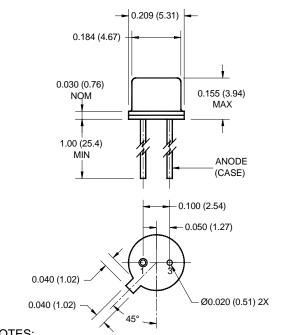


F5E1/2/3 AIGaAs INFRARED EMITTING DIODE

PACKAGE DIMENSIONS



NOTES:

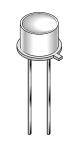
- 1. Dimensions for all drawings are in inches (mm).
- 2. Tolerance of \pm .010 (.25) on all non-nominal dimensions unless otherwise specified.

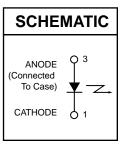
DESCRIPTION

The F5E series are 880nm 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





- 1. Derate power dissipation linearly 1.70 mW/°C above 25°C ambient.
- 2. Derate power dissipation linearly 13.0 mW/°C above 25°C case.
- 3. RMA flux is recommended.
- 4. Methanol or isopropyl alcohols are recommended as cleaning agents.
- 5. Soldering iron tip 1/16" (1.6mm) 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 π steradians.

ABSOLUTE MAXIMUM RATINGS (T_A = 25°C unless otherwise specified) Rating Parameter Symbol Unit **Operating Temperature** -65 to +125 °C T_{OPR} -65 to +150 °C Storage Temperature TSTG Soldering Temperature (Iron)(3,4,5 and 6) °C 240 for 5 sec T_{SOL-I} 260 for 10 sec Soldering Temperature (Flow)(3,4 and 6) °C T_{SOL-F} **Continuous Forward Current** I_{F} 100 mΑ Forward Current (pw, 10µs; 100Hz) 3 А I_{F} Forward Current (pw, 1µs; 200Hz) 10 А I_{F} 3 V **Reverse Voltage** V_R Power Dissipation $(T_A = 25^{\circ}C)^{(1)}$ P_D 170 mW Power Dissipation $(T_C = 25^{\circ}C)^{(2)}$ P_D 1.3 W

ELECTRICAL / OPTICAL CHARACTERISTICS (TA =25°C) (All measurements made under pulse conditions)

PARAMETER	TEST CONDITIONS	SYMBOL	MIN	ТҮР	MAX	UNITS
Peak Emission Wavelength	I _F = 100 mA	λ_{PE}	—	880	—	nm
Emission Angle at 1/2 Power		θ		±40	—	Deg.
Forward Voltage	I _F = 100 mA	V _F	_	—	1.7	V
Reverse Leakage Current	$V_R = 3 V$	I _R	_	—	10	μA
Total Power F5E1 (7)	I _F = 100 mA	Po	12.0	—	—	mW
Total Power F5E2 (7)	I _F = 100 mA	Po	9.0	—	—	mW
Total Power F5E3 (7)	I _F = 100 mA	Po	10.5	—	—	mW
Rise Time 0-90% of output		t _r	_	1.5	—	μs
Fall Time 100-10% of output		t _f	_	1.5	—	μs

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F5E1/2/3 **AIGaAs INFRARED EMITTING DIODE**

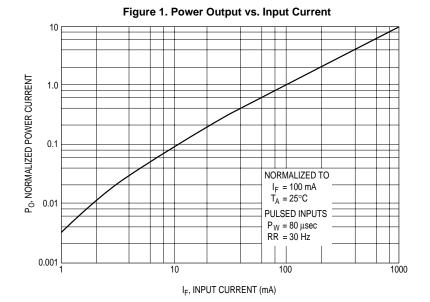


Figure 2. Power Output vs. Temperature

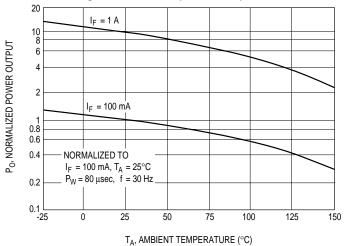


Figure 4. Typical Radiation Pattern

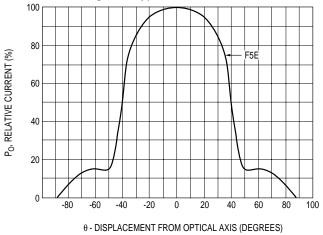
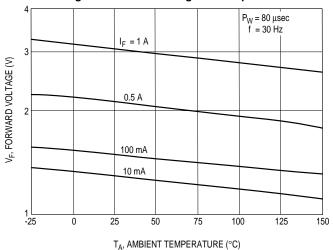
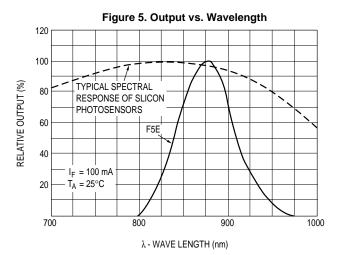


Figure 3. Forward Voltage vs. Temperature









F5E1/2/3 AIGaAs INFRARED EMITTING DIODE

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- 2. A critical component in any component of a life support device or system whose failure to perform can be reasonably expected to cause the failure of the life support device or system, or to affect its safety or effectiveness.