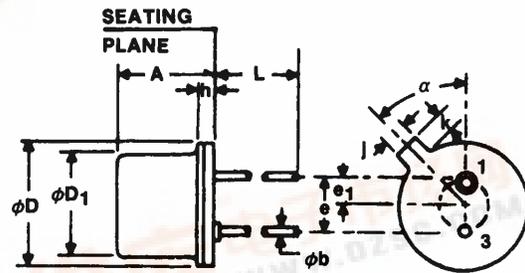




**GaAs INFRARED EMITTING DIODE**

**LED55BF/CF, LED56F**

**PACKAGE DIMENSIONS**



ST1331

SYMBOL	INCHES		MILLIMETERS		NOTES
	MIN.	MAX.	MIN.	MAX.	
A		.155		3.93	
φb	.016	.021	.407	.533	
φD	.209	.230	5.31	5.84	
φD <sub>1</sub>	.180	.188	4.57	4.77	
e	.100 NOM.		2.54 NOM.		2
e <sub>1</sub>	.050 NOM.		1.27 NOM.		2
h		.030		.76	
j	.031	.044	.79	1.11	
k	.036	.046	.92	1.16	1
L	1.00		25.4		
α	45°	45°	45°	45°	3

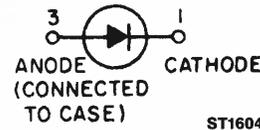
**DESCRIPTION**

The LED55BF/CF and LED56F are 940nm LEDs in a wide angle, TO-46 package.

**FEATURES**

- Good optical to mechanical alignment
- Mechanically and wavelength matched to the TO-18 series phototransistor
- Hermetically sealed package
- High irradiance level

**PACKAGE OUTLINE**



NOTES:

1. MEASURED FROM MAXIMUM DIAMETER OF DEVICE.
2. LEADS HAVING MAX. DIAMETER .021" (.533mm) MEASURED IN GAUGING PLANE .054" + .001" - .000 (1.37 + .025 - .000mm) BELOW THE REFERENCE PLANE OF THE DEVICE SHALL BE WITHIN .007" (.778mm) THEIR TRUE POSITION RELATIVE TO A MAXIMUM WIDTH TAB.
3. FROM CENTERLINE TAB.





## GaAs INFRARED EMITTING DIODE

### ABSOLUTE MAXIMUM RATINGS ( $T_A = 25^\circ\text{C}$ Unless Otherwise Specified)

Storage Temperature .....	-65°C to +150°C
Operating Temperature .....	-65°C to +125°C
Soldering:	
Lead Temperature (Iron) .....	240°C for 5 sec. <sup>(3,4,5,6)</sup>
Lead Temperature (Flow) .....	260°C for 10 sec. <sup>(3,4,6)</sup>
Continuous Forward Current .....	100 mA
Forward Current (pw, 1 $\mu\text{s}$ ; 200 Hz) .....	10 A
Reverse Voltage .....	3 Volts
Power Dissipation ( $T_A = 25^\circ\text{C}$ ) .....	170 mW <sup>(1)</sup>
Power Dissipation ( $T_C = 25^\circ\text{C}$ ) .....	1.3 W <sup>(2)</sup>

### ELECTRICAL CHARACTERISTICS ( $T_A = 25^\circ\text{C}$ Unless Otherwise Specified)

(All measurements made under pulse conditions.)

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNITS	TEST CONDITIONS
Forward Voltage	$V_f$	—		1.7	V	$I_f = 100 \text{ mA}$
Reverse Leakage Current	$I_r$	—		10	$\mu\text{A}$	$V_r = 3 \text{ V}$
Peak Emission Wavelength	$\lambda_p$		940		nm	$I_f = 100 \text{ mA}$
Emission Angle at 1/2 Power	$\theta$		$\pm 40$		Degrees	
Total Power LED55BF	$P_o$	3.5		—	mW	$I_f = 100 \text{ mA}^{(7)}$
Total Power LED55CF	$P_o$	5.4		—	mW	$I_f = 100 \text{ mA}^{(7)}$
Total Power LED56F	$P_o$	1.5		—	mW	$I_f = 100 \text{ mA}^{(7)}$
Rise Time 0-90% of output	$t_r$		1.0		$\mu\text{s}$	
Fall Time 100-10% of output	$t_f$		1.0		$\mu\text{s}$	

### NOTES

1. Derate power dissipation linearly 1.70 mW/ $^\circ\text{C}$  above 25°C ambient.
2. Derate power dissipation linearly 13.0 mW/ $^\circ\text{C}$  above 25°C case.
3. RMA flux is recommended.
4. Methanol or Isopranol alcohols are recommended as cleaning agents.
5. Soldering iron tip 1/16" (1.6 mm) minimum from housing.
6. As long as leads are not under any stress or spring tension.
7. Total power output,  $P_o$ , is the total power radiated by the device into a solid angle of  $2\pi$  steradians.

