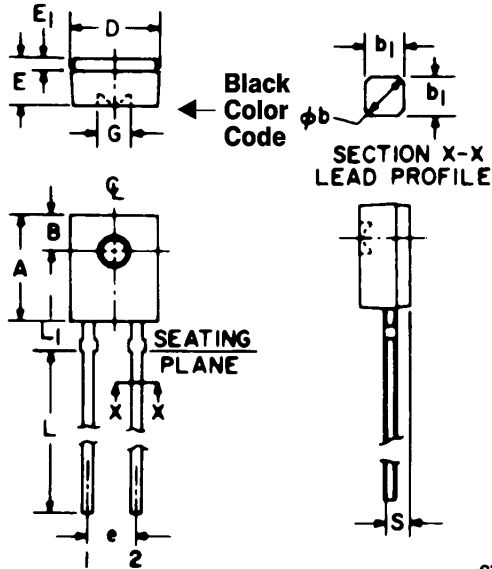


**PACKAGE DIMENSIONS**



ST1334

**DESCRIPTION**

The F5F1 is a 940nm LED encapsulated in a clear, wide angle, sidelooper package.

**FEATURES**

- Good optical to mechanical alignment
- Mechanically and wavelength matched to the L14Q series phototransistor
- Plastic package with a color stripe for easy recognition from phototransistor
- High irradiance level

SYMBOL	MILLIMETERS		INCHES		NOTES
	MIN.	MAX.	MIN.	MAX.	
A	5.59	5.80	.220	.228	
B	1.78	NOM.	.070	NOM.	2
⊕b	.60	.75	.024	.030	1
b <sub>1</sub>	.51	NOM.	.020	NOM.	1
D	4.45	4.70	.175	.185	
E	2.41	2.67	.095	.105	
E <sub>1</sub>	.58	.69	.023	.027	
e	2.41	2.67	.095	.105	3
G	1.98	NOM.	.078	NOM.	
L	12.7	—	.500	—	
L <sub>1</sub>	1.40	1.65	.055	.065	
S	.83	.94	.033	.037	3

**PACKAGE OUTLINE**



NOTES:

1. TWO LEADS. LEAD CROSS SECTION DIMENSIONS UNCONTROLLED WITHIN 1.27 mm (.050") OF SEATING PLANE.
2. CENTERLINE OF ACTIVE ELEMENT LOCATED WITHIN .25 mm (.010") OF TRUE POSITION.
3. AS MEASURED AT THE SEATING PLANE.
4. INCH DIMENSIONS DERIVED FROM MILLIMETERS.



## GaAs INFRARED EMITTING DIODE

<b>ABSOLUTE MAXIMUM RATINGS</b> ( $T_A = 25^\circ\text{C}$ Unless Otherwise Specified)	
Storage Temperature .....	$-55^\circ\text{C}$ to $+100^\circ\text{C}$
Operating Temperature .....	$-55^\circ\text{C}$ to $+100^\circ\text{C}$
Soldering:	
Lead Temperature (Iron) .....	$240^\circ\text{C}$ for 5 sec. <sup>(2,3,4,5)</sup>
Lead Temperature (Flow) .....	$260^\circ\text{C}$ for 10 sec. <sup>(2,3,5)</sup>
Continuous Forward Current .....	60 mA
Forward Current (pw, $1\mu\text{S}$ ; $\leq 33\text{ Hz}$ ) .....	3 A
Reverse Voltage .....	6 Volts
Power Dissipation .....	100 mW <sup>(1)</sup>

<b>ELECTRICAL CHARACTERISTICS</b> ( $T_A = 25^\circ\text{C}$ Unless Otherwise Specified) (All measurements made under pulse conditions.)						
PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNITS	TEST CONDITIONS
Forward Voltage	$V_f$	—		1.7	V	$I_f = 60\text{ mA}$
Reverse Breakdown Voltage	$V_R$	6		—	V	$I_R = 10\ \mu\text{A}$
Reverse Leakage Current	$I_R$	—		10	$\mu\text{A}$	$V_R = 5\text{ V}$
Peak Emission Wavelength	$\lambda_p$		940		nm	$I_f = 100\text{ mA}$
Emission Angle at $\frac{1}{2}$ Power	$\theta$		$\pm 35$		Degrees	
Radiant Intensity	$I_e$	0.28		—	mW/sr	$I_f = 20\text{ mA}^{(6)}$

<b>NOTES</b>
<ol style="list-style-type: none"> <li>1. Derate power dissipation linearly 1.33 mW/<math>^\circ\text{C}</math> above <math>25^\circ\text{C}</math> ambient.</li> <li>2. RMA flux is recommended.</li> <li>3. Methanol or Isopropanol alcohols are recommended as cleaning agents.</li> <li>4. Soldering iron tip <math>\frac{1}{16}</math>" (1.6 mm) minimum from housing.</li> <li>5. As long as leads are not under any stress or spring tension.</li> <li>6. <math>I_e</math> measured with a 0.45 cm aperture placed 1.6 cm from the tip of the lens on the lens centerline perpendicular to the plane of the leads.</li> </ol>

