

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

Part Number: L-7113SF7BT

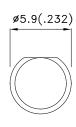
Features

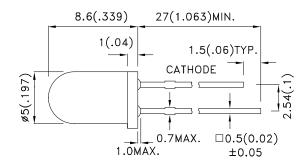
- MECHANICALLY AND SPECTRALLY MATCHED TO THE PHOTOTRANSISTOR.
- BLUE TRANSPARENT LENS
- RoHS COMPLIANT.

Description

SF7 Made with Gallium Aluminum 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.
 Specifications are subject to change without 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
L-7113SF7BT	SF7 (GaAlAs)	BLUE TRANSPAR- ENT	10	40	20°
			*50	*100	

- 1. θ 1/2 is the angle from optical centerline where the luminous intensity is 1/2 the optical centerline 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]	SF7	VF	1.4	1.6	V	IF=20mA
Reverse Current	SF7	lr		10	uA	VR = 5V
Capacitance	SF7	С	30		pF	VF=0V;f=1MHz
Peak Spectral Wavelength	SF7	λР	850		nm	IF=20mA
Spectral Bandwidth	SF7	Δλ1/2	50		nm	IF=20mA

1. Forward Voltage: +/-0.1V.

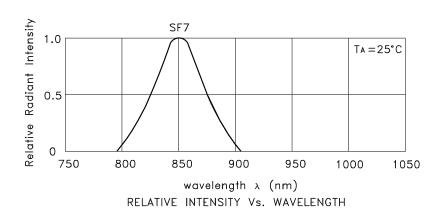
Absolute Maximum Ratings at TA=25°C

Parameter	Symbol	SF7	Units	
Power dissipation	Рт	80	mW	
DC Forward Current	lF	50	mA	
Peak Forward Current [1]	irs	1	А	
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			

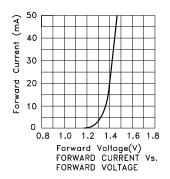
Notes:

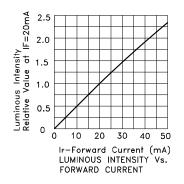
- 1. 1/100 Duty Cycle, 10µs Pulse Width. 2. 2mm below package base. 3. 5mm below package base.

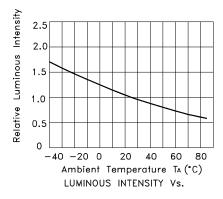
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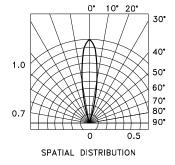


L-7113SF7BT







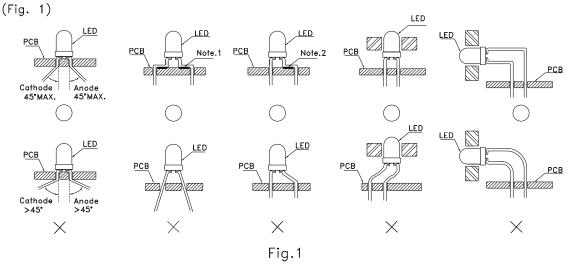


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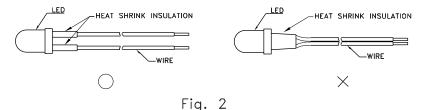
LED MOUNTING METHOD

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.

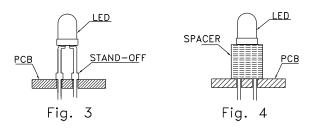


" \bigcirc " Correct mounting method " \times " Incorrect mounting method Note 1-2: Do not route PCB trace in the contact area between the leadframe and the PCB to prevent short-circuits.

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.

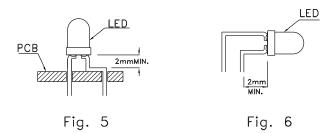


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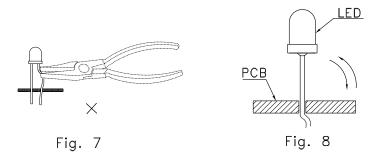
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LEAD FORMING PROCEDURES

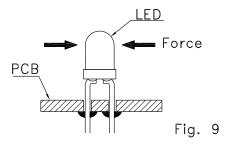
1. Maintain a minimum of 2mm clearance between the base of the LED lens and the first lead bend. (Fig. 5 and 6)



- 2. Lead forming or bending must be performed before soldering, never during or after Soldering.
- 3. Do not stress the LED lens during lead—forming in order to fractures in the lens epoxy and damage the internal structures.
- 4. 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)
- 5. Do not bend the leads more than twice. (Fig. 8)



6. After soldering or other high—temperature assembly, allow the LED to cool down to 50°C before applying outside force (Fig. 9). In general, avoid placing excess force on the LED to avoid damage. For any questions please consult with Kingbright representative for proper handling procedures.



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