

Infrared Emitting Diode

Module No.: IE-0570HCY

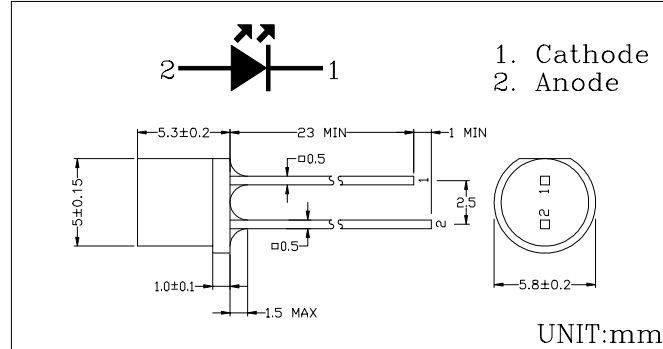
1. General Description:

IE-0570HCY is a high output power GaAlAs infrared light emitting diode, mounted in a clear epoxy end looking cylinder package. It emits narrow band of radiation peaking at 940nm.

2. Features

- Extra wide beam angle ($\pm 70^\circ$)
- Capable of pulse operation
- High output power
- $\varnothing 5\text{mm}$ cylinder package (Flat-head)
- Low cost

Dimensions



3. Absolute Maximum Ratings

($T_a = 25^\circ\text{C}$)

Parameter	Symbol	Ratings	Unit
Forward Current	I_F	100	mA
Pulse Forward current *1	I_{FP}	1	A
Reverse Voltage	V_R	5	V
Power Dissipation	P_D	100	mW
Operating Temperature	T_{opr}	$-30 \sim +70$	$^\circ\text{C}$
Storage Temperature	T_{stg}	$-30 \sim +80$	$^\circ\text{C}$
Soldering Temperature *2	T_{sol}	260	$^\circ\text{C}$

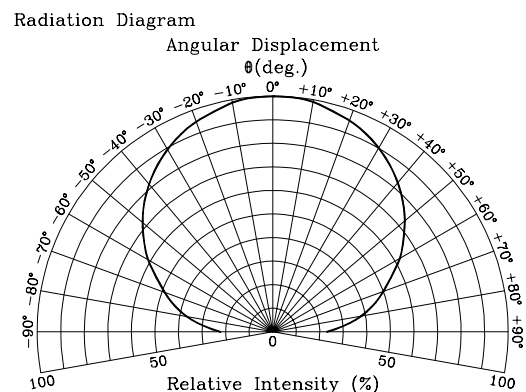
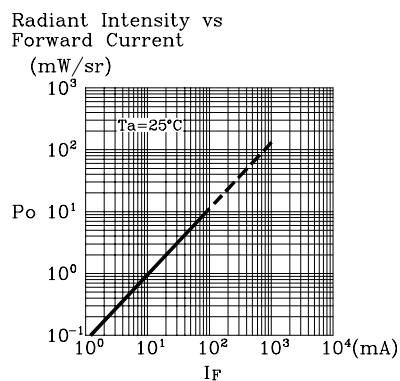
*1 Pulse width $\leq 100\mu\text{sec}$. Time Cycle = 10msec.

*2 At the position of 2mm from the bottom of the package within 5 seconds.

4. Electro-optical Characteristics

($T_a = 25^\circ\text{C}$)

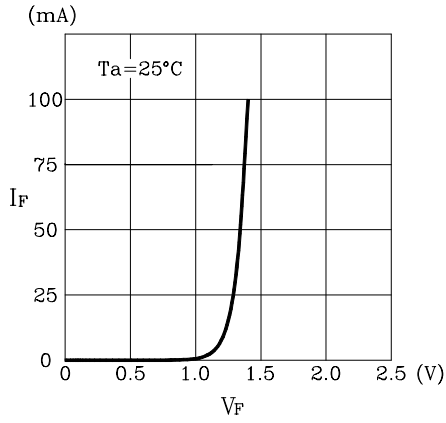
Parameter	Symbol	Testing Conditions	Min.	Typ.	Max.	Unit
Forward Voltage	V_F	$I_F = 100\text{mA}$		1.4	1.7	V
Reverse Current	I_R	$V_R = 5\text{V}$			10	μA
Radiant Intensity	P_o	$I_F = 100\text{mA}$	4	11		mW/sr
Terminal Capacitance	C_t	$f = 1\text{MHz}$		40		pF
Half Power Beam Angle	$\Delta\theta$			± 70		deg.
Peak Emission Wavelength	λ_p	$I_F = 50\text{mA}$		940		nm
Spectral bandwidth at 50%	$\Delta\lambda$	$I_F = 50\text{mA}$		45		nm



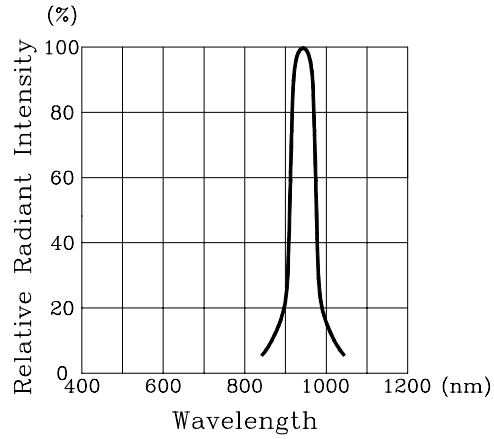
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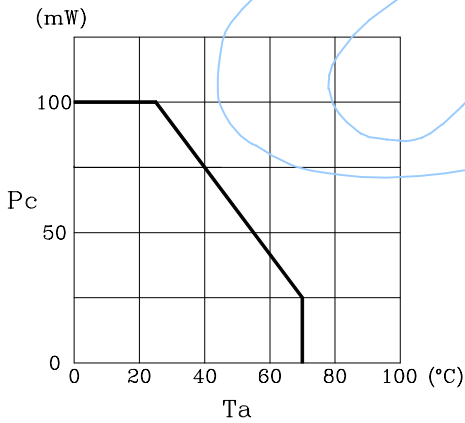
Forward Current vs Forward Voltage



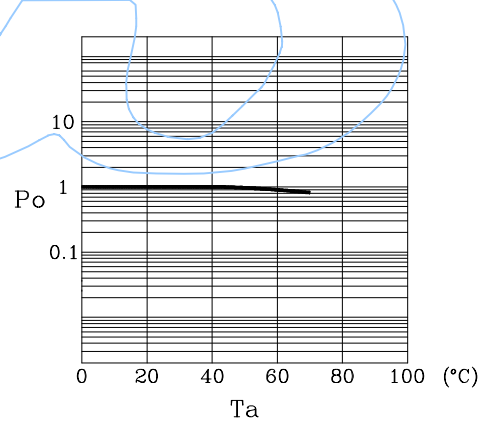
Spectral Distribution



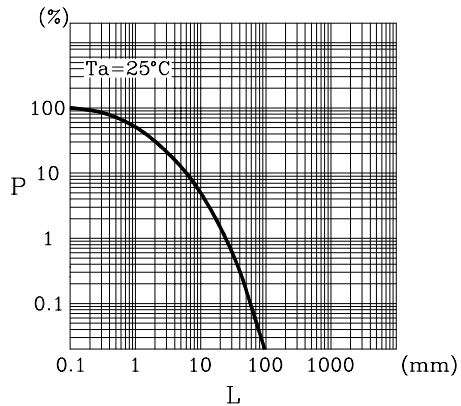
Power Dissipation vs Ambient Temperature



Relative Output power vs Ambient Temperature



Relative Power vs Distance to Detector



Distance to Detector Test Conditions

