

T-1 3/4 (5mm) INFRARED EMITTING DIODE

Part Number: WP7113F3C

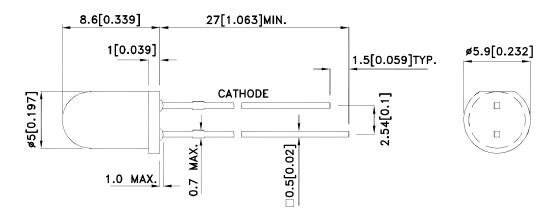
Features

- Mechanically and spectrally matched to the phototransistor.
- RoHS compliant.

Description

F3 Made with Gallium Arsenide Infrared Emitting diodes.

Package Dimensions



- 1. All dimensions are in millimeters (inches).
- 2. Tolerance is $\pm 0.25(0.01")$ unless otherwise noted.
- Lead spacing is measured where the leads emerge from the package.
 The specifications, characteristics and technical data described in the datasheet are subject to change without prior notice.

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Selection Guide

Part No.	Dice	Lens Type	Po (mW/sr) [2] @ 20mA *50mA		Viewing Angle [1]
			Min.	Тур.	201/2
WP7113F3C	F3 (GaAs)	Water Clear	15	30	- 20°
			*55	*100	

Notes:

- 1. 01/2 is the angle from optical centerline where the luminous intensity is 1/2 of the optical peak value. 2. * Luminous intensity with asterisk is measured at 50mA;Radiant Intensity/ luminous flux: +/-15%.

Electrical / Optical Characteristics at TA=25°C

Parameter	P/N	Symbol	Тур.	Max.	Units	Test Conditions	
Forward Voltage [1]	F3	VF	1.2	1.6	V	IF=20mA	
Reverse Current	F3	lr		10	uA	V _R = 5V	
Capacitance	F3	С	90		pF	VF=0V;f=1MHz	
Peak Spectral Wavelength	F3	λP	940		nm	nm IF=20mA	
Spectral Bandwidth	F3	Δλ1/2	50		nm	IF=20mA	

Note:

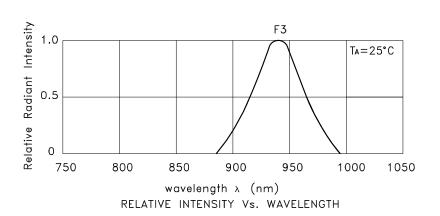
Absolute Maximum Ratings at TA=25°C

Parameter	Symbol	F3	Units		
Power dissipation	Po	80	mW		
DC Forward Current	lF	50	mA		
Peak Forward Current [1]	iFS	1.2	Α		
Reverse Voltage	VR	5	V		
Operating Temperature	Та	-40 To +85	°C		
Storage Temperature	Тѕтс	-40 To +85	°C		
Lead Solder Temperature [2]	260°C For 3 Seconds				
Lead Solder Temperature [3]	260°C For 5 Seconds				

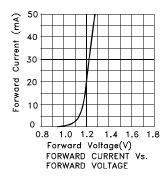
- Notes: 1. 1/100 Duty Cycle, 10µs Pulse Width. 2. 2mm below package base. 3. 5mm below package base.

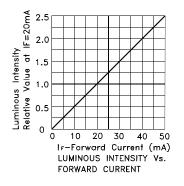
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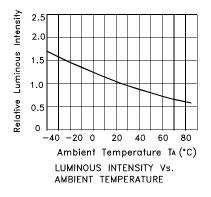
^{1.} Forward Voltage: +/-0.1V.

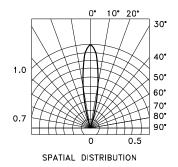


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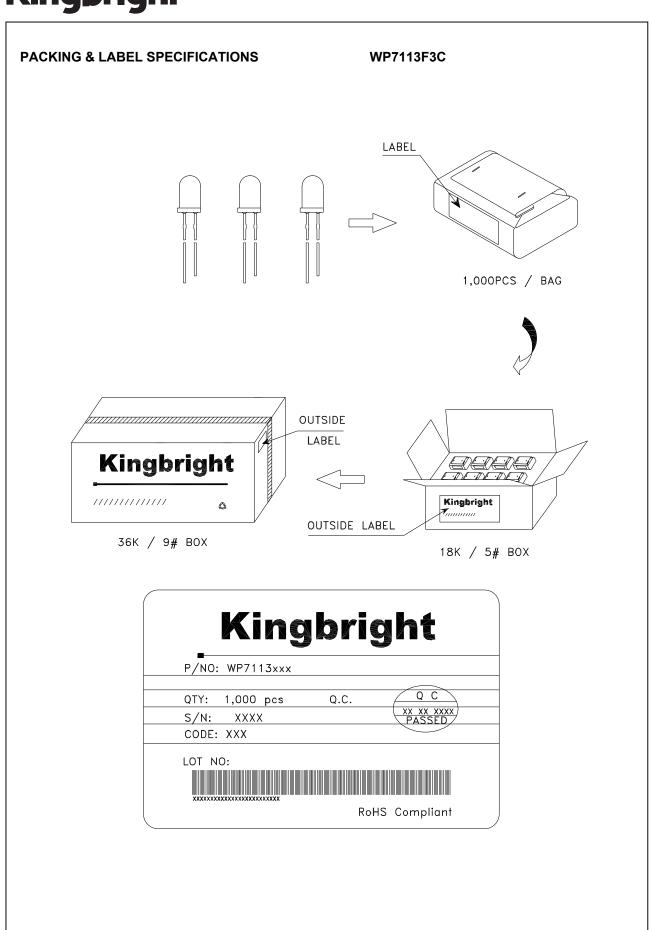






