



## IRP1608XA09-H5

### SMD Type 915nm Infrared Emitter

#### Features

Small double-end package

- Viewing Angle =  $\pm 37.5^\circ$
- High reliability
- Good spectral matching to Si photo detector
- RoHS compliance

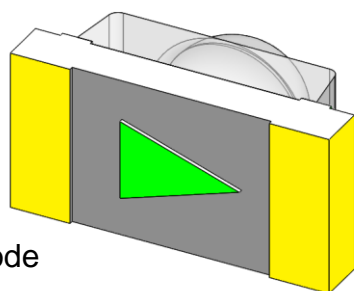
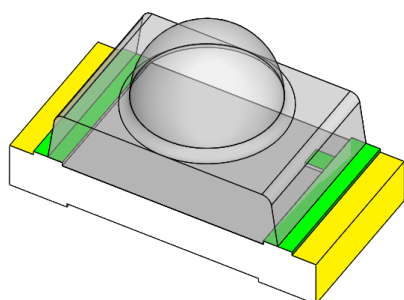
#### Applications

- Infrared sensor

#### Description

The IRP1608XA09-H5 is a GaAlAs infrared LED housed in a miniature SMD package. The device has a peak wavelength of 915nm LED spectrally matched with phototransistor or photodiode.

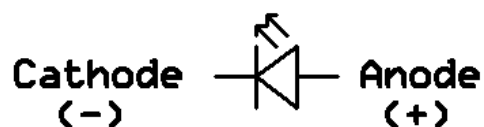
#### Package Outline



Cathode

Anode

#### Schematic





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### Absolute Maximum Rating at 25°C

Symbol	Parameters	Ratings	Units	Notes
I <sub>F</sub>	Continuous Forward Current	70	mA	
I <sub>FP</sub>	Peak Forward Current	1	A	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	126	mW	

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

#### Optical Characteristics

Symbol	Parameters	Test Conditions	Min	Typ	Max	Units	Notes
I <sub>e</sub>	Radiant Intensity	I <sub>F</sub> =20mA	2.5	4.5	-	mW/sr	
		I <sub>F</sub> =70mA	-	15	-		
λ <sub>p</sub>	Peak Wavelength	I <sub>F</sub> =20mA	-	915	-	nm	
Δλ	Spectral Bandwidth	I <sub>F</sub> =20mA	-	25	-	nm	
θ <sub>1/2</sub>	Angle of Half Intensity	I <sub>F</sub> =20mA	-	±37.5	-	deg	

#### Electrical Characteristics

Symbol	Parameters	Test Conditions	Min	Typ	Max	Units	Notes
V <sub>F</sub>	Forward Voltage	I <sub>F</sub> =20mA	1.15	1.30	1.5	V	
		I <sub>F</sub> =70mA	1.25	1.45	1.8		
I <sub>R</sub>	Reverse Current	V <sub>R</sub> =5V	-	-	10	μA	

#### Notes:

1. I<sub>FP</sub> Conditions--Pulse Width≤100μs and Duty≤1%.
2. Soldering time≤5 seconds.



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### Typical Characteristic Curves

