

Features

- ◆ High radiant intensity
- ◆ Peak wavelength= $\lambda_p=940\text{nm}$
- ◆ View angle 30°
- ◆ High reliability
- ◆ 2.54mm Lead spacing
- ◆ Low forward voltage
- ◆ Pb free
- ◆ The product itself will remain within RoHS compliant version.

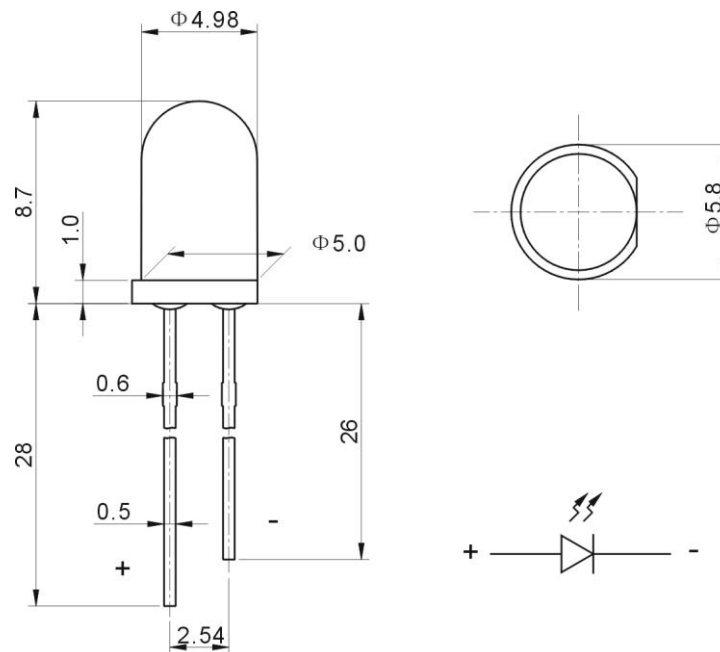
Descriptions

- ◆ Infrared Emitting Diode (OS-5038F) is a high intensity diode, molded in a water clear plastic package.
- ◆ The device is spectrally matched with phototransistor, photodiode and infrared receiver module.

Applications

- ◆ Free air transmission system
- ◆ Optoelectronic switch
- ◆ Floppy disk drive
- ◆ Infrared applied system
- ◆ Smoke detector

Package Dimension:



NOTE: TOLERANCE $\pm 0.5\text{mm}$

Part NO.	Material	Lens Color
OS-5038F	AlGaAs	Water Clear

Notes:

1. All dimensions are in millimeters.
2. Tolerances unless dimensions $\pm 0.25\text{mm}$.

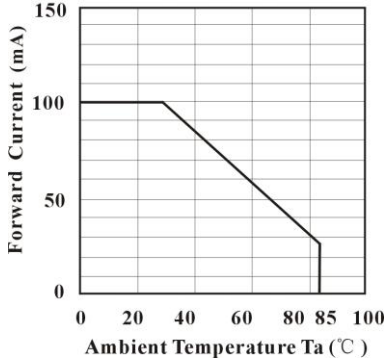
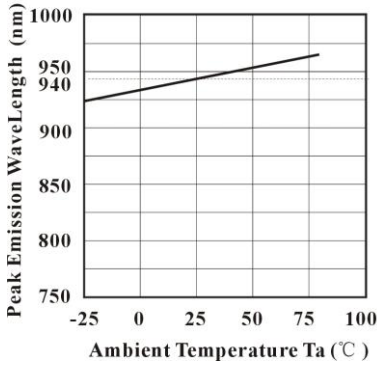
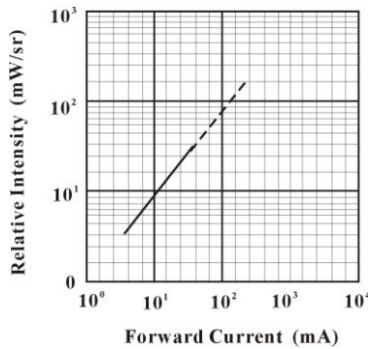
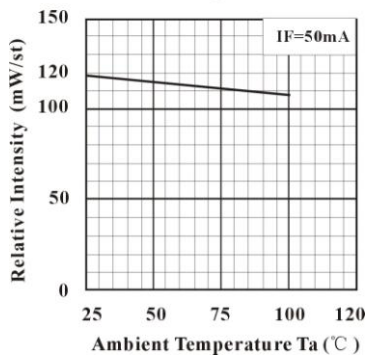
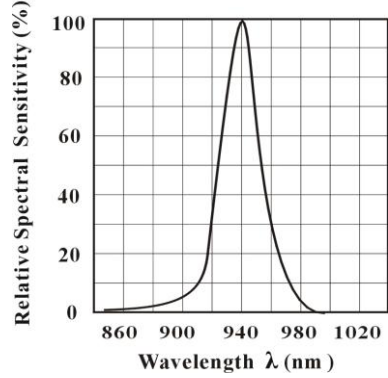
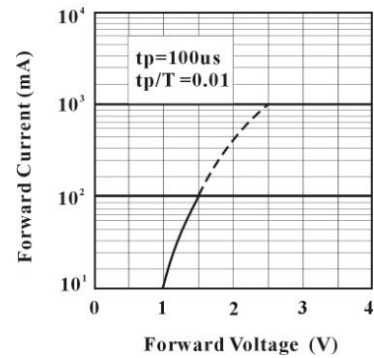
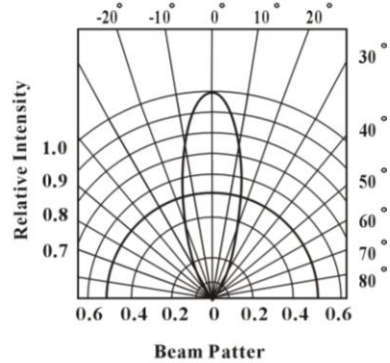
Absolute Maximum Ratings at Ta=25°C

Parameter	Symbol	Rating	Unit
Continuous Forward Current	I_F	100	mA
Power Dissipation at (or below) 25°C Free Air Temperature	P_d	150	mW
Transient Peak Current (Pulse width=100 μ s, Duty cycle=1%)	I_{FP}	1000	mA
Reverse Voltage	V_R	5	V
Operating Temperature	T_{opr}	-40~+85	°C
Storage Temperature*	T_{stg}	-40~+85	°C
Soldering Temperature	T_{sol}	260	°C

* 4mm from mold body less than 5 seconds

Electrical Optical Characteristics:

Parameter	Symbol	Min.	Typ.	Max.	Unit	Test Condition
Forward Voltage	V_F		1.35	1.50	V	$I_F=50\text{mA}$
Radiant Intensity	I_e	60	76		mW/sr	$I_F=50\text{mA}$
Peak Wavelength	λ_p		940		nm	$I_F=50\text{mA}$
Reverse Current	I_R			10	μ A	$V_R=5\text{V}$
Viewing Angle	θ		30		deg	$I_F=50\text{mA}$

Typical Electrical-Optical Characteristics Curves
Fig.1 Forward Current vs. Ambient Temperature

Fig.3 Peak Emission WaveLength vs Ambient Temperature

Fig.5 Relative Intensity vs. Forward Current

Fig.7 Relative Intensity vs. Ambient Temperature (°C)

Fig.2 Spectral Sensitivity

Fig.4 Forward Current vs. Forward Voltage

Fig.6 Relative Radiant Intensity vs. Angular Displacement

Fig.8 Forward Voltage vs. Ambient Temperature (°C)
