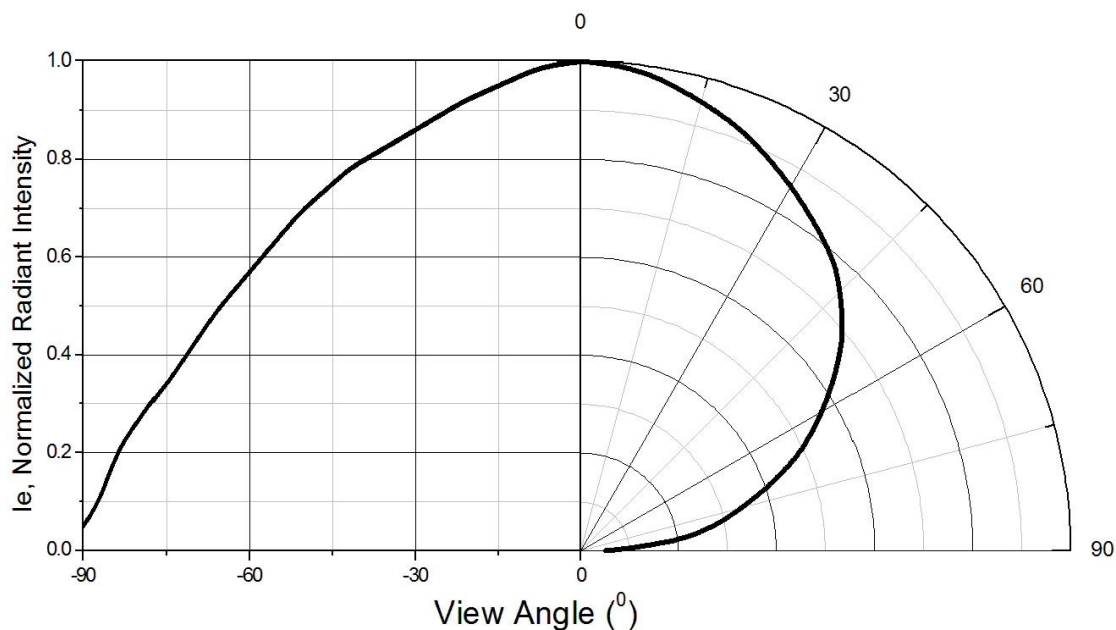


Figure 7

Angular Displacement at Y axis

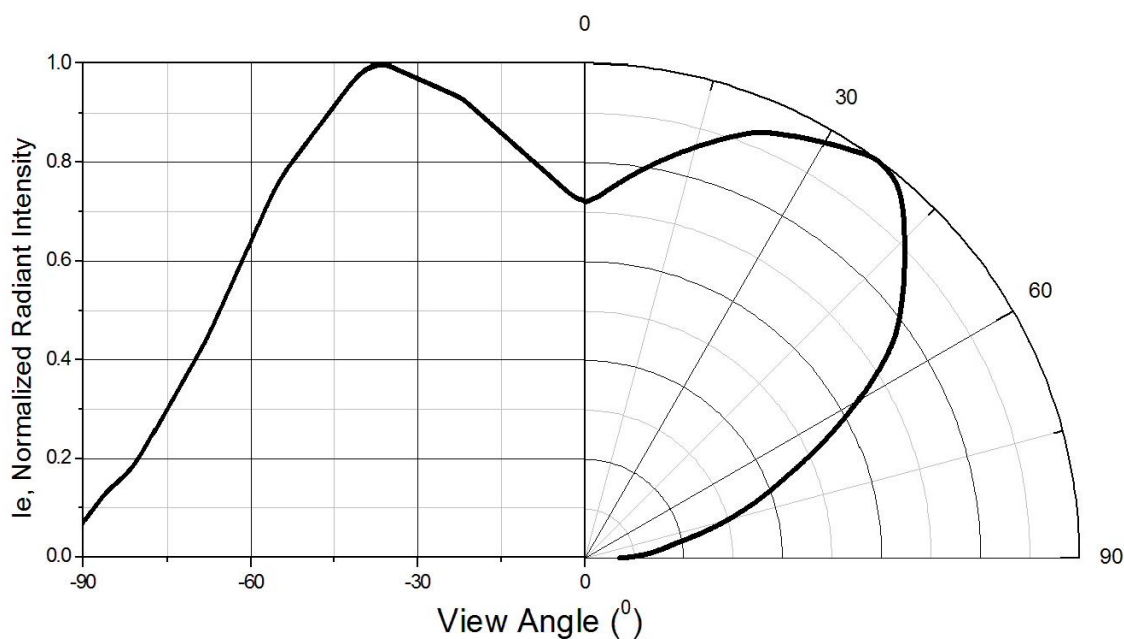


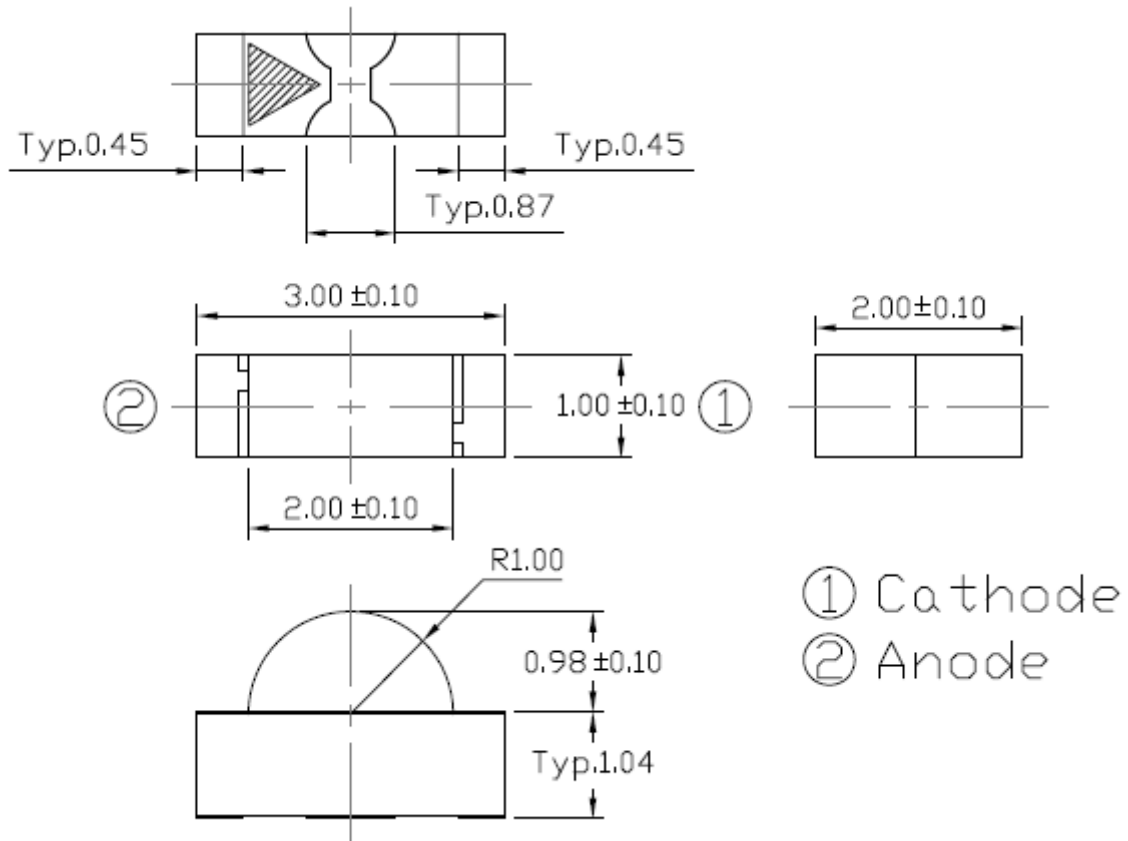
Figure 8



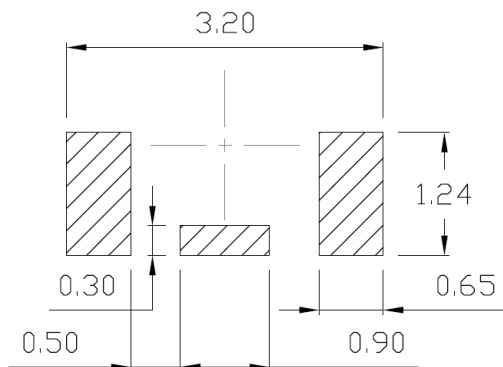
HIRP3010Q20-B30

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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

