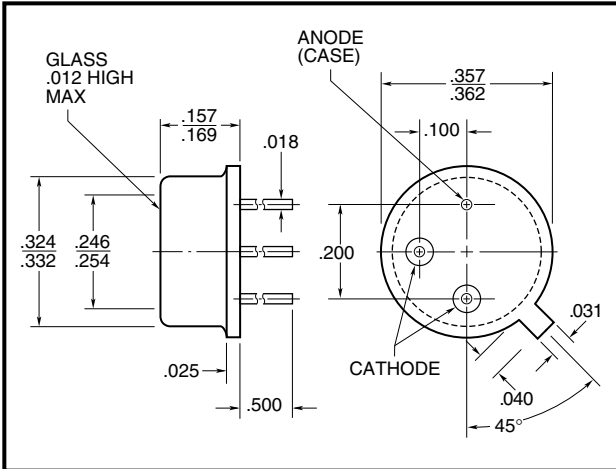


# SUPER HIGH-POWER GaAlAs IR EMITTERS

# OD-50W



## FEATURES

- Ultra high power output
- Four wire bonds on die corners
- Very uniform optical beam
- Standard 3-lead TO-39 hermetic package
- Chip size .030 x .030 inches

All surfaces are gold plated. Dimensions are nominal values in inches unless otherwise specified. Two cathode pins **must be** externally connected together.

## ELECTRO-OPTICAL CHARACTERISTICS AT 25°C

PARAMETERS	TEST CONDITIONS	MIN	TYP	MAX	UNITS
Total Power Output, $P_o$	$I_F = 500\text{mA}$ $I_F = 10\text{A}$	60	75 1000		mW
Radiant Intensity, $I_e$	$I_F = 500\text{mA}$		60		mW/sr
Peak Emission Wavelength, $\lambda_p$	$I_F = 50\text{mA}$		880		nm
Spectral Bandwidth at 50%, $\Delta\lambda$			80		nm
Half Intensity Beam Angle, $\theta$			110		Deg
Forward Voltage, $V_F$	$I_F = 500\text{mA}$		1.65	2	Volts
Reverse Breakdown Voltage, $V_R$	$I_R = 10\mu\text{A}$	5	30		Volts
Capacitance, C	$V_R = 0\text{V}$		90		pF
Rise Time			0.7		$\mu\text{sec}$
Fall Time			0.7		$\mu\text{sec}$

## ABSOLUTE MAXIMUM RATINGS AT 25°C CASE

Power Dissipation <sup>1</sup>	1000mW
Continuous Forward Current	500mA
Peak Forward Current (10 $\mu\text{s}$ , 400Hz) <sup>2</sup>	10A
Reverse Voltage	5V
Lead Soldering Temperature (1/16" from case for 10sec)	240°C

<sup>1</sup>Derate per Thermal Derating Curve above 25°C

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

## THERMAL PARAMETERS

Storage and Operating Temperature Range	-55°C to 100°C
Maximum Junction Temperature	100°C
Thermal Resistance, $R_{THJA}$ <sup>1</sup>	145°C/W Typical
Thermal Resistance, $R_{THJA}$ <sup>2</sup>	75°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



