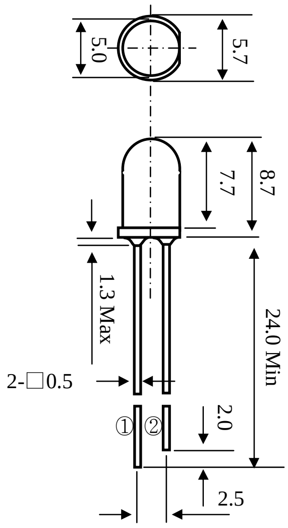
GaAs Infrared Emitter

OPE5594A

The **OPE5594S** is GaAlAs infrared emitting diode that is designed for high reliability, high radiant intensity and low forward voltage .This device is optimized for efficiency at emission wavelength 940nm and has a high radiant efficiency over a wide range of forward current. This device is packaged T1-3/4 plastic package and has narrow beam angle with lensed package and cup frame.

DIMENSIONS (Unit : mm)



① Anode
② Cathode

Tolerance : ±0.2mm

FEATURES

- High-output power
- Narrow beam angle
- High reliability and long term stability
- Available for pulse operating

APPLICATIONS

- Optical emitters
- Optical switches
- Smoke sensors
- IR remote control
- IR sound transmission

STORAGE

- Condition : 5°C~35°C,R.H.60%
- Terms : within 3 months from production date
- Remark : Once the package is opened, the products should be used within a day.
  Otherwise, it should be keeping in a damp proof box with desiccants.

* Please take proper steps in order to secure reliability and safety in required conditions and environments for this device.

MAXIMUM RATINGS

(Ta=25°C)

Item	Symbol	Rating	Unit
Power Dissipation	P_D	150	mW
Forward current	I_F	100	mA
Pulse forward current *1	I_{FP}	1.0	A
Reverse voltage	V_R	5.0	V
Operating temp.	Topr.	-25~ +85	℃
Soldering temp. *2	Tsol.	260.	℃

*1.Duty ratio = 1/100, pulse width=0.1ms.

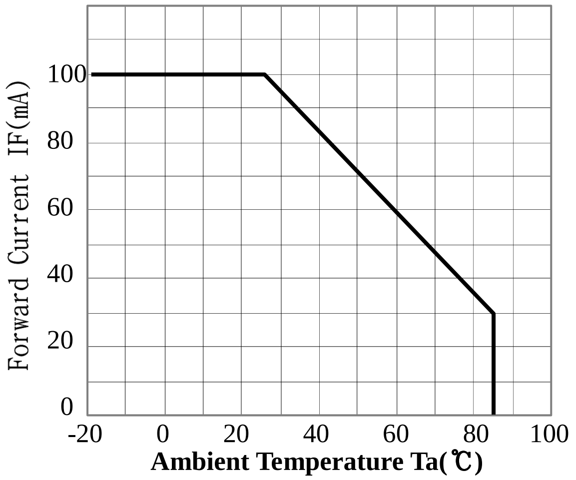
*2.Lead Soldering Temperature (2㎜ from case for 5sec.).

ELECTRO-OPTICALCHARACTERISTICS

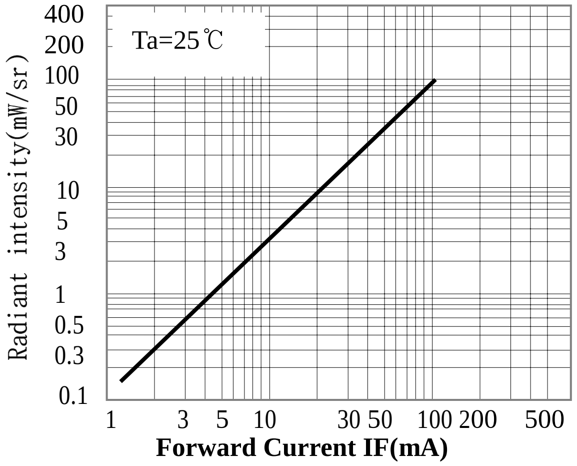
(Ta=25°C)

