



**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 <sub>o</sub>	I <sub>F</sub> = 100 mA	22	30		mW
Peak Emission Wavelength, λ <sub>P</sub>	I <sub>F</sub> = 20 mA		850		nm
Spectral Bandwidth at 50 %, Δλ	I <sub>F</sub> = 20 mA		40		nm
Half Intensity Beam Angle, θ	I <sub>F</sub> = 20 mA		8		Deg
Forward Voltage, V <sub>F</sub>	I <sub>F</sub> = 100 mA		1.6	2	Volts
Reverse Breakdown Voltage, V <sub>R</sub>	I <sub>R</sub> = 10 μA	5	30		Volts
Rise Time	I <sub>FP</sub> = 50 mA		20		nsec
Fall Time	I <sub>FP</sub> = 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) <sup>1</sup>	300 mA
Reverse Voltage	5 Volts
Lead Soldering Temperature (1/16" from case for 10 sec)	260 °C

<sup>1</sup> Derate linearly above 25 °C.

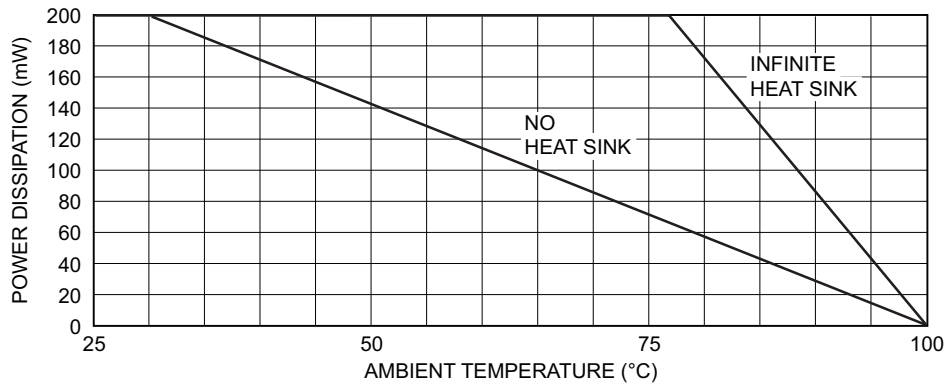
**Thermal Parameters**

Parameters	Units
Storage and Operating Temperature Range	-40 °C to 100 °C
Maximum Junction Temperature	100 °C
Thermal Resistance, R <sub>THJA</sub> <sup>1</sup>	400 °C/W Typical
Thermal Resistance, R <sub>THJA</sub> <sup>2</sup>	135 °C/W Typical

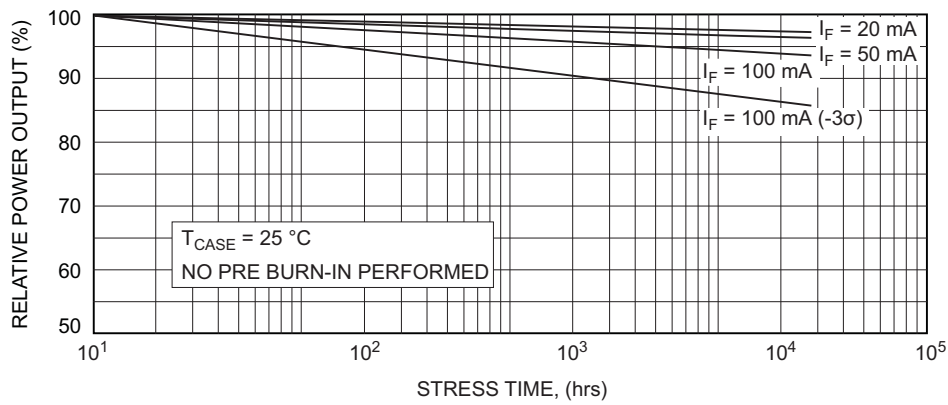
<sup>1</sup> Heat transfer minimized by measuring in still air with minimum heat conducting through leads.

<sup>2</sup> Air circulating at a rapid rate to keep case temperature at 25 °C.

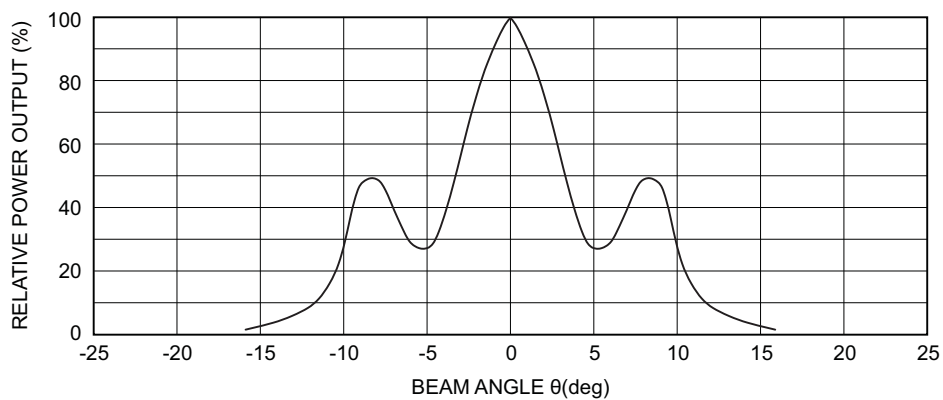
**Maximum Rated Thermal Derating Curve**