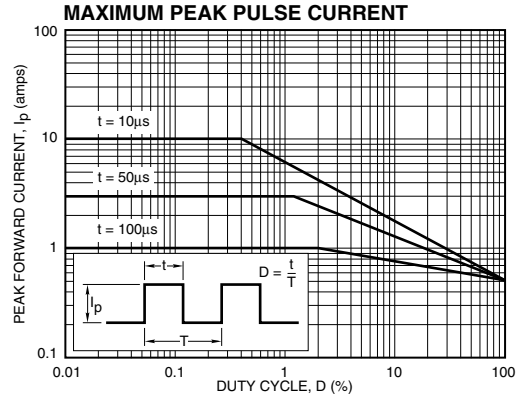
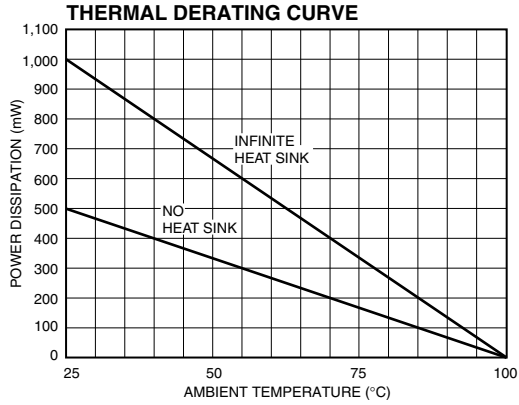
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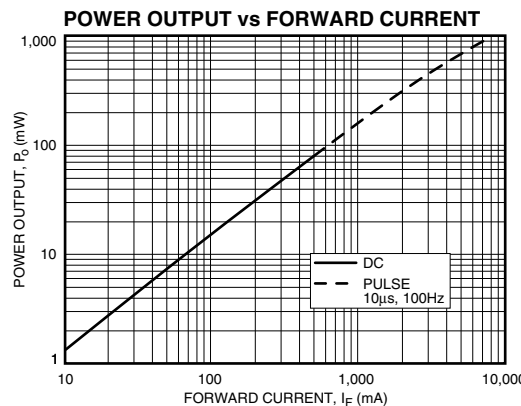
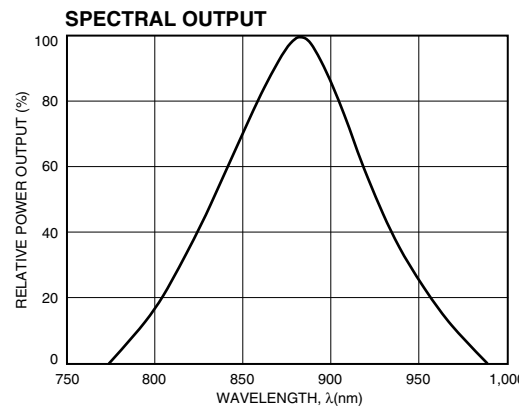
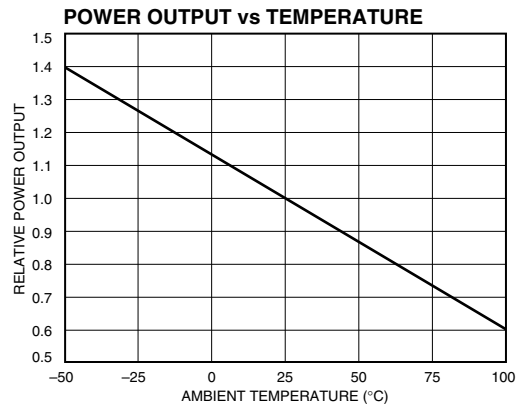
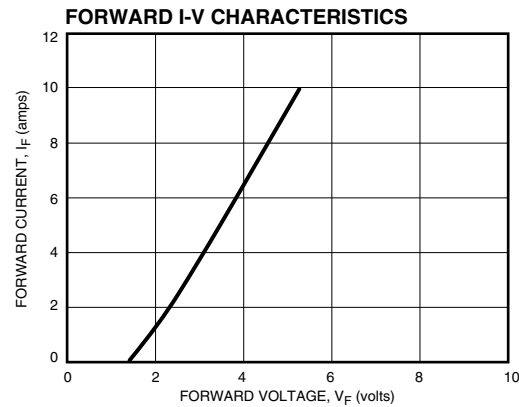
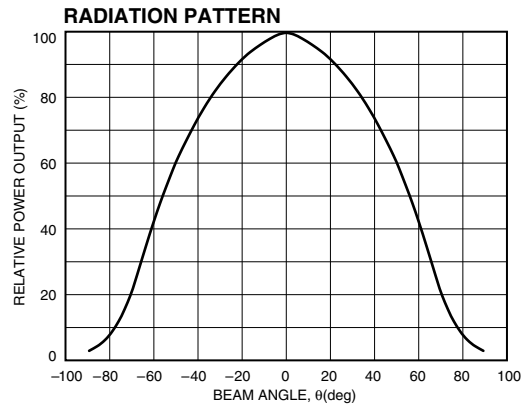
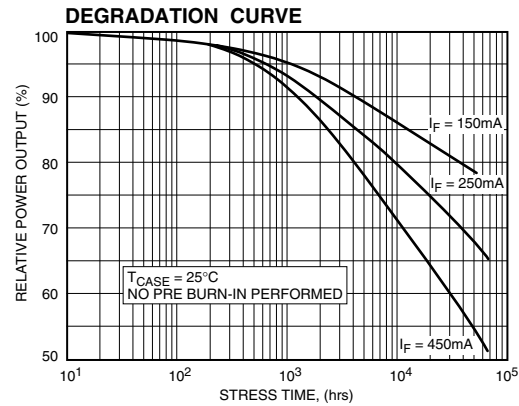
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MAXIMUM RATINGS



TYPICAL CHARACTERISTICS



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