Item	Symbol	Conditions	Min.	Typ.	Max.	Unit
Forward voltage	V_F	I_F =100mA		1.4	1.7	V
Reverse current	I_R	V_R= 5V			10	μA
Capacitance	Ct	f = 1MHz		20		pF
Radiant intensity	Ie	I_F=100mA		80		mW/sr
Peak emission wavelength	λ_p	I_F= 50mA		940		nm
Spectral bandwidth 50%	Δ λ	I_F= 50mA		45		nm
Half angle	Δ Θ	I_F=100mA		±10		deg.

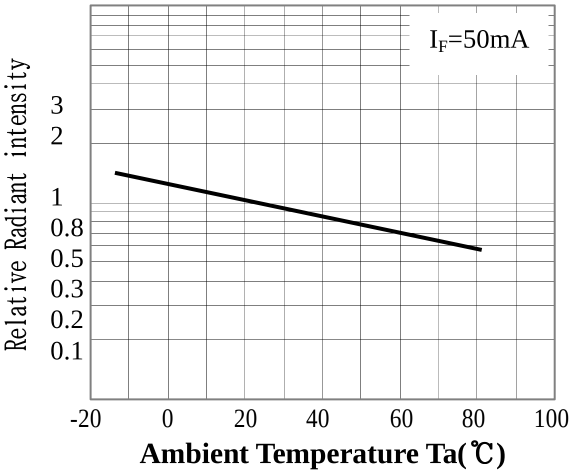
- **FORWARD CURRENT Vs. AMBIENT TEMP.**



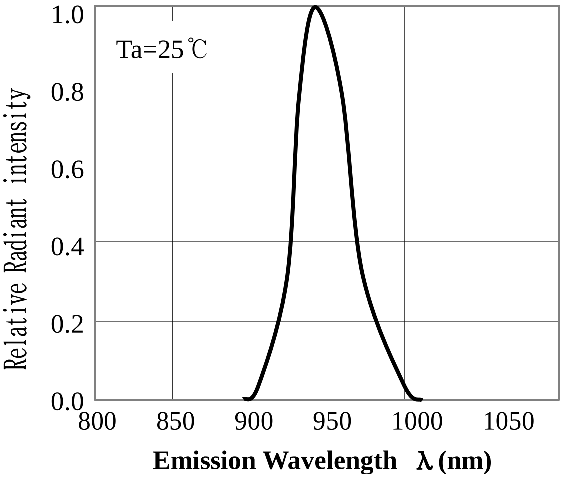
- **RADIANT INTENSITY Vs. FORWARD CURRENT.**



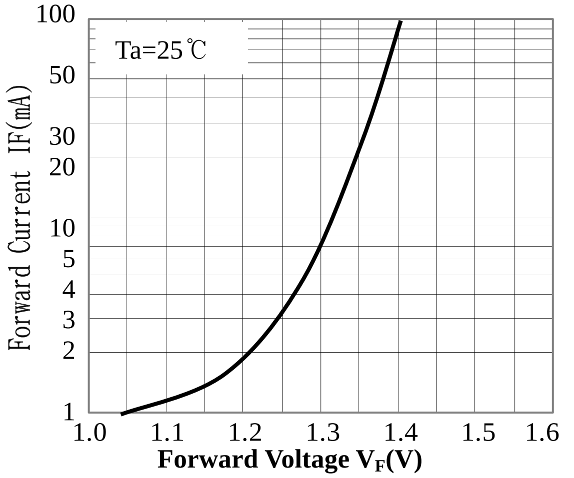
- **RELATIVE RADIANT INTENSITY Vs. AMBIENT TEMP.**



- **RELATIVE RADIANT INTENSITY Vs. EMISSION WAVELENGTH.**



- **FORWARD CURRENT Vs. FORWARD VOLTAGE**



- **ANGULAR DISPLACEMENT Vs RELATIVE RADIANT INTENSITY**