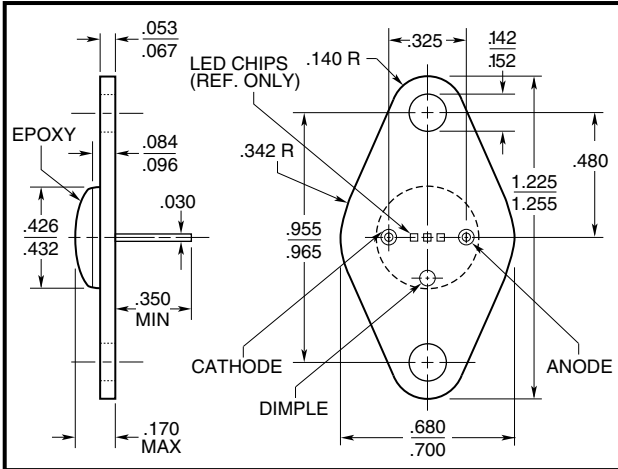


# HIGH-POWER GaAlAs IRLED ILLUMINATOR

OD-663



## FEATURES

- Super high power output
- 880nm peak emission
- Three chips connected in series
- TO-66 header for good heat dissipation
- 100% tested for power output
- Electrically isolated case

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

## ELECTRO-OPTICAL CHARACTERISTICS AT 25°C

PARAMETERS	TEST CONDITIONS	MIN	TYP	MAX	UNITS
Total Power Output, $P_o$	$I_F = 300\text{mA}$ $I_F = 8\text{A}$	150	170 3500		mW
Peak Emission Wavelength, $\lambda_p$	$I_F = 50\text{mA}$		880		nm
Spectral Bandwidth at 50%, $\Delta\lambda$			80		nm
Half Intensity Beam Angle, $\theta$				120	
Forward Voltage, $V_F$	$I_F = 300\text{mA}$		4.5	5	Volts
Reverse Breakdown Voltage, $V_R$	$I_R = 10\mu\text{A}$	5	30		Volts
Capacitance, C	$V_R = 0\text{V}$		30		pF
Rise Time			1		$\mu\text{sec}$
Fall Time			1		$\mu\text{sec}$

## ABSOLUTE MAXIMUM RATINGS AT 25°C CASE

Power Dissipation <sup>1</sup>	2W
Continuous Forward Current	400mA
Peak Forward Current (10 $\mu\text{s}$ , 400Hz) <sup>2</sup>	8A
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>	60°C/W Typical
Thermal Resistance, $R_{THJA}$ <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

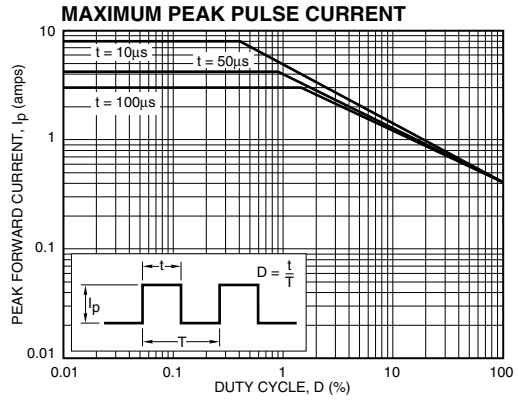
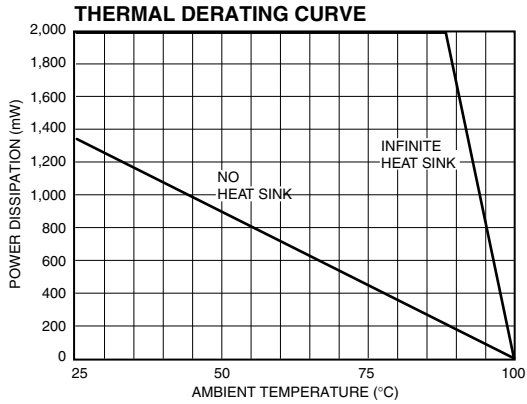