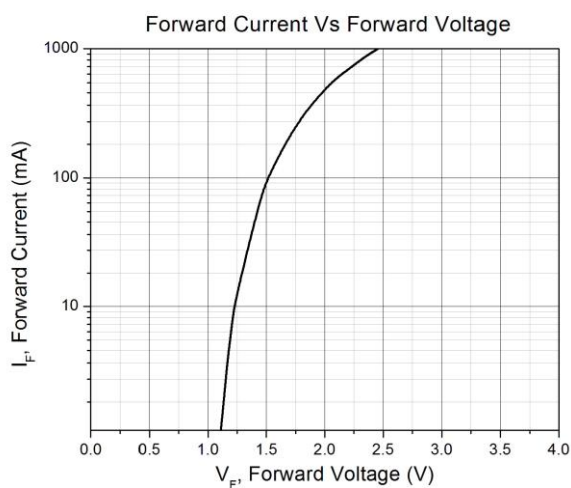


Figure 1

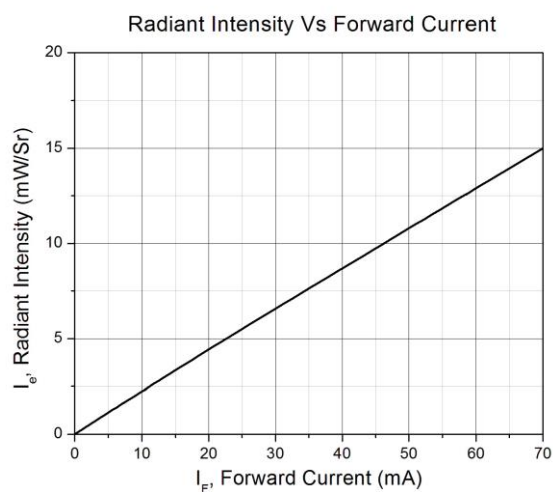


Figure 2

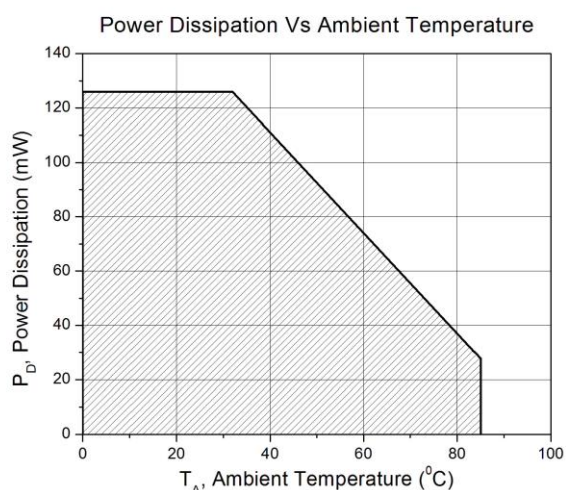


