High-Power GaAlAs IR Emitters

OD-850F

FEATURES

- High Optical Output
- 850 nm Peak Emission
- Hermetically Sealed TO-46 Package
- Narrow Angle for Long Distance Applications

Electro-Optical Characteristics at 25 °C

Parameters	Test Conditions	Min	Typ	Max	Units
Total Power Output, P_o	I_F = 100 mA	22	30		mW
Peak Emission Wavelength, λ_P	I_F = 20 mA		850		nm
Spectral Bandwidth at 50%, $\Delta\lambda$	I_F = 20 mA		40		nm
Half Intensity Beam Angle, θ	I_F = 20 mA		8		Deg
Forward Voltage, V_F	I_F = 100 mA		1.6	2	Volts
Reverse Breakdown Voltage, V_R	I_R = 10 µA	5	30		Volts
Rise Time	I_{FP} = 50 mA		20		nsec
Fall Time	I_{FP} = 50 mA		20		nsec

Absolute Maximum Ratings at 25°

Parameters	Units
Power Dissipation	200 mW
Continuous Forward Current	100 mA
Peak Forward Current (10 µs, 200 Hz)[1]	300 mA
Reverse Voltage	5 Volts
Lead Soldering Temperature (1/16" from case for 10 sec)	260°C

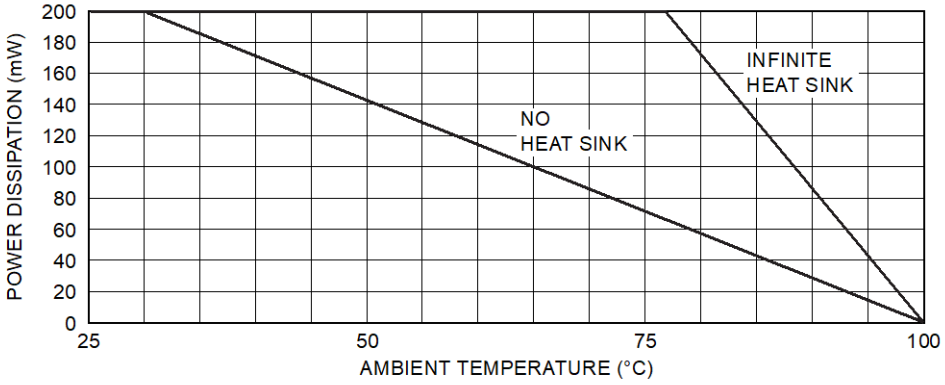
[1] Derate linearly above 25°C.

Thermal Parameters

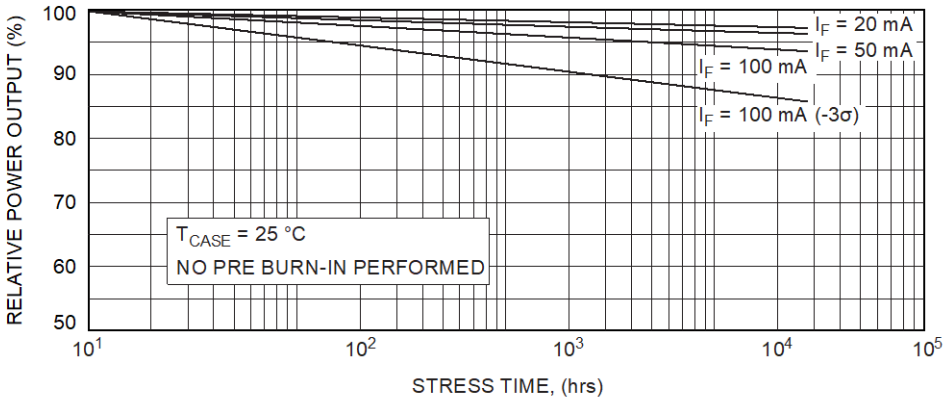
Parameters	Units
Storage and Operating Temperature Range	-40°C to 100°C
Maximum Junction Temperature	100°C
Thermal Resistance, R_{THJA}[1]	400°C/W Typical
Thermal Resistance, R_{THJA}[2]	135°C/W Typical

[1] Heat transfer minimized by measuring in still air with minimum heat conducting through leads.
[2] Air circulating at a rapid rate to keep case temperature at 25°C.