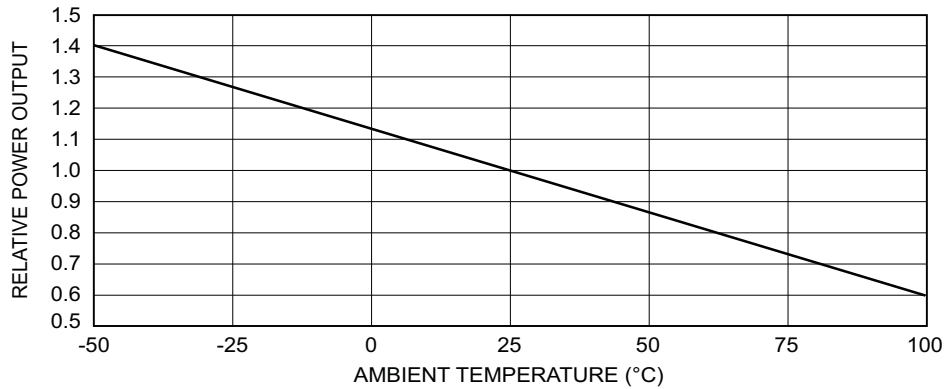
**Typical Degradation Curve**



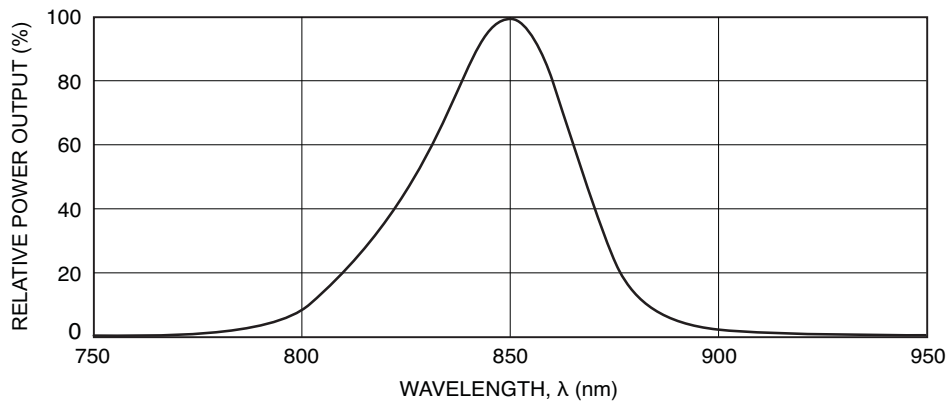
**Typical Radiation Pattern**



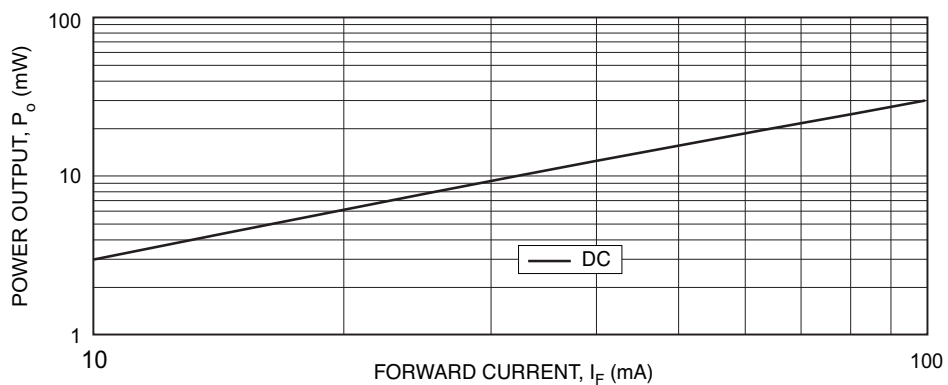
**Typical Power Output vs Temperature**



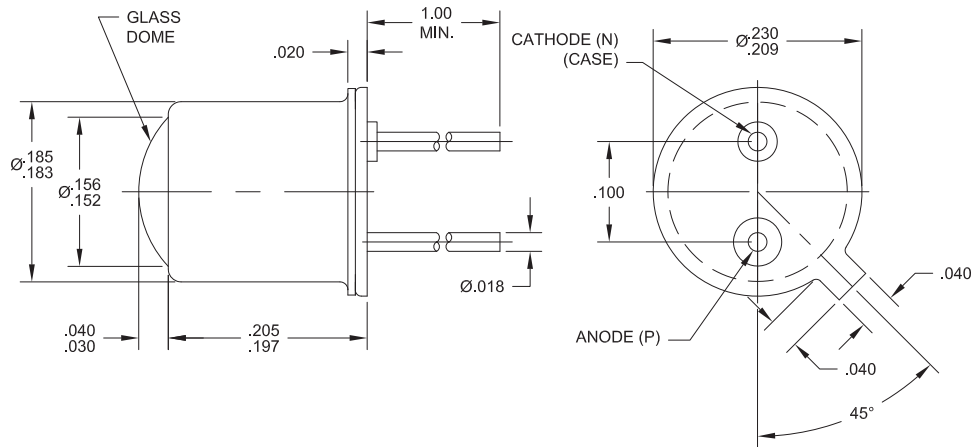
**Typical Spectral Output**



**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.

**Ordering Information**

OD-850-004                      Narrow Angle TO-46 850 nm Emitter Shipped in ESD Bag

Specifications are subject to change without prior notice.