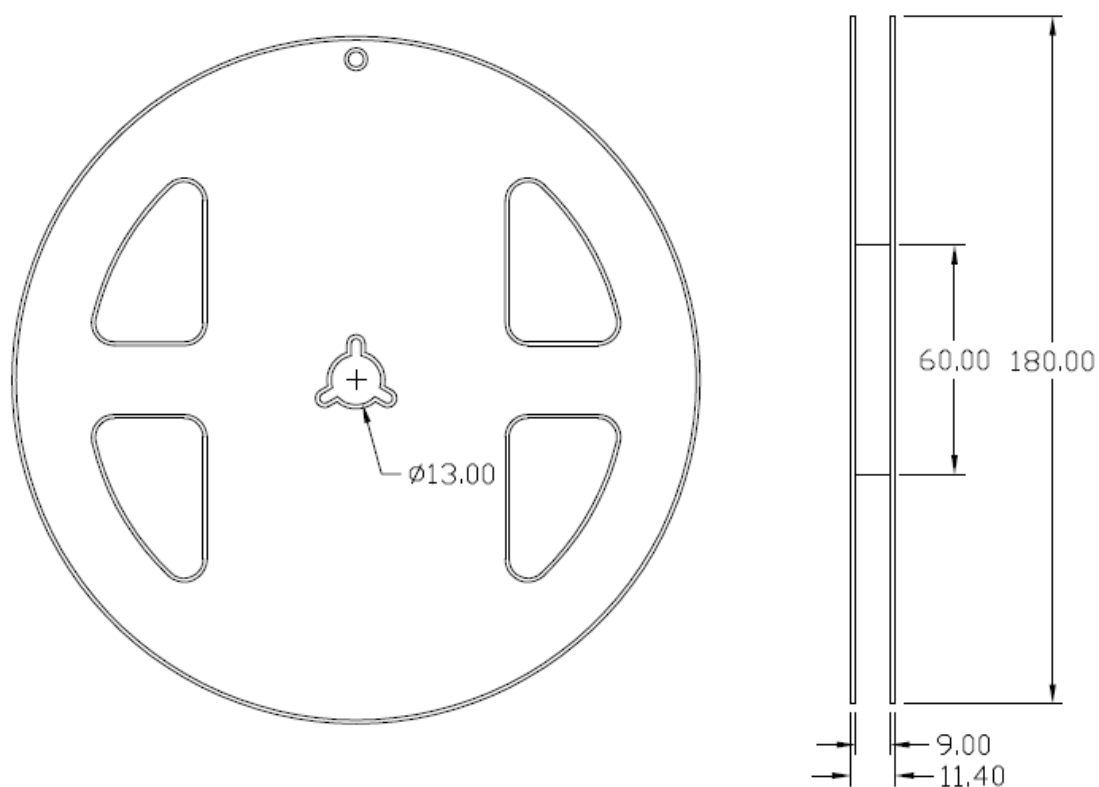
Part Number	Description	Quantity
HIRP3010Q20-B30	Tape & Reel	3000 pcs



