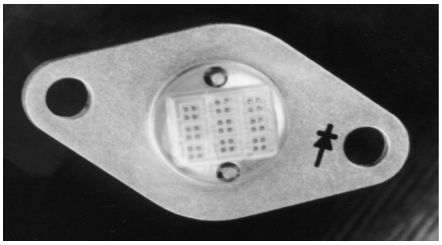
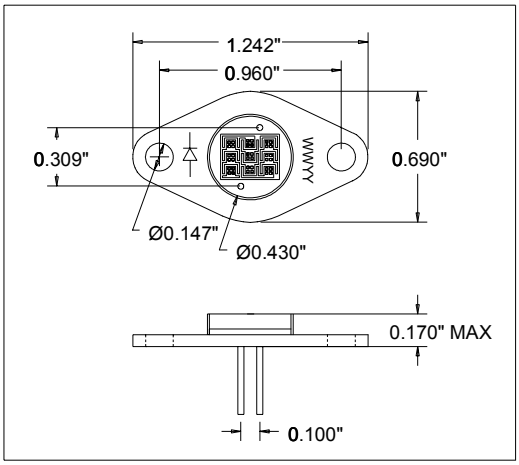
VERY HIGH POWER IR ILLUMINATOR OTL880B-9-4-66-E





FEATURES:

- **High reliability GaAlAs/GaAlAs IR LED's**
- **Very High Output Power**
- **880nm Peak Emission**
- **TO-66 package**
- **Nine, four chip cells connected in series**

PRODUCT DESCRIPTION

The OTL880B-9-4-66-E uses a total of 36 high efficiency gallium aluminum arsenide (GaAlAs/GaAlAs) infrared emitting diodes to provide extremely high illumination. It has approximately 30% more output power than the OTL880A and improved thermal efficiency. 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	650	770 9000		mW
Peak Emission Wavelength, λ_P	I_F = 80 mA		880		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 = 300 mA		14.5	15.5	Volts
Reverse Breakdown Voltage, V_R	I_R = 10 µA	5	60		Volts
Capacitance, C	V_R = 0			20	pF
Rise Time	I_F = 80 mA			300	ns
Fall Time	I_F = 80 mA			300	ns

ABSOLUTE MAXIMUM RATINGS AT 25°C

Power Dissipation (Derate 125 mW/°C above 25 °C)	12.5 watts
Continuous Forward Current	400 mA
Peak Forward Current (t ≤ 10 µs, duty cycle ≤ 1/20)	10 A
Reverse Voltage	5 volts
Lead Soldering Temperature	240 °C for 10 seconds

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562 Chaddick Drive, Wheeling, IL 60090
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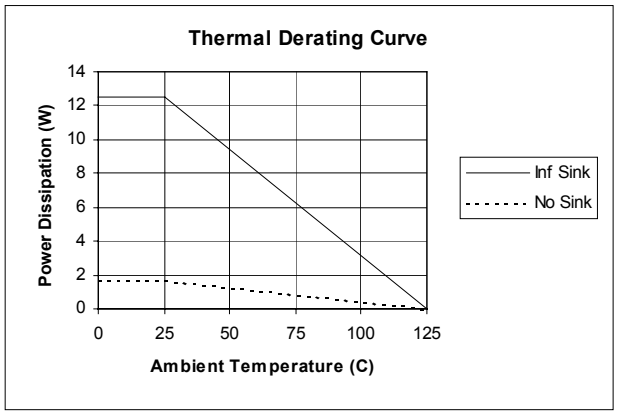
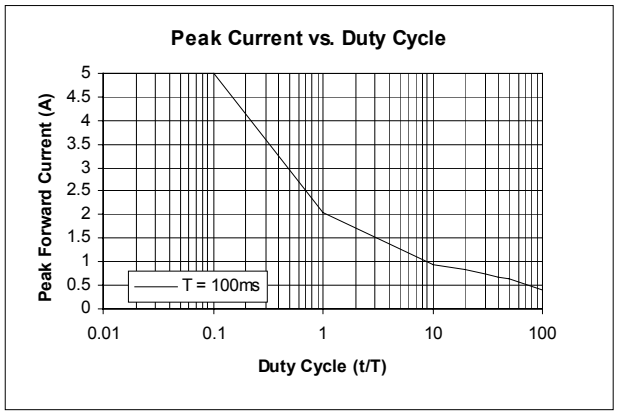
REV. A (12/00)

