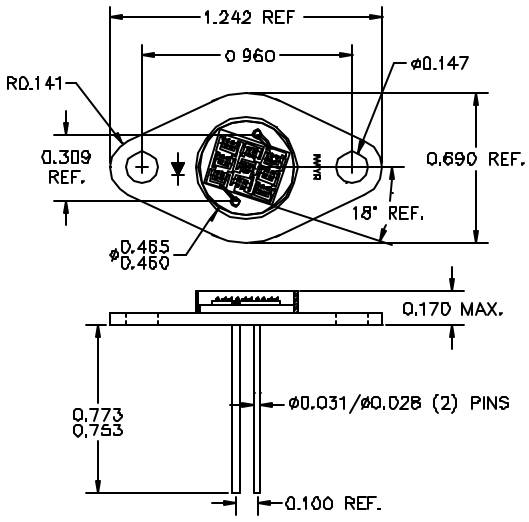
VERY HIGH POWER IR ILLUMINATOR OTLH-0070-IR



All dimensions in inches. Unless otherwise shown, all tolerances are +/- 0.005"

FEATURES:

- **High reliability GaAlAs/GaAlAs IR LED's**
- **Very High Output Power**
- **870nm Peak Emission**
- **TO-66 package**
- **Nine, four chip cells connected in series**

PRODUCT DESCRIPTION

The *OTLH*-0070-IR uses a total of 36 high efficiency gallium aluminum arsenide (GaAlAs/GaAlAs) infrared emitting diodes to provide extremely high illumination. The TO-66 package allows for high current operation with proper heat sinking. These illuminators are intended for use in infrared search lights, night vision systems, security cameras, and applications where bright infrared illumination is required.

ELECTRO-OPTICAL CHARACTERISTICS AT 25°C

PARAMETERS	TEST CONDITIONS	MIN	TYP	MAX	UNITS
Total Output Power, P_o	I_F = 300 mA I_{FM} = 5 A	600	770 9000		mW
Peak Emission Wavelength, λ_P	I_F = 80 mA		870		nm
Spectral Half Power Bandwidth, $\Delta\lambda$	I_F = 80 mA		30		nm
Half Intensity Beam Angle, θ	I_F = 80 mA		65		Degrees
Forward Voltage, V_F	I_F = 80 mA			18.5	Volts
Reverse Voltage, V_R	I_R = 10 µA	45			Volts

ABSOLUTE MAXIMUM RATINGS AT 25°C

Continuous Forward Current	400 mA
Lead Soldering Temperature	240 °C for 10 seconds

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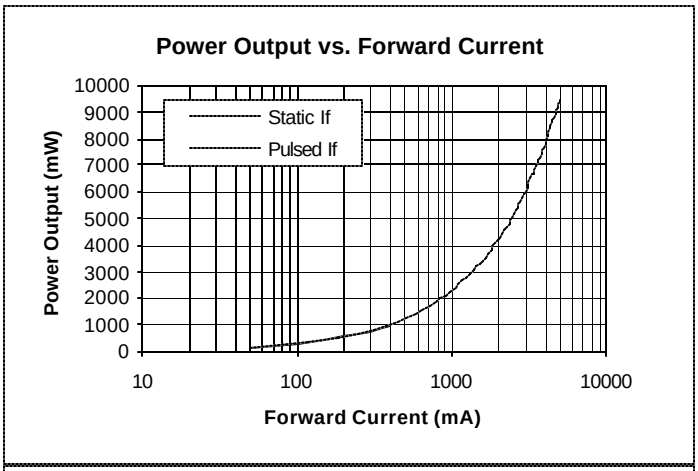
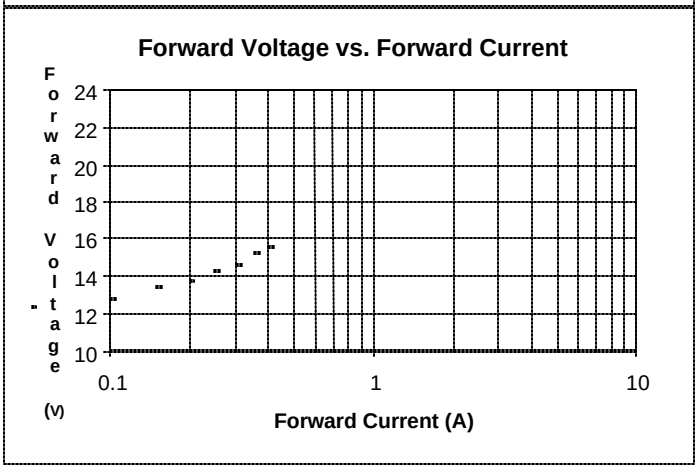
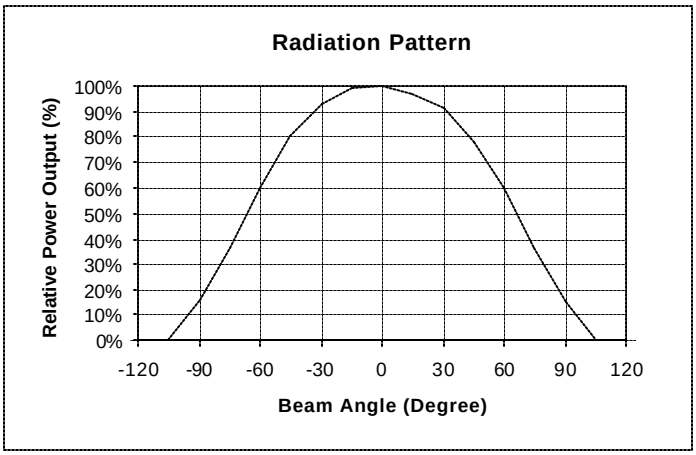
THERMAL PARAMETERS

Storage Temperature	-40 ° to +125 °C
Maximum Junction Temperature	125 °C
Thermal Resistance, R_{THJX} [1]	60 °C/W
Thermal Resistance, R_{THJA} [2]	8 °C/W

[1]No heat sink with minimal air circulation and heat conduction
[2]Infinite heat sink approximation with rapid air movement to maintain $T_C \cong 25$ °C







EYE SAFETY ISSUES

Opto Technology has no knowledge of any government or legal standards set for exposure to the eye from LED's between 770nm and 1400nm. Several suggestions for thresholds have been made as a result of empirical studies by professional industrial hygienists. Two of the most noteworthy works are:

***1995-1996 Threshold Limit Values (TLVs™) for Chemical Substances and Physical Agents and Biological Exposure Indices (BEIs™),* copyright 1995 by the American Conference of Government Industrial Hygienists.**

David Sliney and Myron Wolbarsht, *Safety with Lasers and Other Optical Sources*, New York: Plenum Press 1980.

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