



### FEATURES

- High Optical Output
- 850 nm Peak Emission
- Hermetically Sealed TO-46 Package
- Wide Emission Angle to Cover a Large Area
- Extended Operating Temperature Range
- No Internal Coatings
- No Derating or Heat Sink Required to 80 °C

### Electro-Optical Characteristics at 25 °C

Parameters	Test Conditions	Min	Typ	Max	Units
Total Power Output, $P_o$	$I_F = 100 \text{ mA}$	19	26		mW
Peak Emission Wavelength, $\lambda_P$	$I_F = 20 \text{ mA}$		850		nm
Spectral Bandwidth at 50 %, $\Delta\lambda$	$I_F = 20 \text{ mA}$		40		nm
Half Intensity Beam Angle, $\theta$	$I_F = 20 \text{ mA}$		80		Deg
Forward Voltage, $V_F$	$I_F = 100 \text{ mA}$		1.6	2	Volts
Reverse Breakdown Voltage, $V_R$	$I_R = 10 \mu\text{A}$	5	30		Volts
Rise Time	$I_{FP} = 20 \text{ mA}$		20		nsec
Fall Time	$I_{FP} = 20 \text{ mA}$		20		nsec

### Absolute Maximum Ratings at 25°C

Parameters	Units
Power Dissipation <sup>1</sup>	200 mW
Continuous Forward Current	100 mA
Peak Forward Current (10 µs, 200 Hz) <sup>2</sup>	300 mA
Reverse Voltage	5 Volts
Lead Soldering Temperature (1/16" from case for 10 sec)	260 °C

<sup>1</sup> Derate per thermal derating curve above 25 °C.

<sup>2</sup> Derate linearly above 25 °C

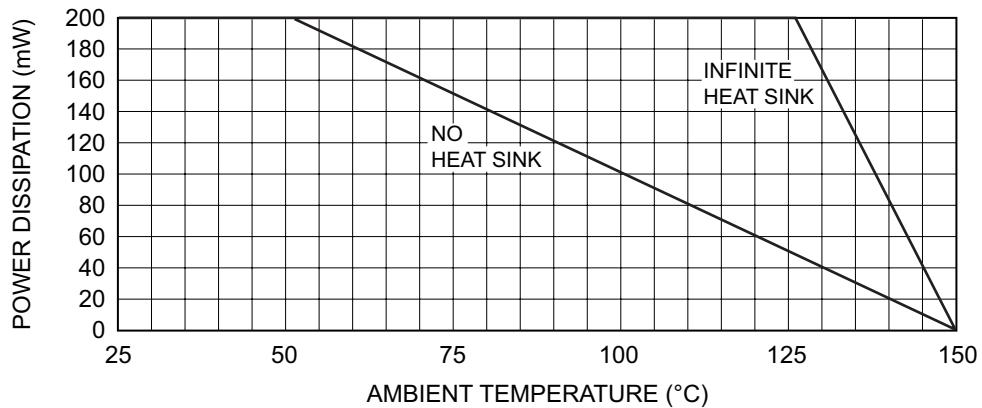
### Thermal Parameters

Parameters	Units
Storage and Operating Temperature Range	-65 °C to 150 °C
Maximum Junction Temperature	150 °C
Thermal Resistance, $R_{THJA}$ <sup>1</sup>	400 °C/W Typical
Thermal Resistance, $R_{THJA}$ <sup>2</sup>	135 °C/W Typical