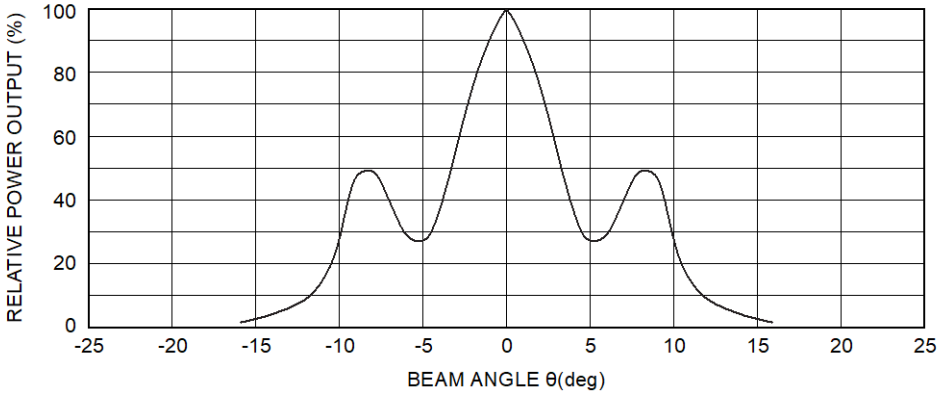
Maximum Rated Thermal Derating Curve



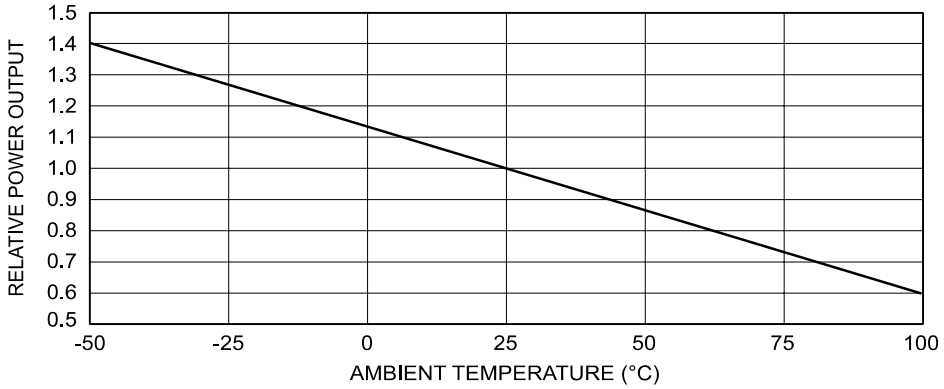
Typical Degradation Curve



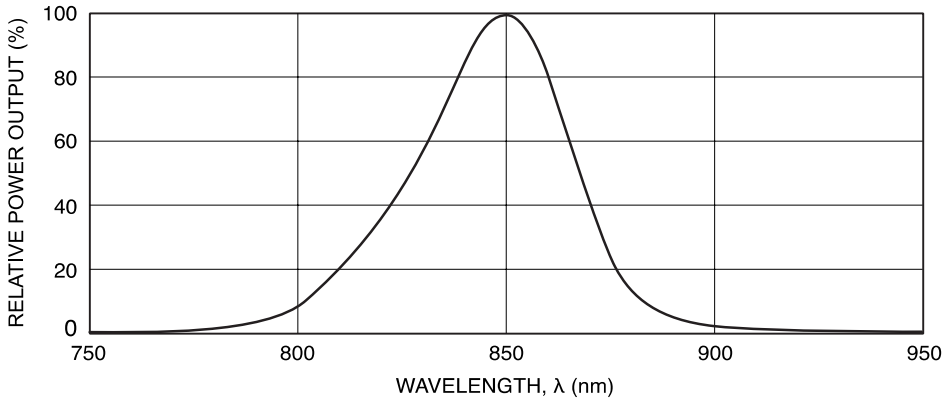
Typical Radiation Pattern



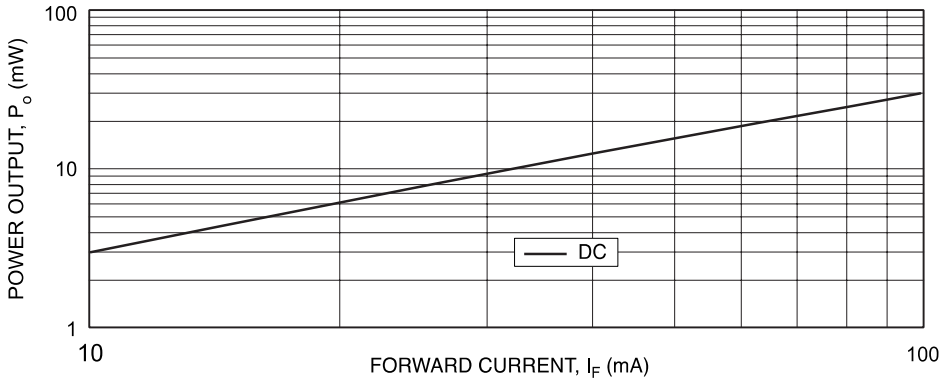
Typical Power Output vs Temperature



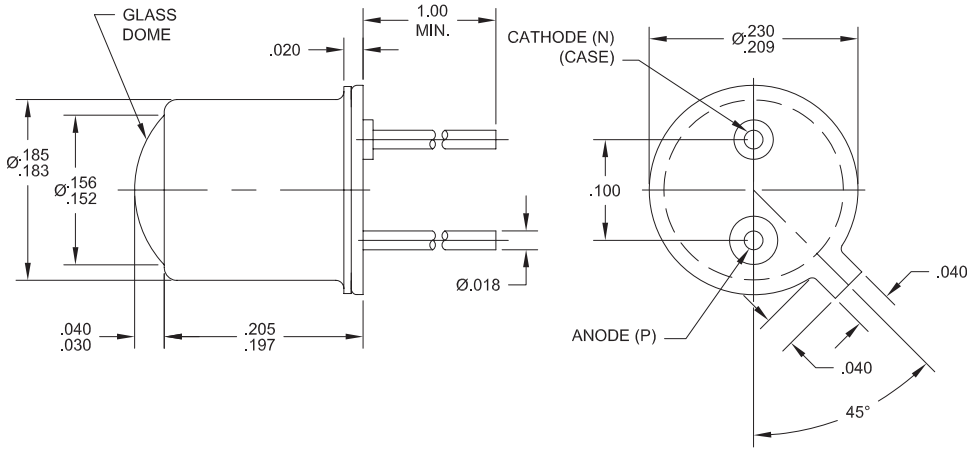
Typical Spectral Output



Typical Power Output vs Forward Current



Package Information



All surfaces are gold plated. Dimensions are nominal values in inches unless otherwise specified.
Window caps are welded to the case.

Specifications are subject to change without prior notice.