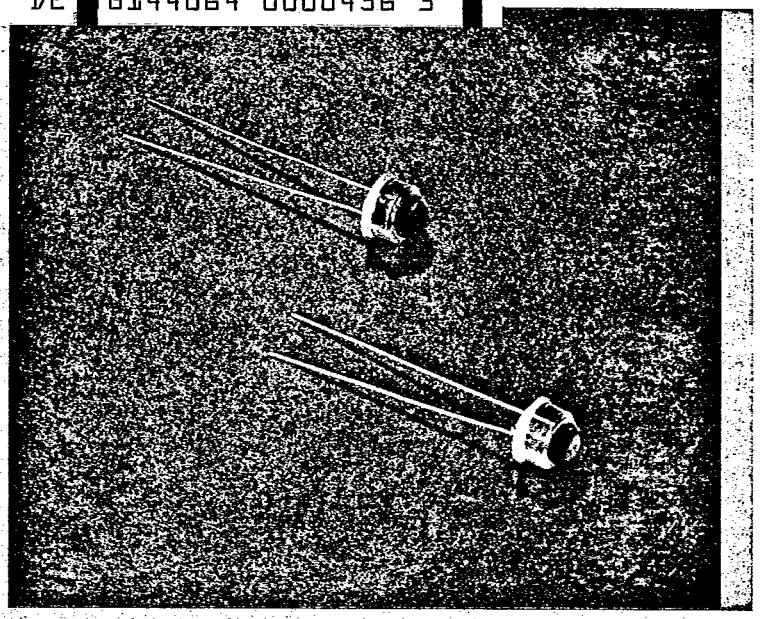
Dynalite Infrared Collimated Light Source



General Description

The DYNALITE was specifically designed for applications where a high degree of collimation is required, such as in optical encoders.

The DYNALITE Collimated Light Source is an infrared light emitting diode in a custom package. The unit consists of a TO-46 header with a molded lens cap, designed to yield a collimated light beam. The use of the DYNALITE gives a spectacular improvement over the use of normal TO-46 housed emitters in reducing the influence of disk-to-reticle distance variations. The improvement in wave form, ripple, duty cycle and resolutions give a much improved yield of the final linear or optical encoder assembly. The high-intensity spot is large enough to accommodate a six-cell silicon array for dual push-pull readout, index and feedback.

Features:

- Precision lens for consistent light pattern.
- High output power.
- Wavelength matched with silicon sensors.

Absolute Maximum Ratings @ 25°C

Power dissipation:	130mW
(Derate 1.6mW/°C above 25°C)	
Storage temperatures:	−55°C to +85°C
Operating temperatures:	−55°C to +85°C
Reverse voltage:	2.0 V max
Soldering temperature	
1/16″ from base for 10 seconds	240°C

Electrical Characteristics @25°C

SYMBOL	PARAMETER	MIN.	TYP.	MAX.	UNITS	TEST COND.
P_O	Radiant Power					
	10-53-0032-1	1	1.5	1.99	mW	I_F = 50 mA
	10-53-0032-2	2	2.5	2.99	mW	I_F = 50 mA
	10-53-0032-3	3	3.5	3.99	mW	I_F = 50 mA
	10-53-0032-4	4	4.5	4.99	mW	I_F = 50 mA
	10-53-0032-5	5	5.5	5.99	mW	I_F = 50 mA
V_F	Static Forward Voltage		1.5	1.75	V	I_F = 100 mA
	Wavelength @ Peak Emission (Note 1)		940		nm	I_F = 100 mA
B	Spectral Band width (@3dB)		60		nm	I_F = 100 mA
Ir	Reverse Leakage Current			100	µA	V_r = 2V
t_r	Rise Time (radiation)		600		nS	I_F Peak = 20 mA
t_f	Fall Time (radiation)		300		nS	

Optical Characteristics

	MIN.	TYP.	MAX.	UNITS	TEST COND.
Beam Divergence Angle		5°		Degrees	
Spot Diameter		.180″		Inch	@.250″ from lens
Uniformity over A.150″ Diameter spot		10		%	@ .250″ from lens

NOTE 1: Applies to −1 through −4. For −5 λ peak is 880 nm.

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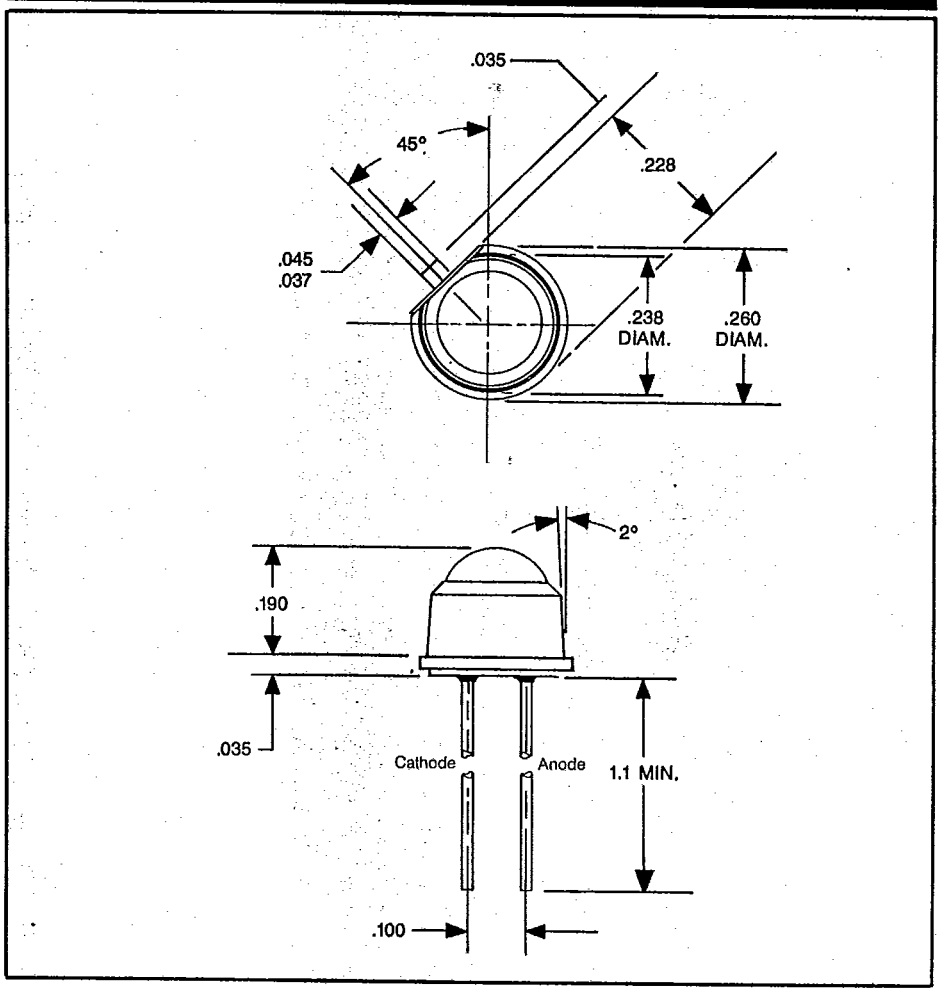
PHYSICAL DIMENSIONS



Also available are the following quality products:

- Optical Switches
- Optical Encoders, Incremental and Linear.
- Discrete LED's, Phototransistors.
- Reflective Optical Transducers.