Figure 3

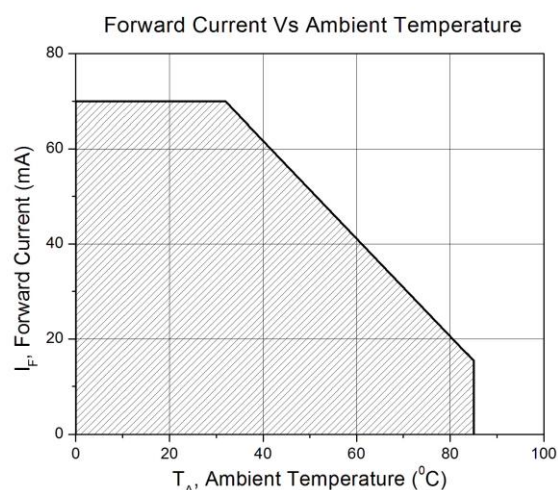


Figure 4

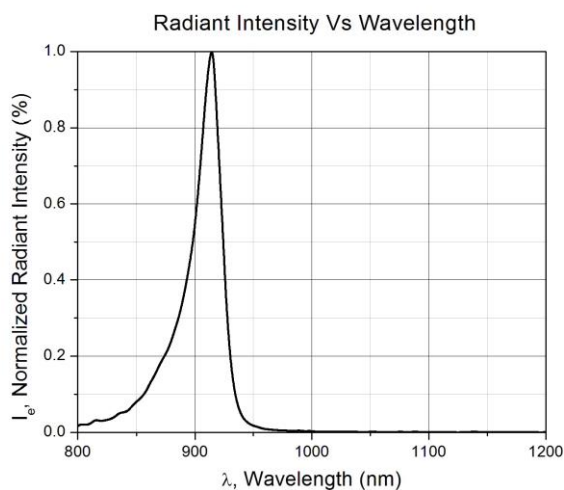
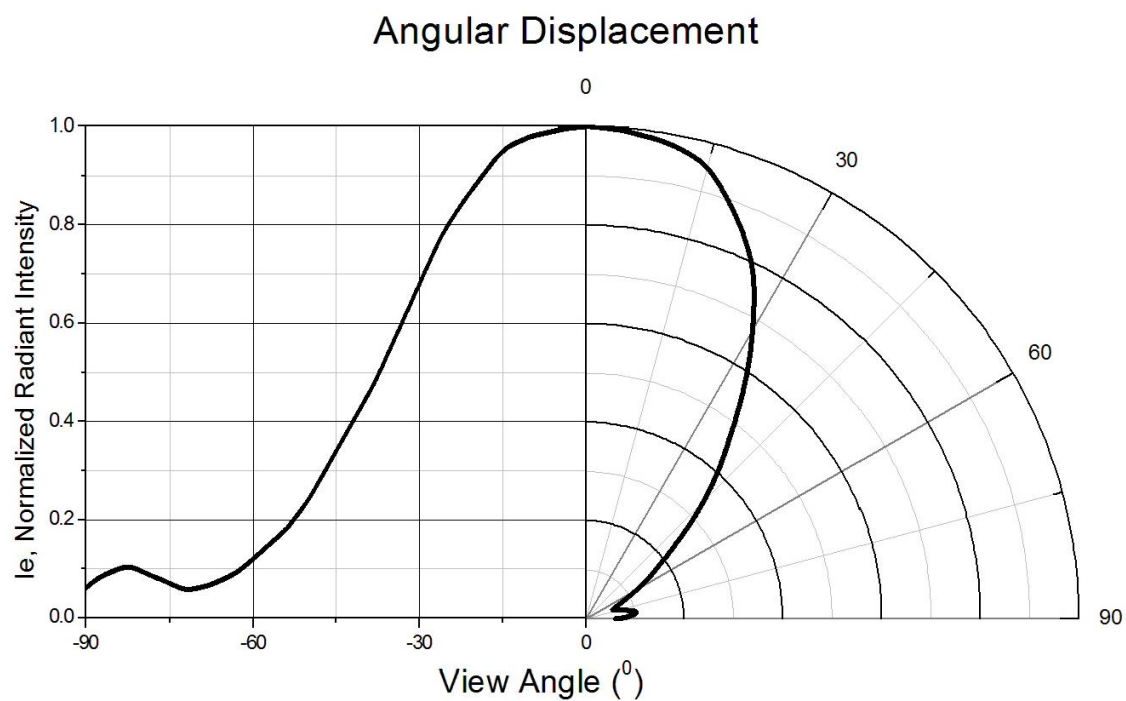


