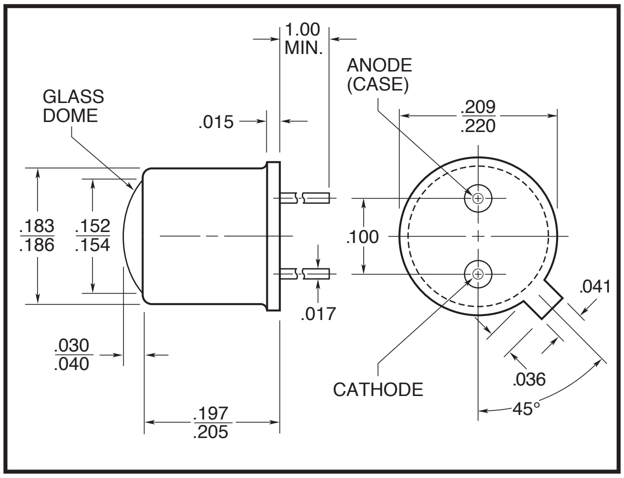
HIGH-POWER GaAlAs IR EMITTERS — OD-880F



FEATURES

- High reliability liquid-phase epitaxially grown GaAlAs
- 880nm peak emission for optimum matching with ODD-45W photodiode
- Wide range of linear power output
- Hermetically sealed TO-46 package
- Narrow angle for long distance applications

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

ELECTRO-OPTICAL CHARACTERISTICS AT 25°C

PARAMETERS	TEST CONDITIONS	MIN	TYP	MAX	UNITS
Total Power Output, P_o	I_F = 100mA	15	17		mW
Radiant Intensity, I_e		120	135		mW/sr
Peak Emission Wavelength, λ_P	I_F = 50mA		880		nm
Spectral Bandwidth at 50%, $\Delta\lambda$			80		nm
Half Intensity Beam Angle, θ			8		Deg
Forward Voltage, V_F	I_F = 100mA		1.55	1.9	Volts
Reverse Breakdown Voltage, V_R	I_R = 10µA	5	30		Volts
Capacitance, C	V_R = 0V		17		pF
Rise Time			0.5		µsec
Fall Time			0.5		µsec

ABSOLUTE MAXIMUM RATINGS AT 25°C CASE

Power Dissipation[1]	190mW
Continuous Forward Current	100mA
Peak Forward Current (10µs, 400Hz)[2]	3A
Reverse Voltage	5V
Lead Soldering Temperature (1/16" from case for 10sec)	260°C

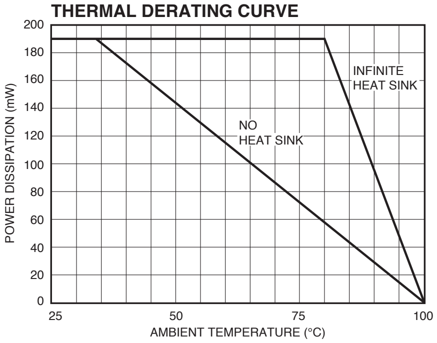
[1] Derate per Thermal Derating Curve above 25°C
[2] Derate linearly above 25°C

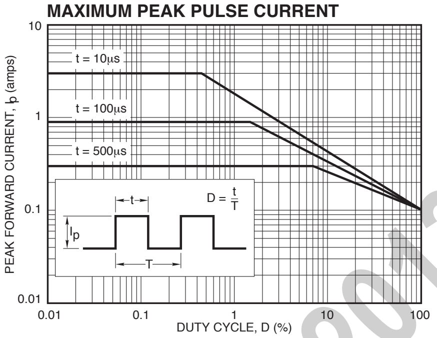
THERMAL PARAMETERS

Storage and Operating Temperature Range	-55°C to 100°C
Maximum Junction Temperature	100°C
Thermal Resistance, R_{THJA}[1]	350°C/W Typical
Thermal Resistance, R_{THJA}[2]	115°C/W Typical

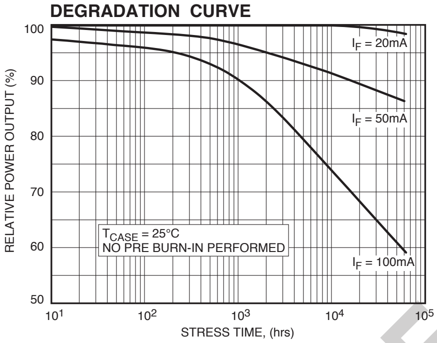
[1] Heat transfer minimized by measuring in still air with minimum heat conducting through leads

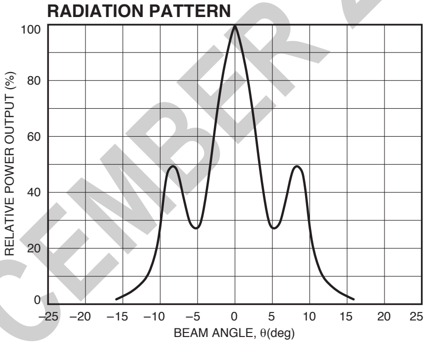
MAXIMUM RATINGS

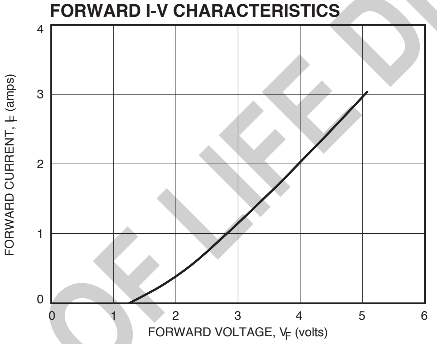

THERMAL DERATING CURVE

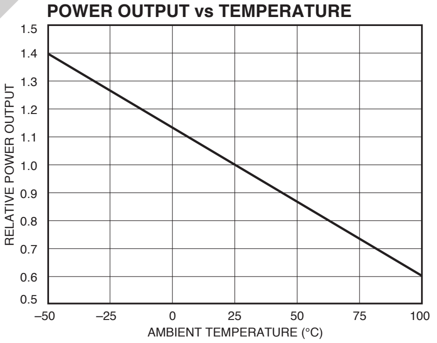

MAXIMUM PEAK PULSE CURRENT

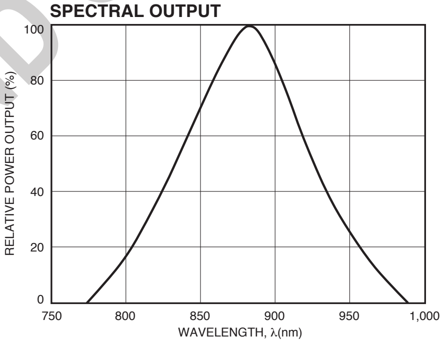
TYPICAL CHARACTERISTICS

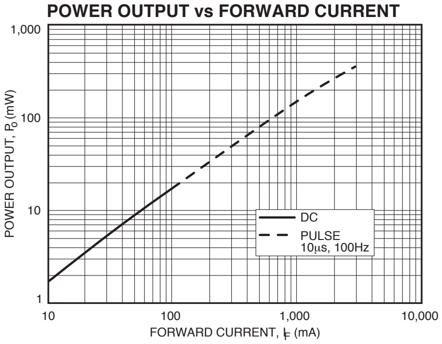

DEGRADATION CURVE


RADIATION PATTERN


FORWARD I-V CHARACTERISTICS


POWER OUTPUT vs TEMPERATURE


SPECTRAL OUTPUT


POWER OUTPUT vs FORWARD CURRENT