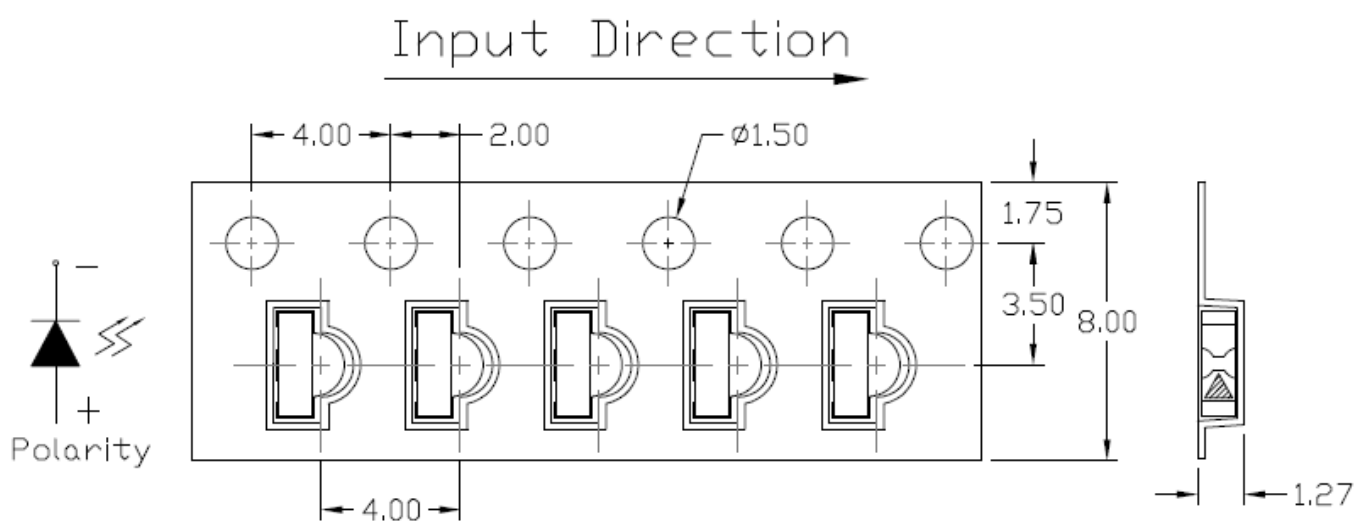
HIRP3010Q20-B30

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

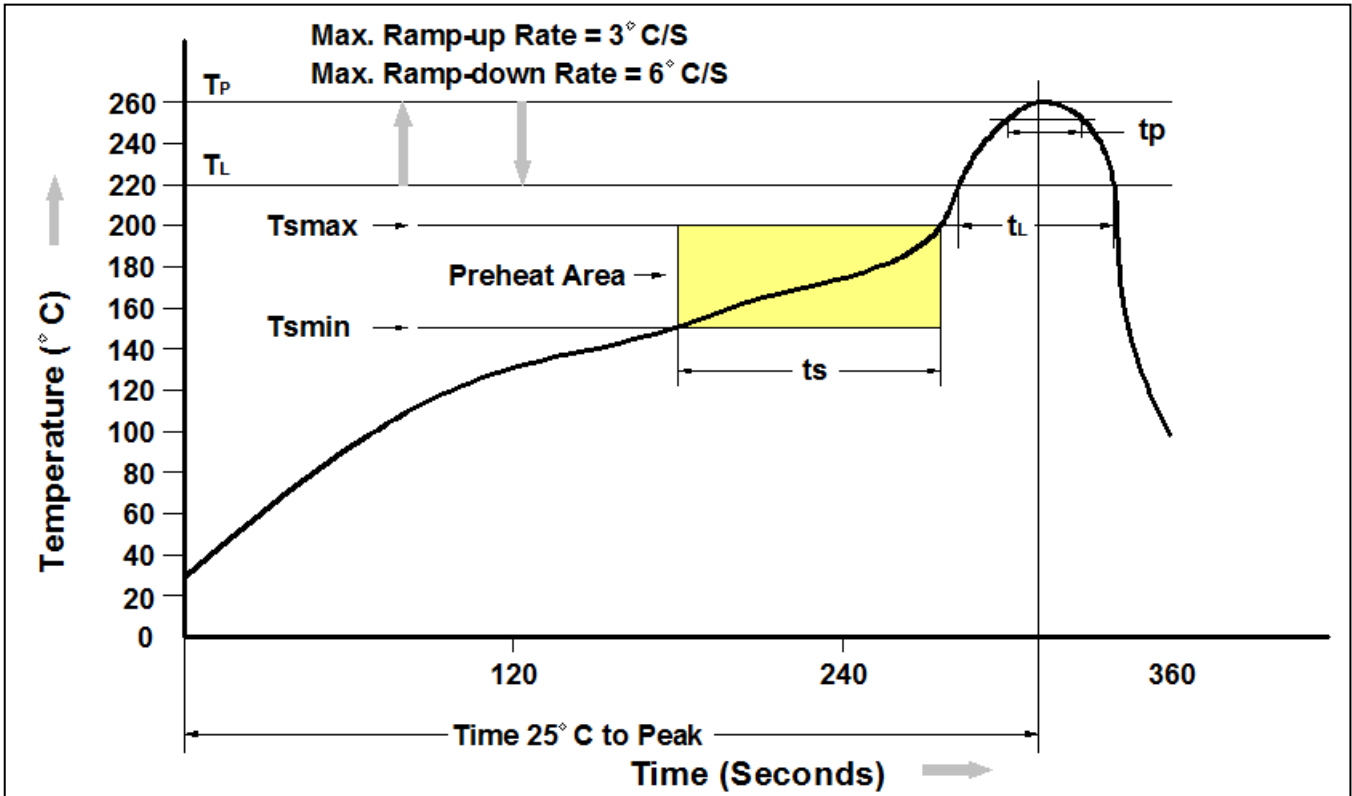


Tape Dimension *All dimensions are in mm, unless otherwise stated*





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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