

**FEATURES**

- Highest Power Output Available
- 880 nm Peak Emission
- Nine Chips Connected in Series
- Very Wide Angle of Emission
- Electrically Isolated Case

**Electro-Optical Characteristics at 25°C**

Parameters	Test Conditions	Min	Typ	Max	Units
Total Power Output, P <sub>o</sub>	I <sub>F</sub> = 300 mA I <sub>F</sub> = 5 A	390	500 6500		mW
Peak Emission Wavelength, λ <sub>p</sub>	I <sub>F</sub> = 50 mA		880		nm
Spectral Bandwidth at 50%, Δλ	I <sub>F</sub> = 50 mA		80		nm
Half Intensity Beam Angle, θ	I <sub>F</sub> = 50 mA		120		Deg
Forward Voltage, V <sub>F</sub>	I <sub>F</sub> = 300 mA		13.5	15	Volts
Reverse Breakdown Voltage, V <sub>R</sub>	I <sub>R</sub> = 10 μA	5	30		Volts
Capacitance, C	V <sub>R</sub> = 0 V		11		pF
Rise Time			3		μsec
Fall Time			3		μsec

**Absolute Maximum Ratings at 25°C Case**

Parameters	Units
Power Dissipation <sup>1</sup>	6 W
Continuous Forward Current	400 mA
Peak Forward Current (10 μs, 400 Hz) <sup>2</sup>	5 A
Reverse Voltage	5 V
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.

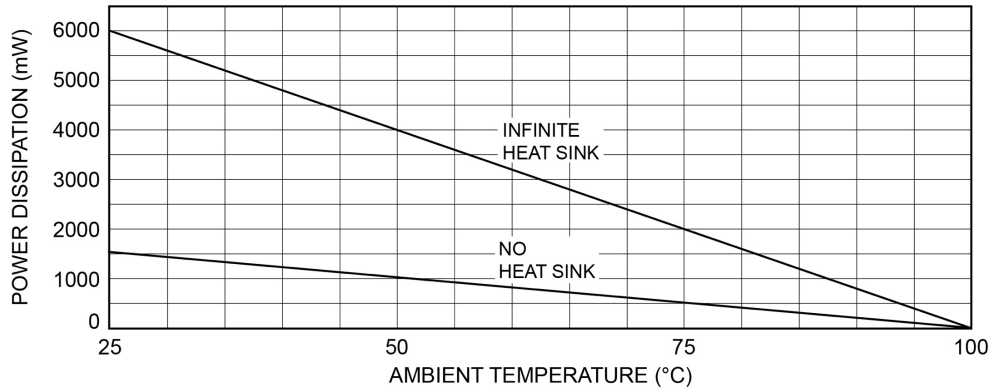
**Thermal Parameters**

Parameters	Units
Storage and Operating Temperature Range	-55°C to 100°C
Maximum Junction Temperature	100°C
Thermal Resistance, R <sub>THJA</sub> <sup>1</sup>	60°C/W Typical
Thermal Resistance, R <sub>THJA</sub> <sup>2</sup>	16°C/W Typical

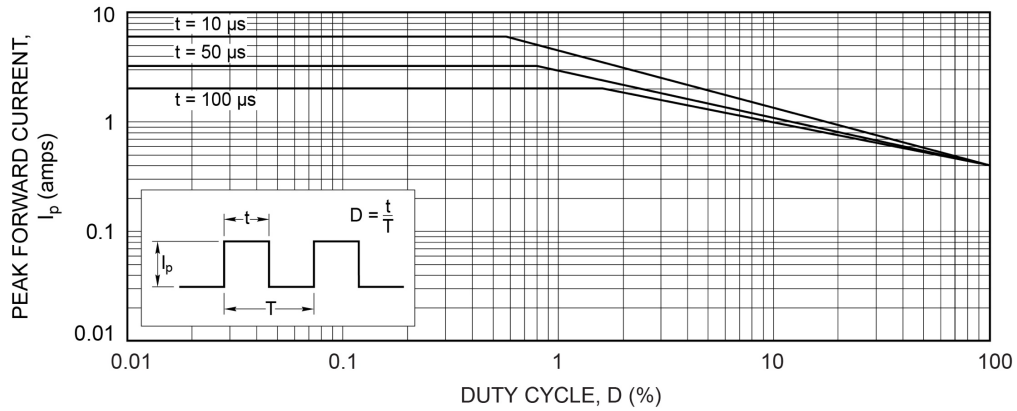
<sup>1</sup> Heat transfer minimized by measuring in still air with minimum heat conducting through leads.