Figure 5



## Typical Characteristic Curves

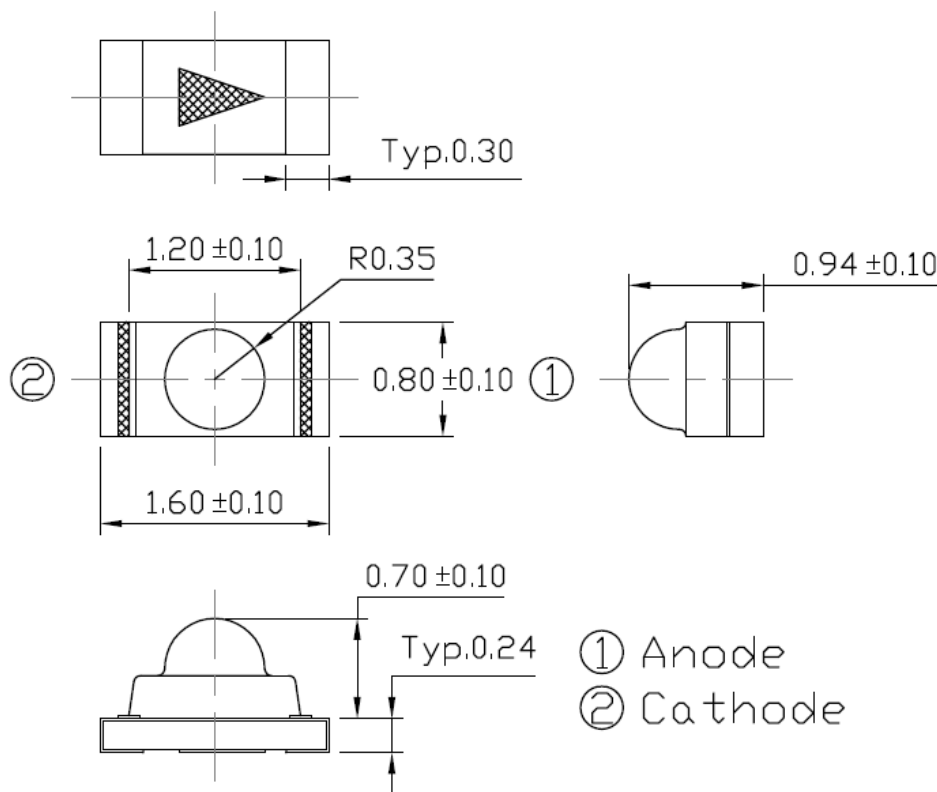




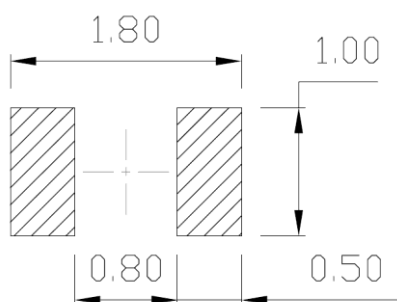
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## SMD Type 915nm Infrared Emitter

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



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



### Ordering Information

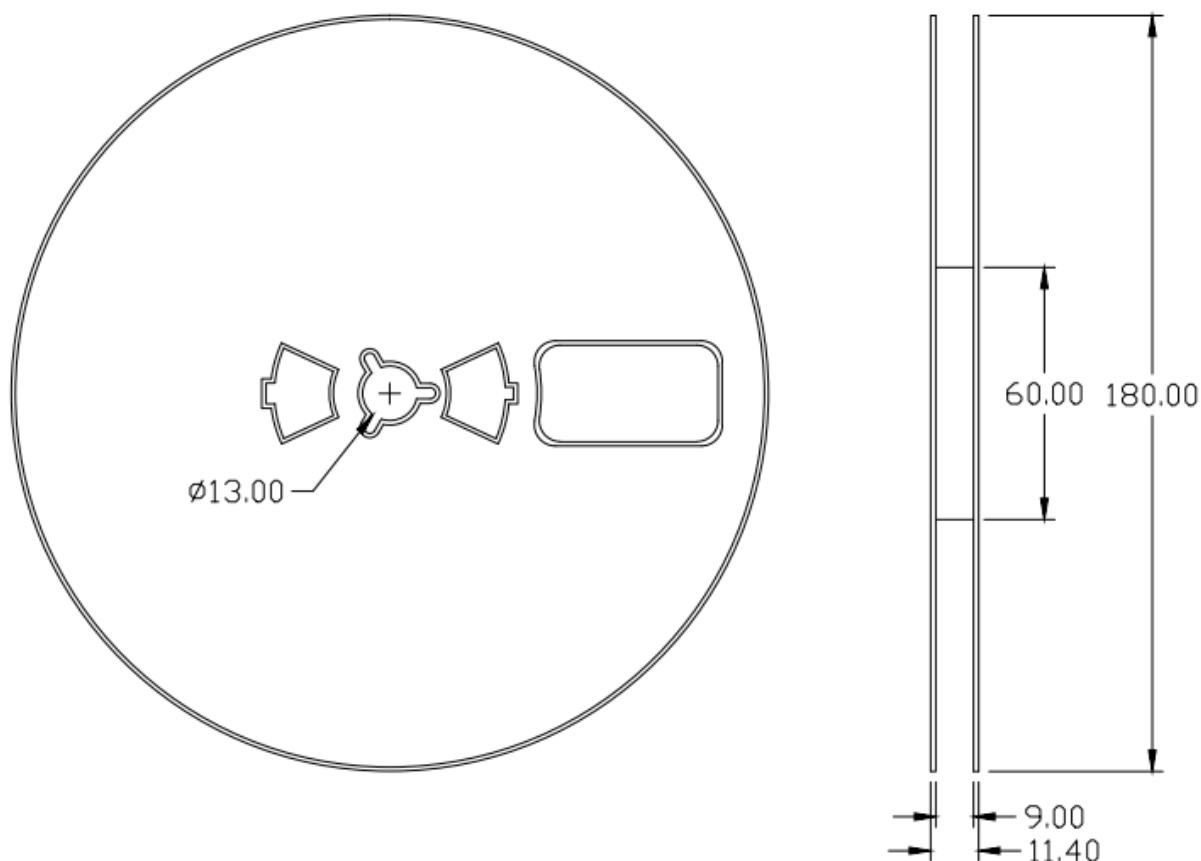
Part Number	Description	Quantity
IRP1608XA09-H5	Tape & Reel	4000 pcs



