

## Infrared Emitting Diode

Module No.: IE-0530HP

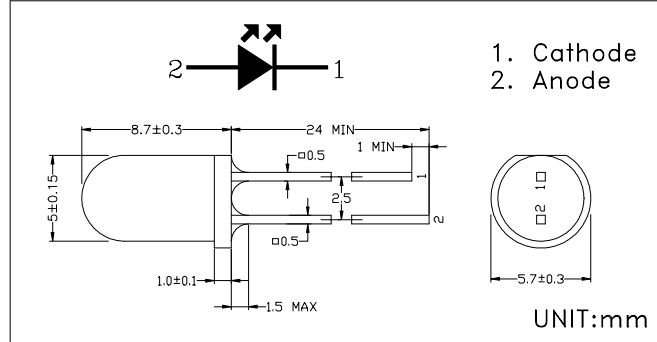
### 1. General Description:

IE-0530HP is a super high output power GaAlAs infrared light emitting diode, mounted in a clear epoxy end looking package. It emits narrow band of radiation peaking at 940nm.

### 2. Features

- Standard package (Ø5mm)
- Wide beam angle ( $\pm 30^\circ$ )
- Capable of pulse operation
- High output power
- 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	$T_{opr}$	-25 ~ +70	$^\circ\text{C}$
Storage Temperature	$T_{stg}$	-30 ~ +80	$^\circ\text{C}$
Soldering Temperature *2	$T_{sol}$	260	$^\circ\text{C}$

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

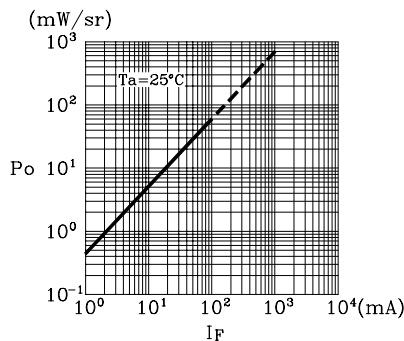
\*2 At the position of 2mm from the bottom of the package within 5 seconds.

### 4. Electro-optical Characteristics

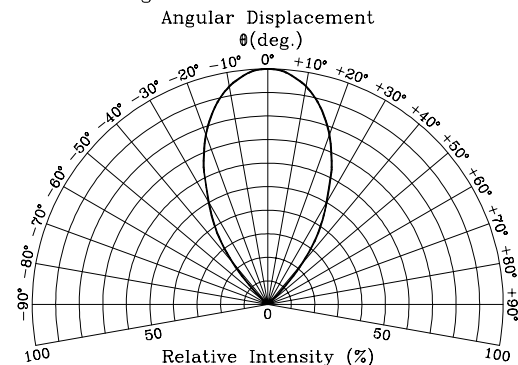
( $T_a=25^\circ\text{C}$ )

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	$\mu\text{A}$
Radiant Intensity	$P_o$	$I_F=100\text{mA}$	30	60		mW/sr
Terminal Capacitance	$C_t$	$f=1\text{MHz}$		20		pF
Half Power Beam Angle	$\Delta\theta$			$\pm 30$		deg.
Peak Emission Wavelength	$\lambda_p$	$I_F=50\text{mA}$		940		nm
Spectral bandwidth at 50%	$\Delta\lambda$	$I_F=50\text{mA}$		50		nm

Radiant Intensity vs Forward Current



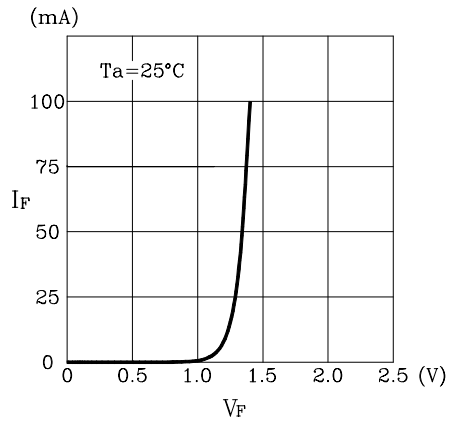
Radiation Diagram



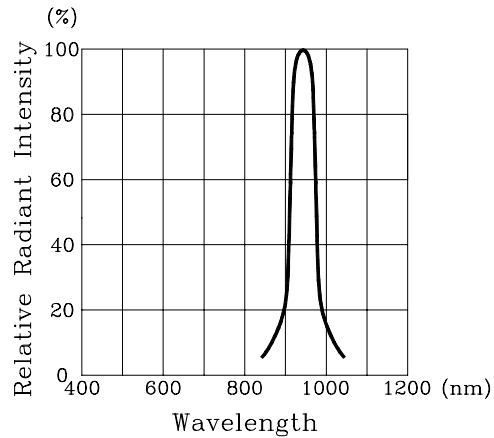
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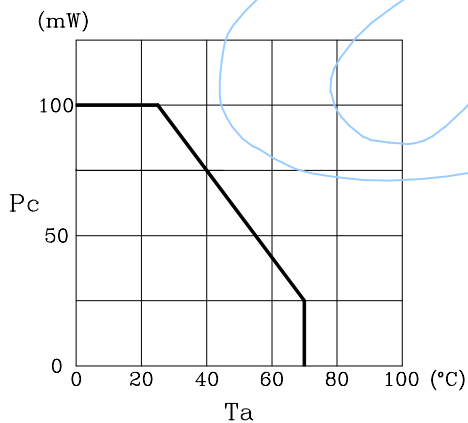
Forward Current vs Forward Voltage



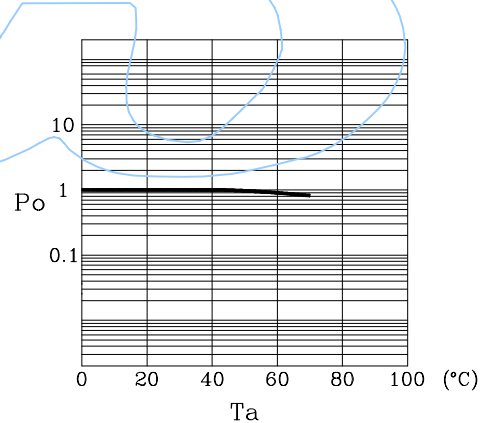
Spectral Distribution



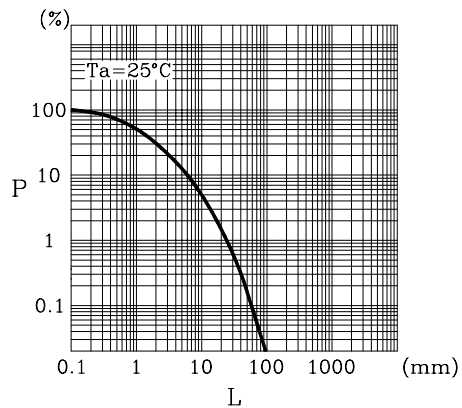
Power Dissipation vs Ambient Temperature



Relative Output power vs Ambient Temperature



Relative Power vs Distance to Detector



Distance to Detector Test Conditions