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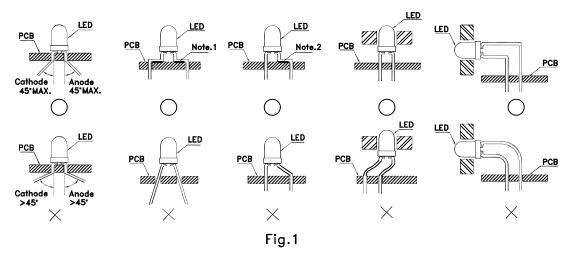
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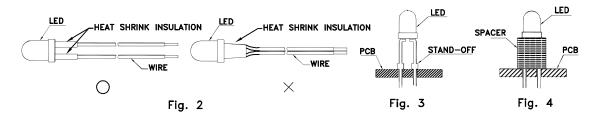
PRECAUTIONS

1. The lead pitch of the LED must match the pitch of the mounting holes on the PCB during component placement. Lead—forming may be required to insure the lead pitch matches the hole pitch. Refer to the figure below for proper lead forming procedures. (Fig. 1)



"() " Correct mounting method "imes" Incorrect mounting method

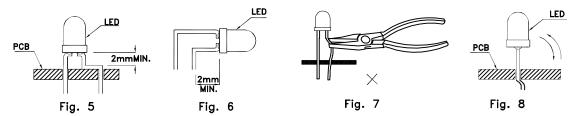
- 2. When soldering wire to the LED, use individual heat—shrink tubing to insulate the exposed leads to prevent accidental contact short—circuit. (Fig.2)
- 3.Use stand—offs (Fig.3) or spacers (Fig.4) to securely position the LED above the PCB.



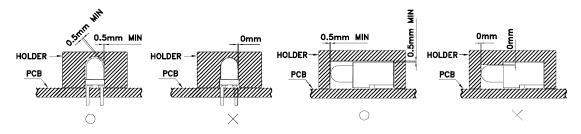
- 4. Maintain a minimum of 2mm clearance between the base of the LED lens and the first lead bend. (Fig. 5 and 6)
- 5. During lead forming, use tools or jigs to hold the leads securely so that the bending force will not be transmitted to the LED lens and its internal structures. Do not perform lead forming once the component has been mounted onto the PCB. (Fig. 7)

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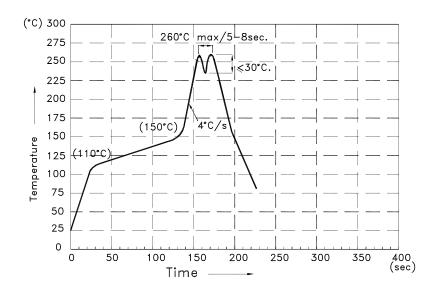
6. Do not bend the leads more than twice. (Fig. 8)



7. During soldering, component covers and holders should leave clearance to avoid placing damaging stress on the LED during soldering.



- 8. The tip of the soldering iron should never touch the lens epoxy.
- 9. Through—hole LEDs are incompatible with reflow soldering.
- 10. If the LED will undergo multiple soldering passes or face other processes where the part may be subjected to intense heat, please check with Kingbright for compatibility.
- 11. Recommended Wave Soldering Profile for Kingbright Thru-Hole Products



NOTES:

- 1.Recommend the wave temperature 245°C \sim 260°C.The maximum soldering temperature should be less than 260°C.
- 2.Do not apply stress on epoxy resins when temperature is over $85^{\circ}\text{C}.$
- 3. The soldering profile apply to the lead free soldering (Sn/Cu/Ag alloy).
- 4.During wave soldering, the PCB top-surface temperature should be kept below 105°C.
- 5.No more than once.

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