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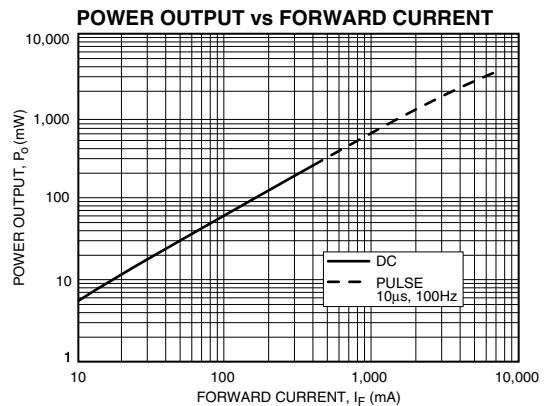
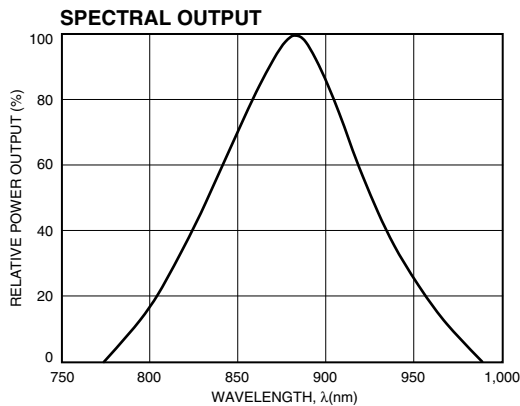
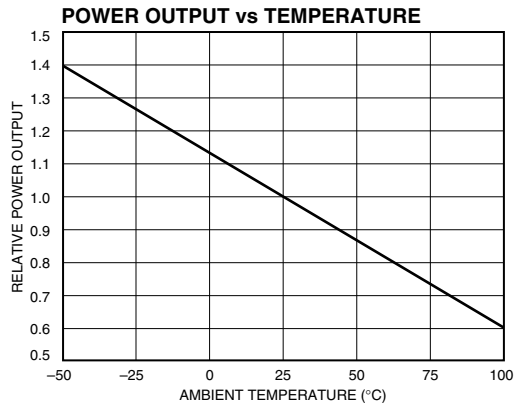
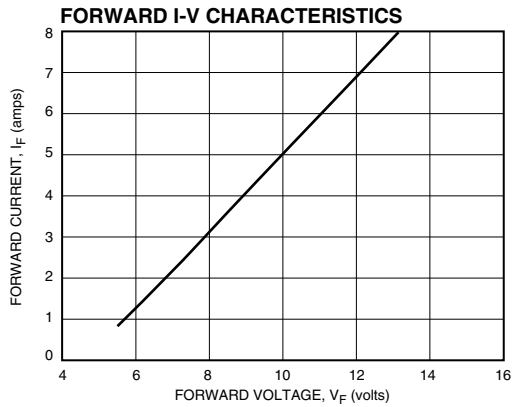
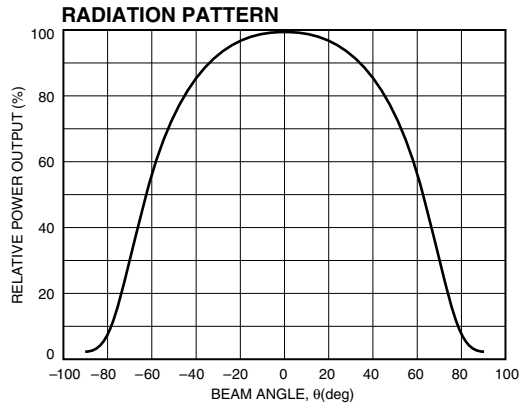
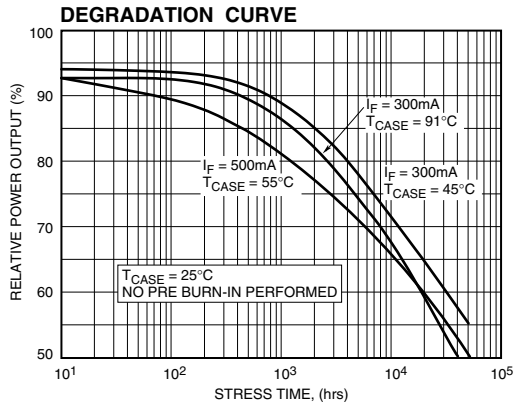
# HIGH-POWER GaAlAs IRLED ILLUMINATOR