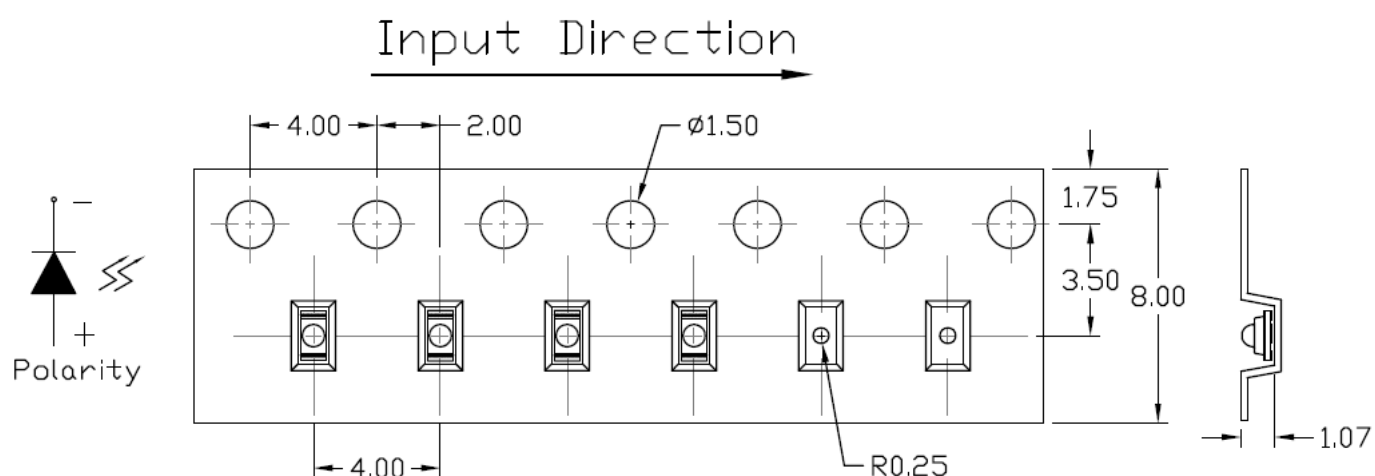
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## SMD Type 915nm Infrared Emitter

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



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





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## SMD Type 915nm Infrared Emitter

### Label Form Specification

CT Micro  
International Corporation

MADE IN CHINA

Part no.: XXXXXXXXX  
Serial no.: XX000XX  
Lot no.: XXXXXXXXX  
Q'ty: XXXX pcs  
Date Code: 20XXXXX

