

Module No.: IE-0505HP

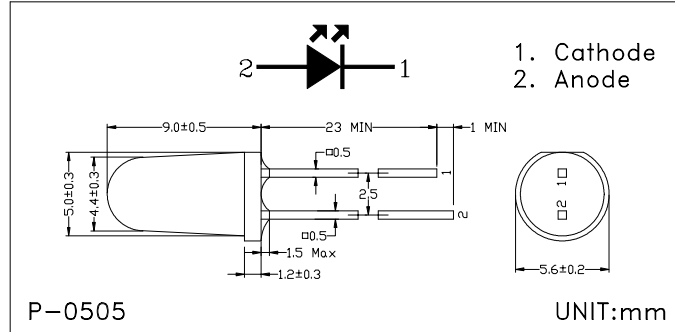
1. General Description:

IE-0505HP is a 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

- Ultra narrow beam angle
- Good linearity
- Capable of pulse operation
- High output power
- Low cost

Dimensions



3. Absolute Maximum Ratings

(Ta=25°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	°C
Storage Temperature	T_{stg}	-25 ~ +80	°C
Soldering Temperature *2	T_{sol}	260	°C

*1 Pulse width ≤ 100μsec. Duty ratio = 0.01

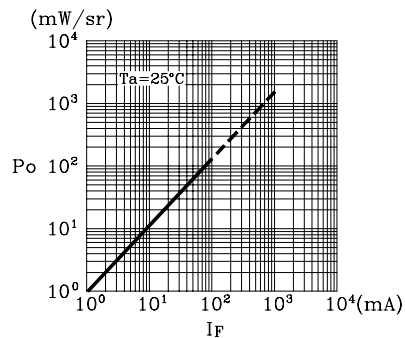
*2 At the position of 2mm from the bottom of the package within 5 seconds.

4. Electro-optical Characteristics

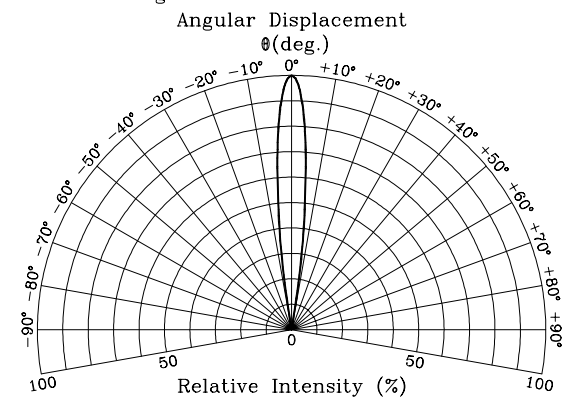
(Ta=25°C)

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	$I_F=100\text{mA}$	50	130		mW/sr
Terminal Capacitance	C_t	$f=1\text{MHz}$		25		pF
Half Power Beam Angle	$\Delta\theta$			±5		deg.
Peak Emission Wavelength	λ_p	$I_F=100\text{mA}$		940		nm
Spectral Bandwidth at 50%	$\Delta\lambda$	$I_F=100\text{mA}$		45		nm

Radiant Intensity vs Forward Current



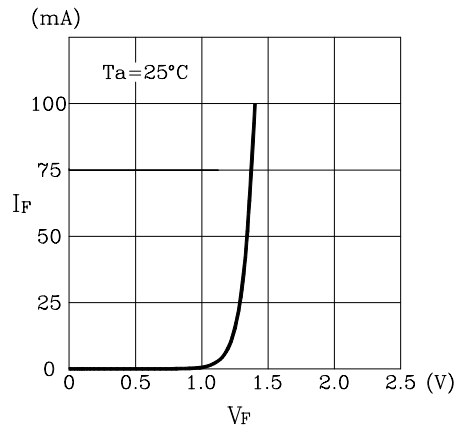
Radiation Diagram



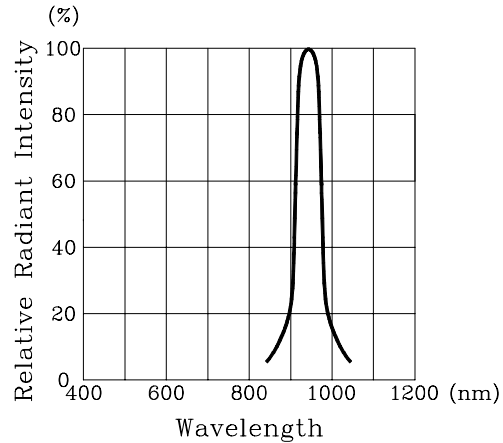
Infrared Emitting Diode

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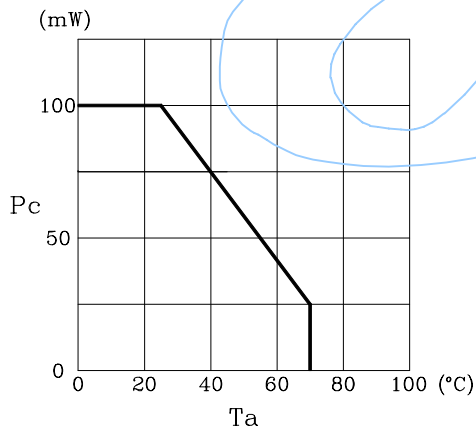
Forward Current vs
Forward Voltage



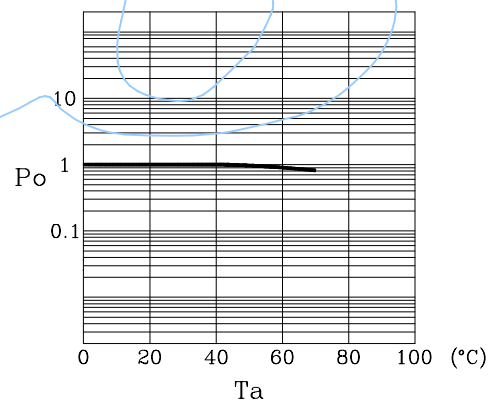
Spectral Distribution



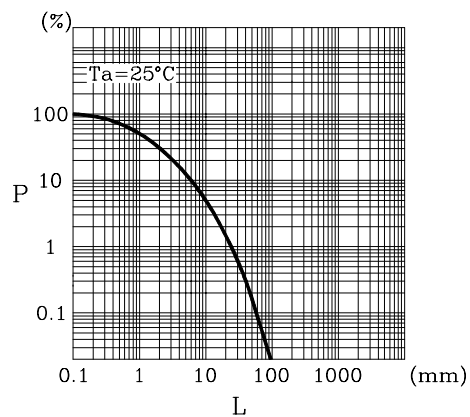
Power Dissipation vs
Ambient Temperature



Relative Output power vs
Ambient Temperature



Relative Power vs
Distance to Detector



Distance to Detector Test Conditions