**TYPICAL CHARACTERISTICS**

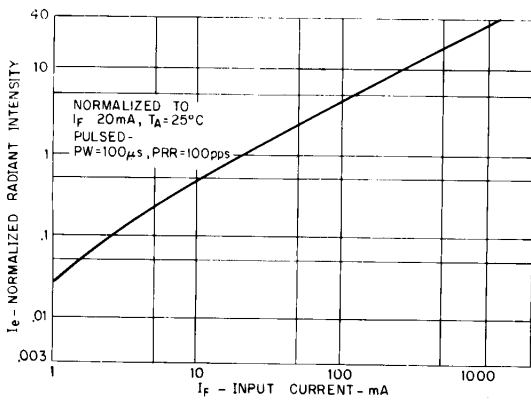


Fig. 1. Radiant Intensity vs. Input Current

ST1033

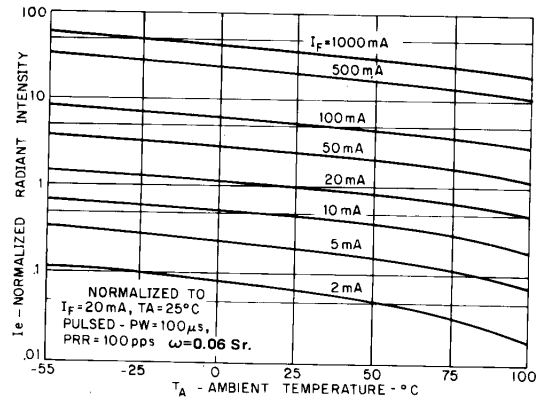


Fig. 2. Radiant Intensity vs. Temperature

ST1038

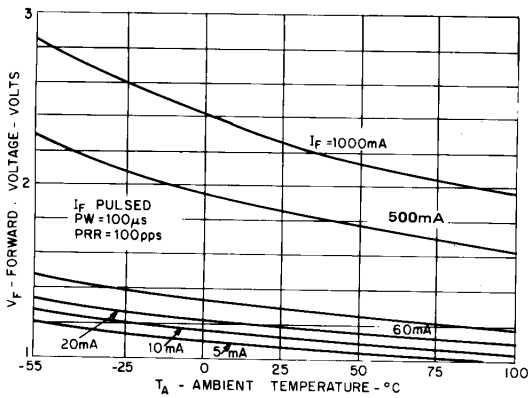


Fig. 3. Forward Voltage vs. Temperature

ST1034

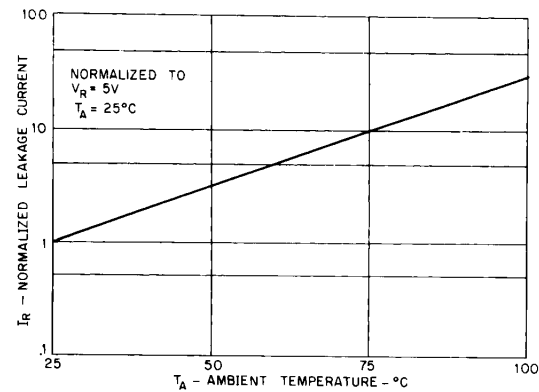


Fig. 4. Leakage Current vs. Temperature

ST1037

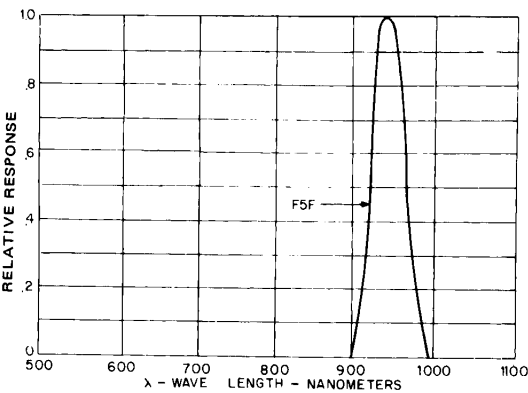


Fig. 5. Spectral Response

ST1035

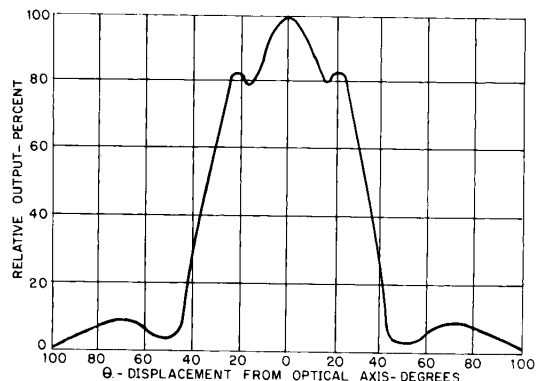


Fig. 6. Typical Radiation Pattern

ST1036