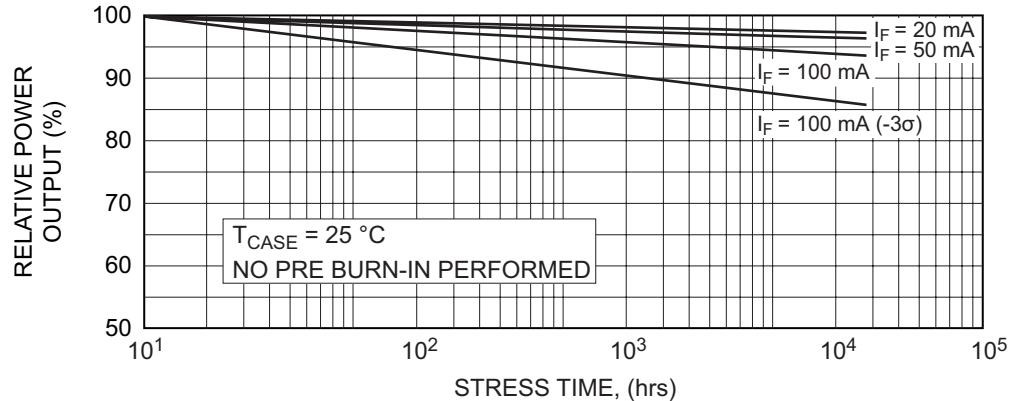
<sup>1</sup> Heat transfer minimized by measuring in still air with minimum heat conducting through leads.