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

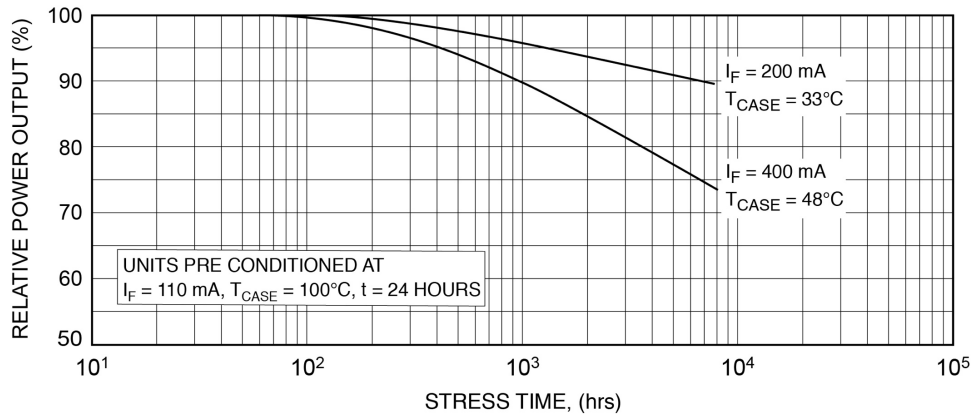
**Maximum Rated Thermal Derating Curve**



