

T-1 3/4(5 mm) Infrared Emitting Diode(Top)

IR333/S2

Features:

- HIGH RADIANT INTENSITY.
- PEAK WAVELENGTH $\lambda_p = 940\text{nm}$.
- VIEWING ANGLE 48° .
- HIGH RELIABILITY.

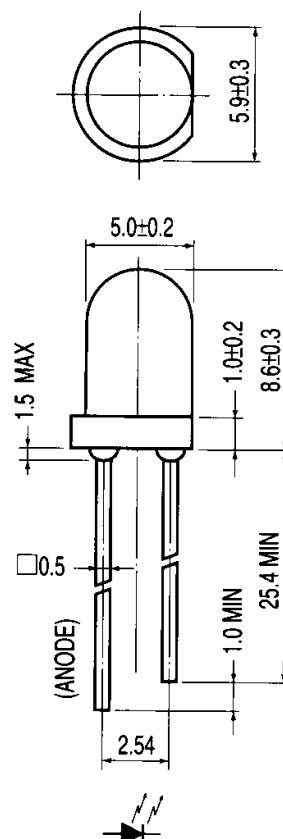
Descriptions:

- EVERLIGHT's Infrared Emitting Diode (IR333/S2) is a high intensity diode, molded in a clear, blue transparent plastic package.
- The device is spectrally matched to the photo transistor, photo diode, and infrared module.

Applications:

- Free air transmission system.
- Optoelectronic switch.
- Infrared remote control units with high power requirement.

Package Dimensions:



NOTES:

1. All dimensions are in millimeters .
2. Lead spacing is measured where the leads emerge from the package.
3. Protruded resin under flange 1.5mm (0.059") max.
4. Lens color: Blue transparent.

Absolute Maximum Ratings (Ta=25°C)

PARAMETER	SYMBOL	RATING	UNIT
Forward Current	If	100	mA
Peak Forward Current (Pulse width=100μs, Duty cycle=1%)	Ifp	1.0	A
Reverse Voltage	Vr	5	V
Operating Temperature Range	Topr	-40 to +85	°C
Storage Temperature Range	Tstg	-40 to +85	°C
Lead Soldering Temperature (1/16 inch from body for 5 sec.)	Tsol	260	°C
Power Dissipation at (or below) 25°C Free Air Temperature	Pd	110	mW

Electro-Optical Characteristics (Ta=25°C)

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	CONDITION
Radiant Intensity	Ee	2.0	3.5	-	mW/sr	If=20mA
Peak Wavelength	λ_p	-	940	-	nm	If=20mA
Spectral Bandwidth	$\Delta\lambda$	-	80	-	nm	If=20mA
Forward Voltage	Vf	-	1.2	1.6	V	If=20mA
Reverse Current	Ir	-	-	10	μ A	Vr=5V
Viewing Angle	2 θ 1/2	-	48	-	deg	If=20mA

Reliability Test Item and Condition

NO	ITEM	TEST CONDITION	TEST HOURS / CYCLE	SAMPLE SIZE	AC / RE
1	Solder Heat	TEMP :260°C $\pm$ 5°C	5SEC	76PCS	0/1
2	Temperature Cycle	85°C 25°C -55°C 25°C ↓ ↓ ↓ ↓ 30min, 5min, 30min, 5min	50CYCLE	76PCS	0/1
3	Thermal Shock	H: +100°C, 5min ↑ 10 SEC L: -10°C, 5min	50CYCLE	76PCS	0/1
4	High Temperature Storage	TEMP :100°C	1000HRS	76PCS	0/1
5	Low Temperature Storage	TEMP :-55°C	1000HRS	76PCS	0/1
6	DC Operating Life	If=20mA	1000HRS	76PCS	0/1
7	High Temperature /High Humidity	TA :85°C RH :85%	1000HRS	76PCS	0/1

Fig-1 FORWARD CURRENT VS. AMBIENT TEMPERATURE

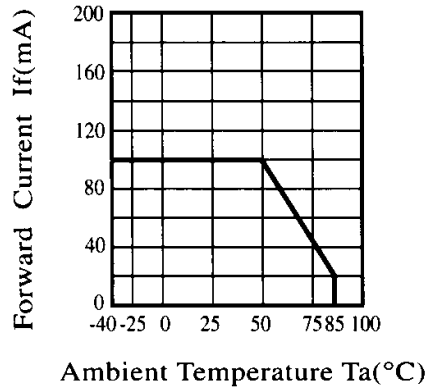


Fig-2 SPECTRAL DISTRIBUTION

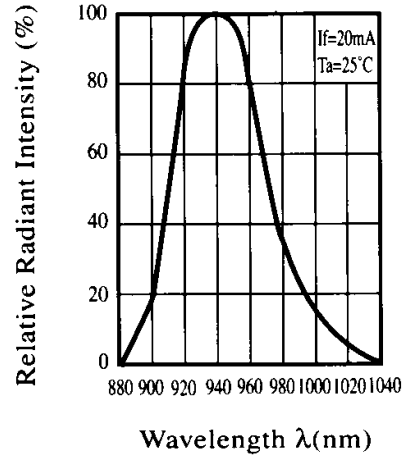


Fig-3 PEAK EMISSION WAVELENGTH VS. AMBIENT TEMPERATURE

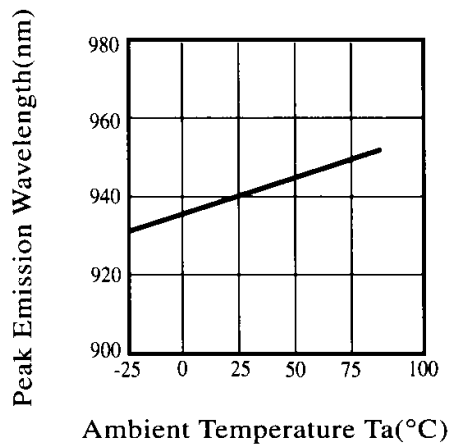


Fig-4 FORWARD CURRENT VS. FORWARD VOLTAGE

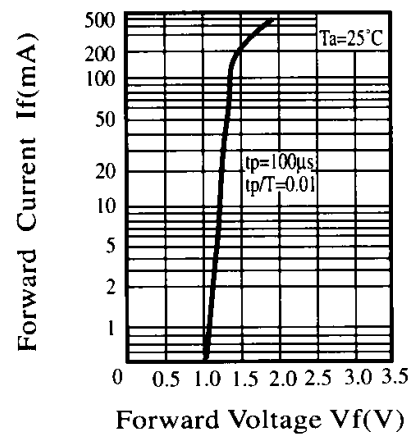


Fig-5 RELATIVE RADIANT FLUX VS. AMBIENT TEMPERATURE

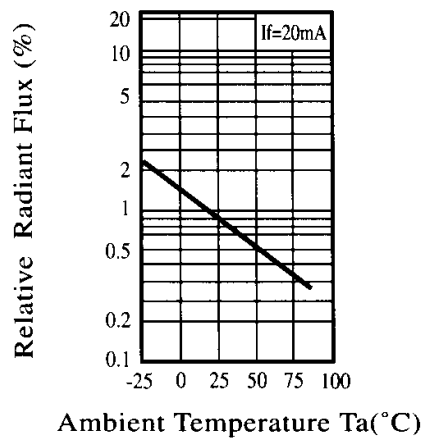


Fig-6 RELATIVE RADIANT INTENSITY VS. ANGULAR DISPLACEMENT