Bin Code: X

RoHS  
Pb-free

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

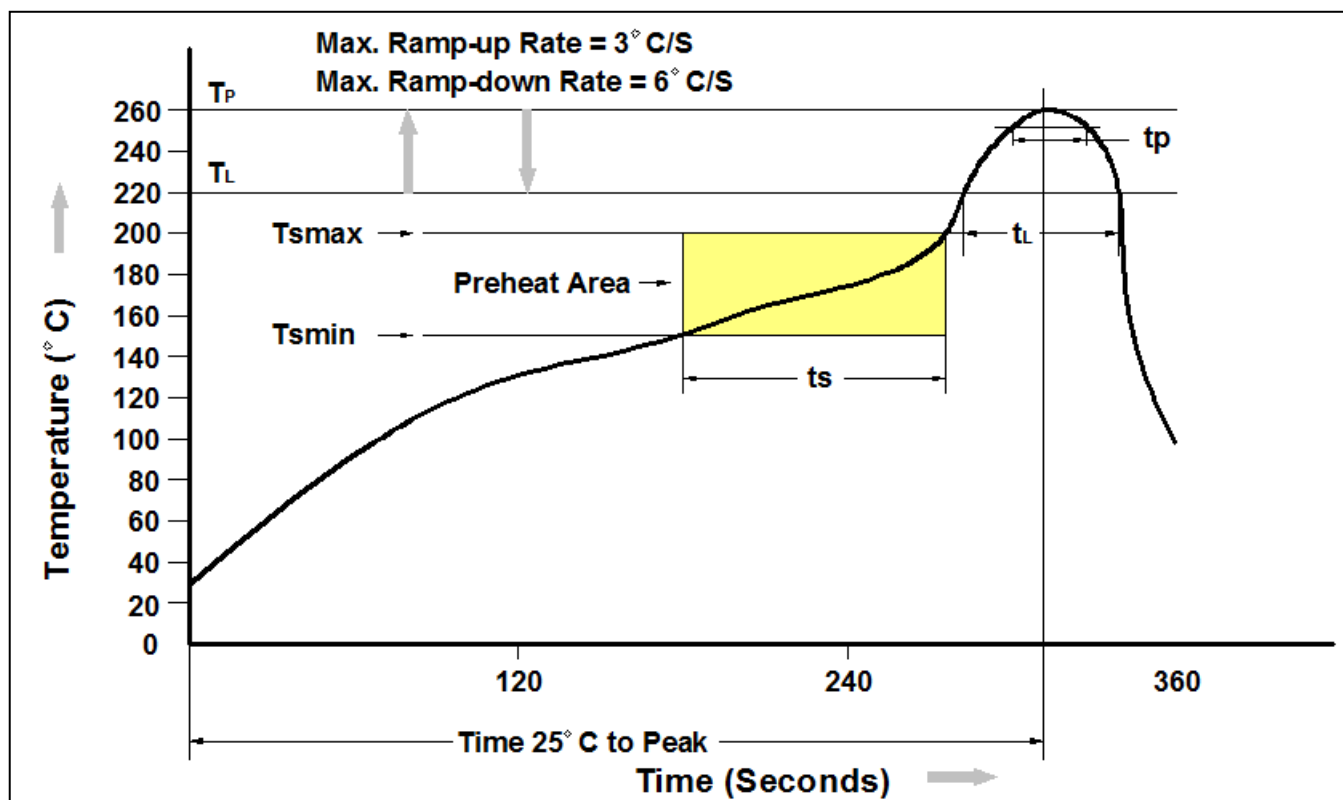
MADE IN CHINA: Production Place

### 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 (t <sub>L</sub> to t <sub>P</sub> )	3°C/second max.
Liquidous Temperature (T <sub>L</sub> )	217°C
Time (t <sub>L</sub> ) Maintained Above (T <sub>L</sub> )	60 – 150 seconds
Peak Body Package Temperature	260°C +0°C / -5°C
Time (t <sub>P</sub> ) within 5°C of 260°C	30 seconds
Ramp-down Rate (T <sub>P</sub> to T <sub>L</sub> )	6°C/second max
Time 25°C to Peak Temperature	8 minutes max.





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