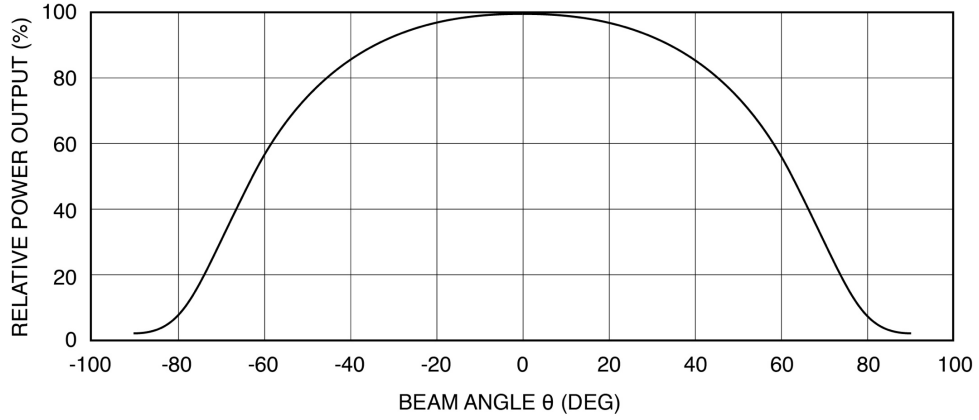
**Maximum Rated Peak Pulse Current**



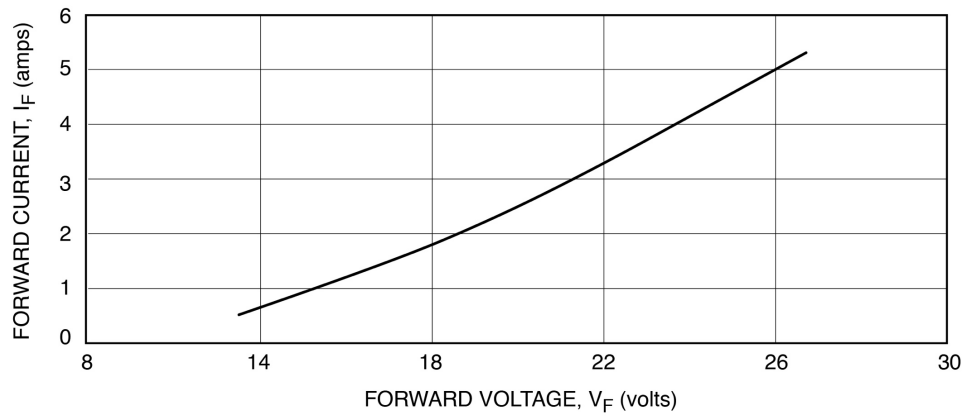
**Typical Degradation Curve**



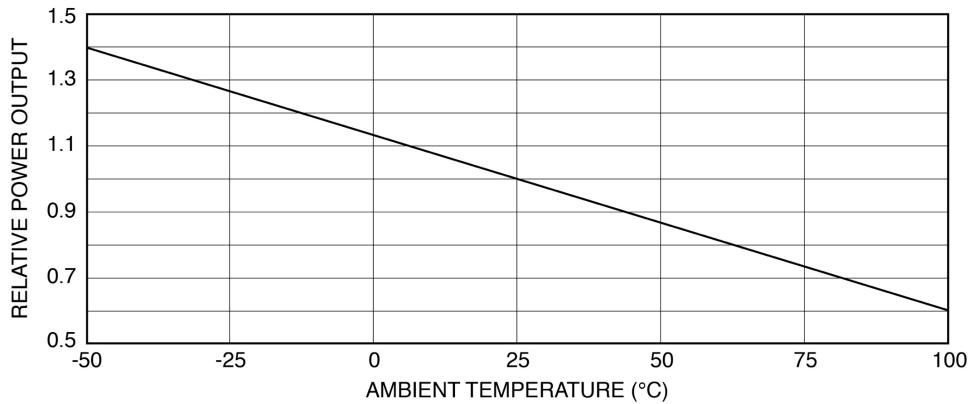
**Typical Radiation Pattern**



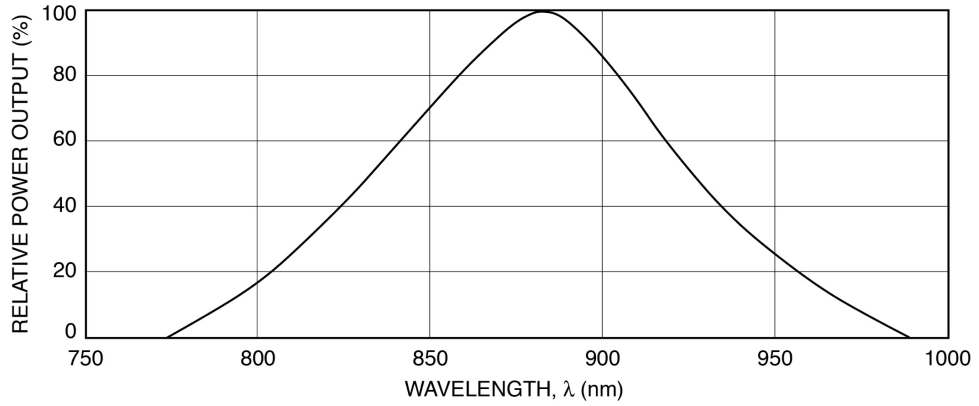
**Typical Forward I-V Characteristics**



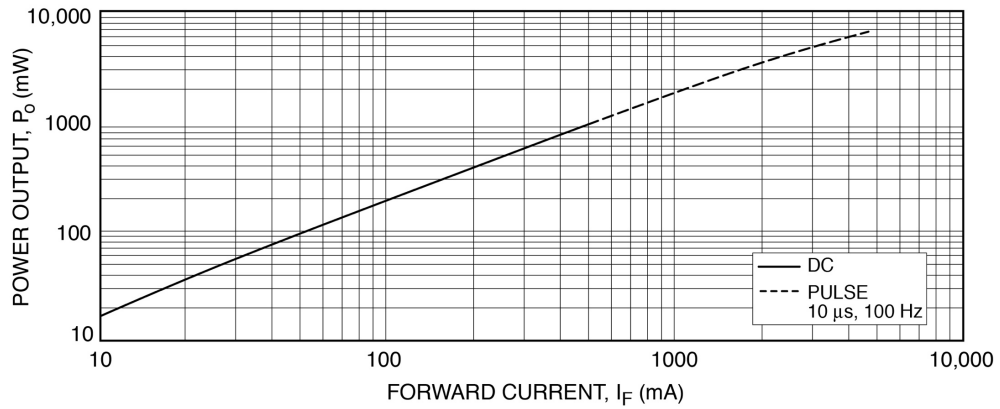
**Typical Power Output vs Temperature**



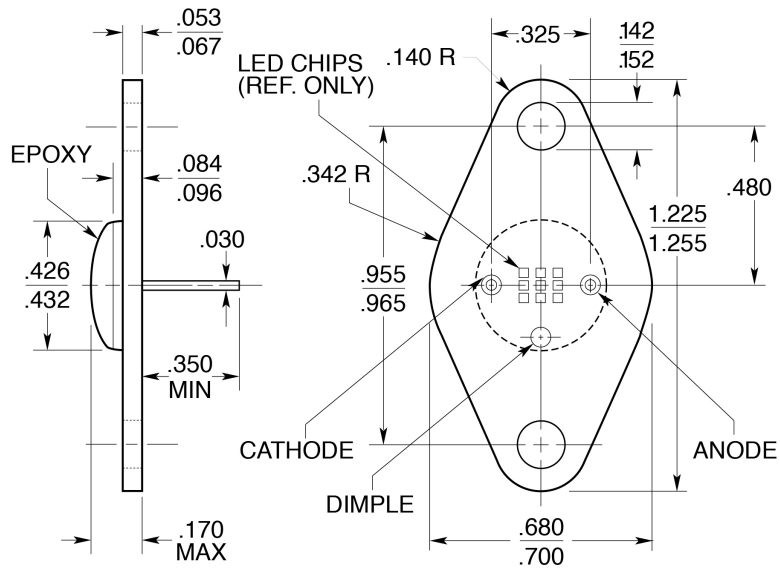
**Typical Spectral Output**



**Typical Power Output vs Forward Current**



**Package Information**



All surfaces are gold plated. Dimensions are nominal values in inches unless otherwise specified.

Specifications are subject to change without prior notice.