OD-663

MAXIMUM RATINGS



TYPICAL CHARACTERISTICS

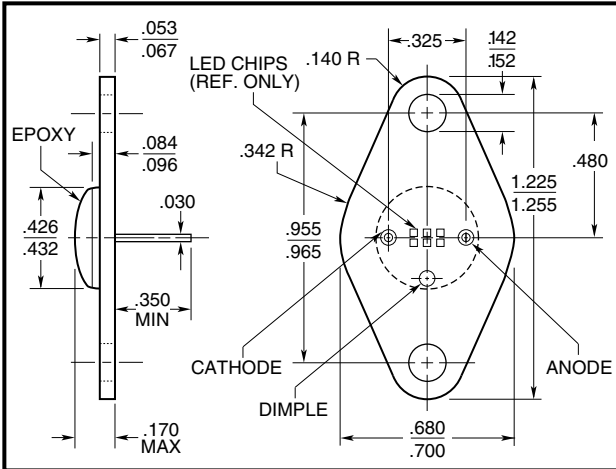


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# HIGH-POWER GaAlAs IRLED ILLUMINATOR

OD-666



## FEATURES

- High reliability LPE GaAlAs IRLEDs
- Ultra high power output
- 880nm peak emission
- Six chips connected in series
- Very wide angle of emission
- Electrically isolated case

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

## ELECTRO-OPTICAL CHARACTERISTICS AT 25°C

PARAMETERS	TEST CONDITIONS	MIN	TYP	MAX	UNITS
Total Power Output, $P_o$	$I_F = 300\text{mA}$ $I_F = 6\text{A}$	300	330 5000		mW
Peak Emission Wavelength, $\lambda_p$	$I_F = 50\text{mA}$		880		nm
Spectral Bandwidth at 50%, $\Delta\lambda$			80		nm
Half Intensity Beam Angle, $\theta$				120	
Forward Voltage, $V_F$	$I_F = 300\text{mA}$		9	10	Volts
Reverse Breakdown Voltage, $V_R$	$I_R = 10\mu\text{A}$	5	30		Volts
Capacitance, C	$V_R = 0\text{V}$		15		pF
Rise Time			2		$\mu\text{sec}$
Fall Time			2		$\mu\text{sec}$

## ABSOLUTE MAXIMUM RATINGS AT 25°C CASE

Power Dissipation <sup>1</sup>	4W
Continuous Forward Current	400mA
Peak Forward Current (10 $\mu\text{s}$ , 400Hz) <sup>2</sup>	6A
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>	60°C/W Typical
Thermal Resistance, $R_{THJA}$ <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

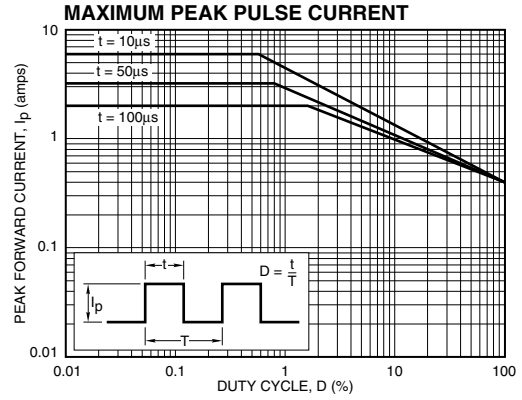
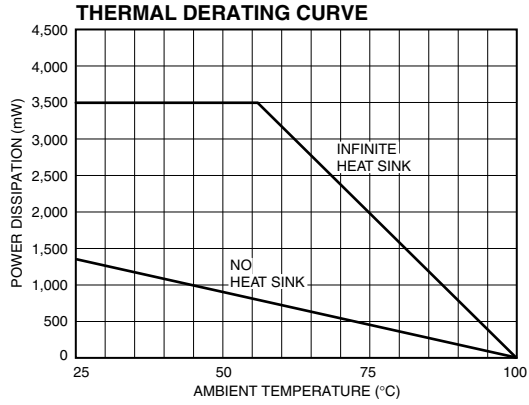