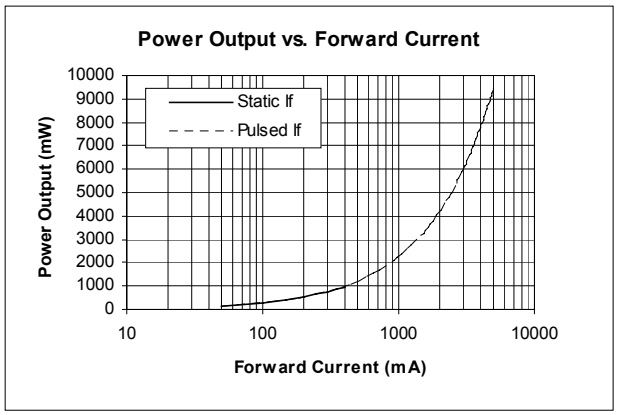
THERMAL PARAMETERS

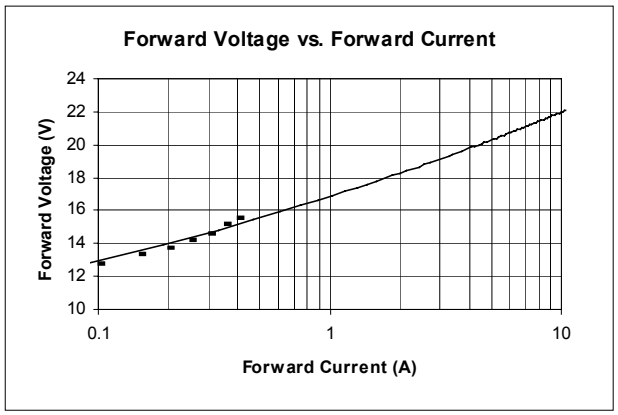
Storage and Operating Temperature	-40 ° to +125 °C
Maximum Junction Temperature	125 °C
Thermal Resistance, R_{THJX}[1]	60 °C/W
Thermal Resistance, R_{THJA}[2]	8 °C/W

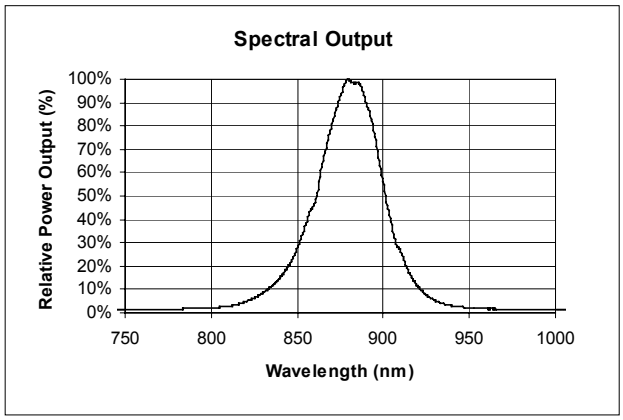
[1]No heat sink with minimal air circulation and heat conduction
[2]Infinite heat sink approximation with rapid air movement to maintain $T_C \cong 25$ °C

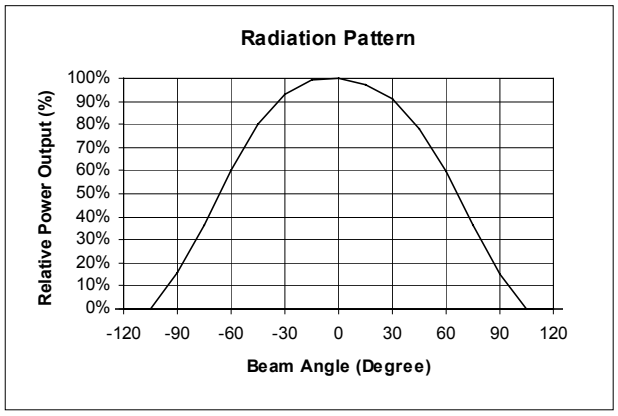












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EYE SAFETY ISSUES

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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