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

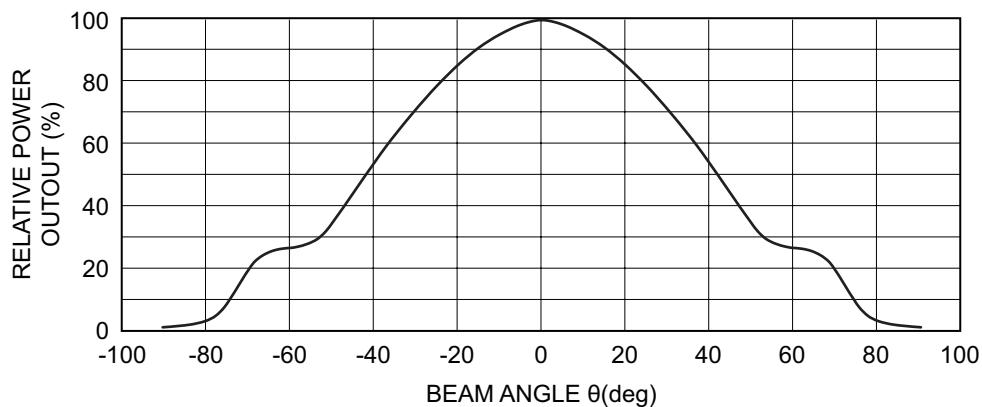
## Maximum Rated Thermal Derating Curve



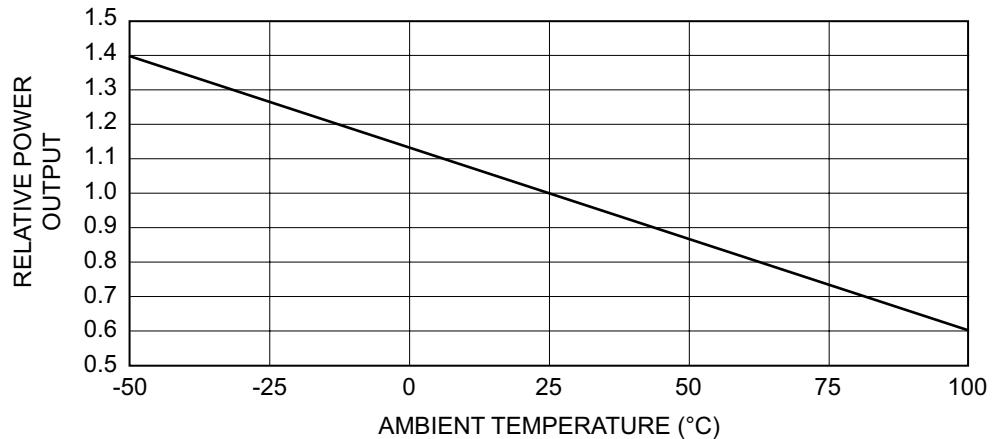
## Typical Degradation Curve



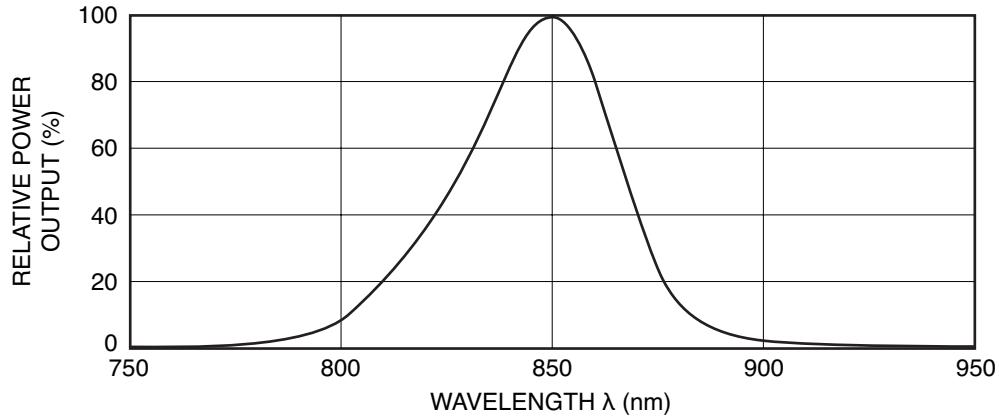
## Typical Radiation Pattern



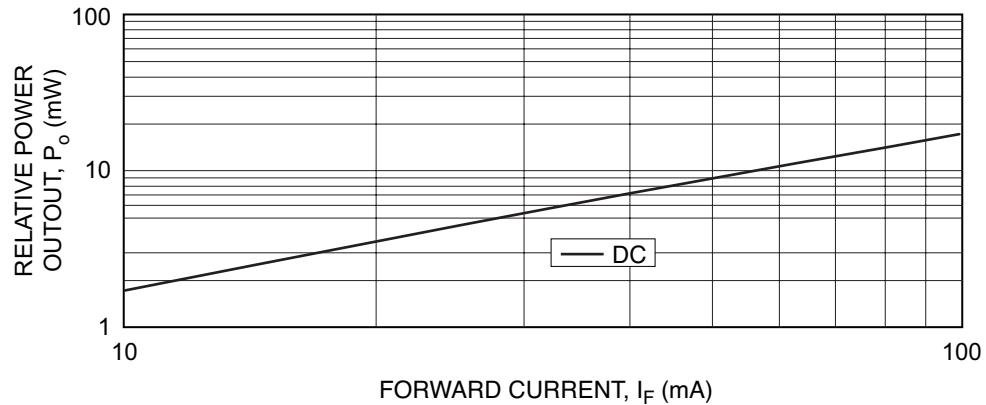
### Typical Power Output vs Temperature



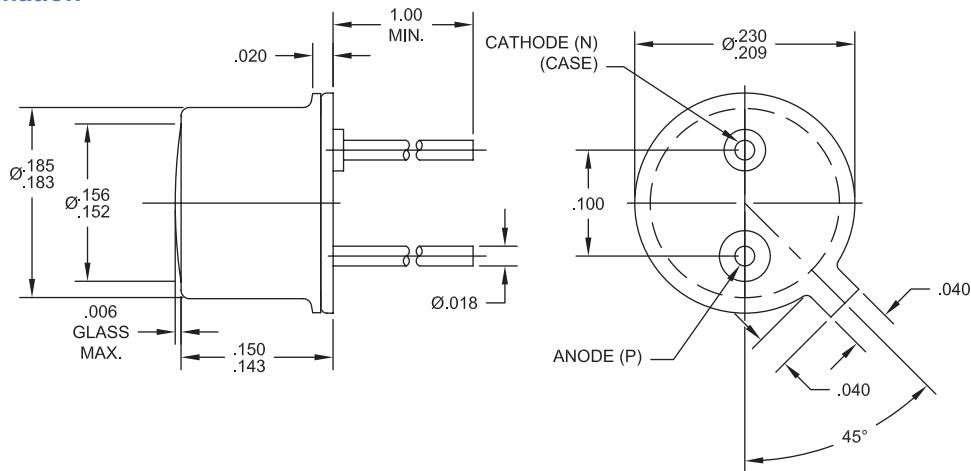
### Typical Spectral Output



### 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-850-008

High Temperature Wide Angle TO-46 850 nm Emitter Shipped in Clear Vacuum Tray

Specifications are subject to change without prior notice.

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