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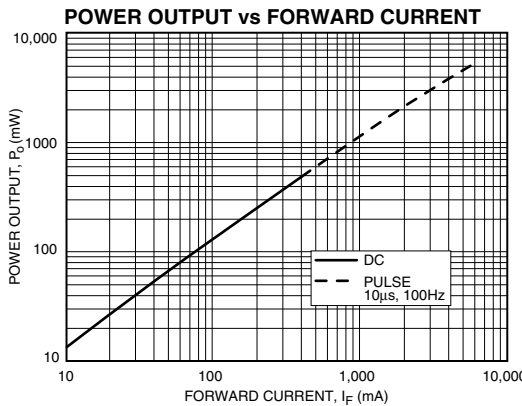
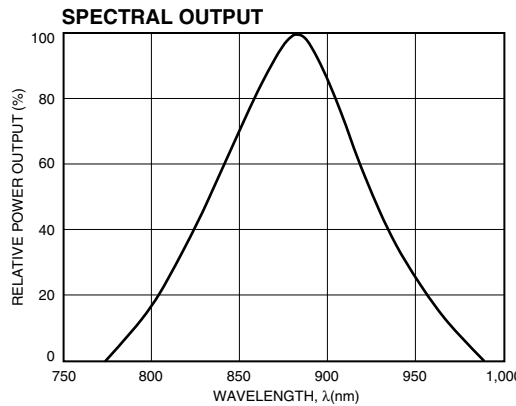
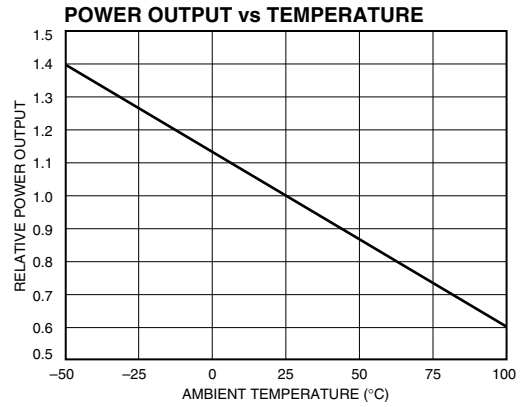
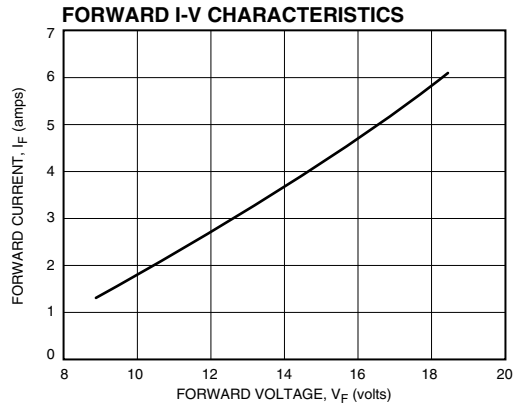
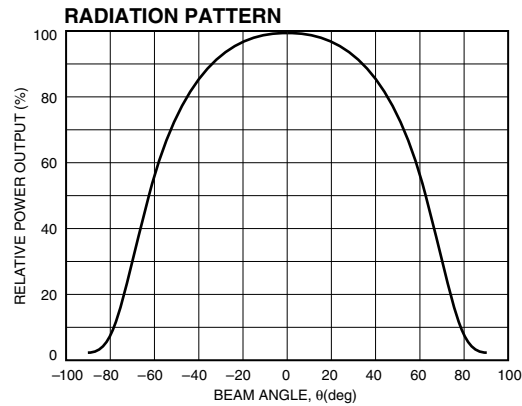
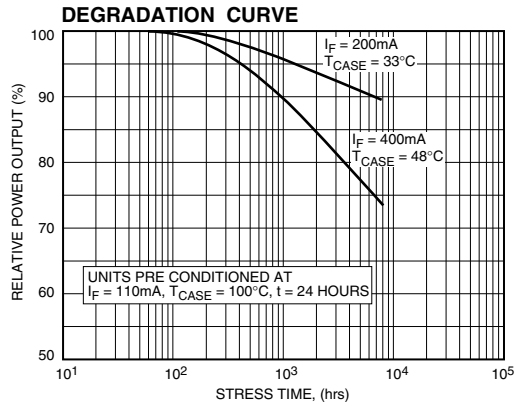
# HIGH-POWER GaAlAs IRLED ILLUMINATOR

OD-666

MAXIMUM RATINGS



TYPICAL CHARACTERISTICS

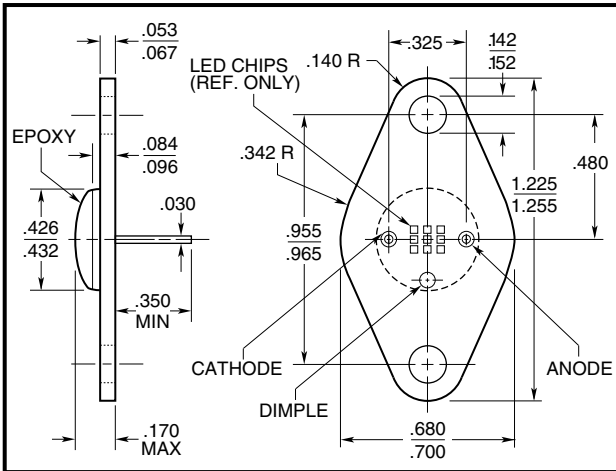


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# HIGH-POWER GaAlAs IRLED ILLUMINATOR

OD-669



## FEATURES

- Highest power output available
- 880nm peak emission
- Nine chips connected in series
- Very wide angle of emission
- Electrically isolated case

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

## ELECTRO-OPTICAL CHARACTERISTICS AT 25°C

PARAMETERS	TEST CONDITIONS	MIN	TYP	MAX	UNITS
Total Power Output, $P_o$	$I_F = 300\text{mA}$ $I_F = 5\text{A}$	390	500 6500		mW
Peak Emission Wavelength, $\lambda_p$	$I_F = 50\text{mA}$		880		nm
Spectral Bandwidth at 50%, $\Delta\lambda$			80		nm
Half Intensity Beam Angle, $\theta$				120	
Forward Voltage, $V_F$	$I_F = 300\text{mA}$		13.5	15	Volts
Reverse Breakdown Voltage, $V_R$	$I_R = 10\mu\text{A}$	5	30		Volts
Capacitance, C	$V_R = 0\text{V}$		11		pF
Rise Time			3		$\mu\text{sec}$
Fall Time			3		$\mu\text{sec}$

## ABSOLUTE MAXIMUM RATINGS AT 25°C CASE

Power Dissipation <sup>1</sup>	6W
Continuous Forward Current	400mA
Peak Forward Current (10 $\mu\text{s}$ , 400Hz) <sup>2</sup>	5A
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>	60°C/W Typical
Thermal Resistance, $R_{THJA}$ <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

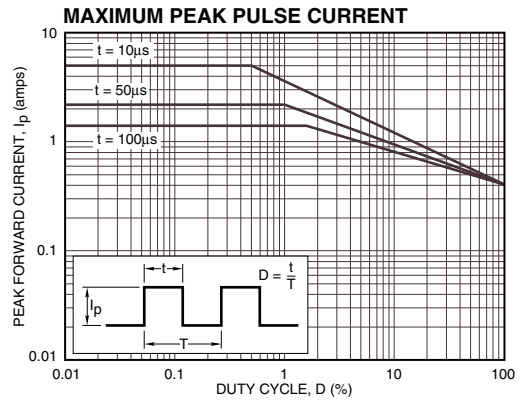
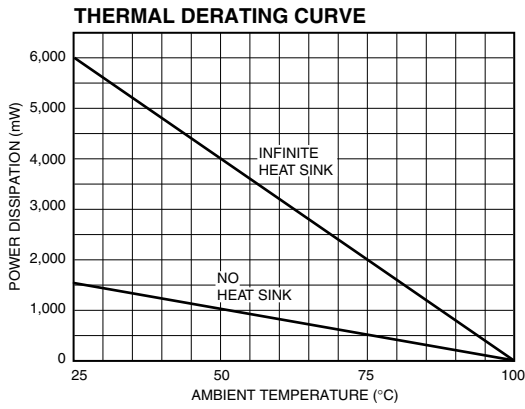


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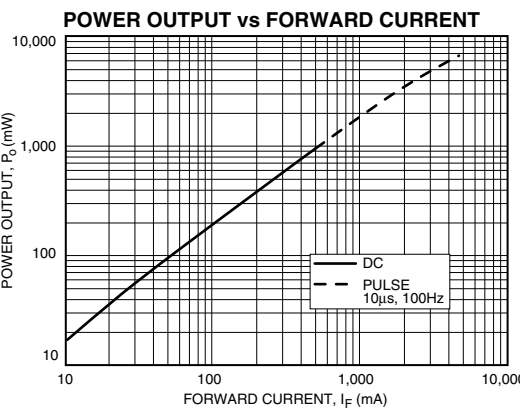
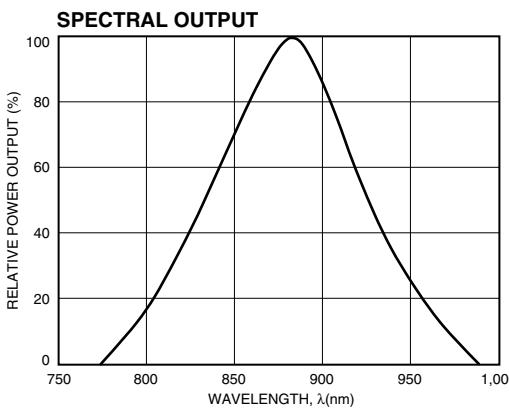
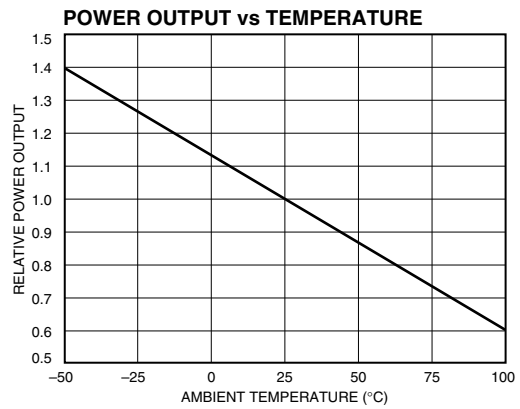
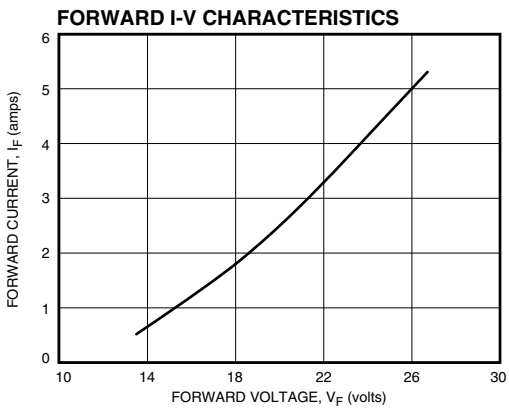
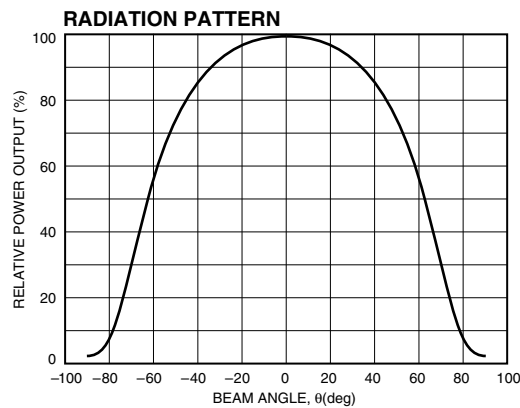
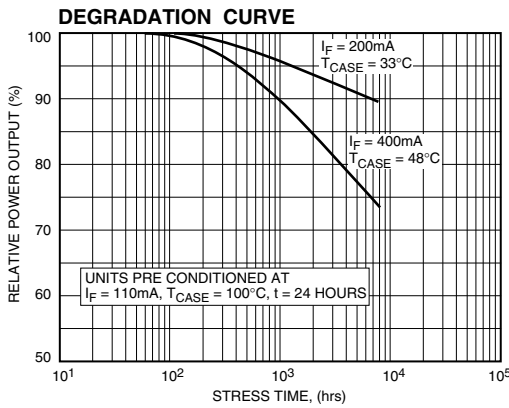
# HIGH-POWER GaAlAs IRLED ILLUMINATOR

OD-669

MAXIMUM RATINGS



TYPICAL CHARACTERISTICS



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