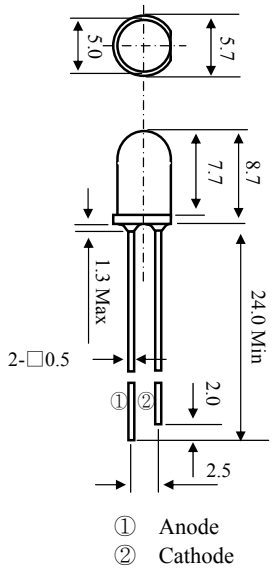
# GaAlAs Infrared Emitter

# OPE5294WK

The **OPE5294WK** is GaAlAs infrared emitting diode that is designed for 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 medium beam angle with lensed package and cup frame.

DIMENSIONS (Unit : mm)




Tolerance : ±0.2mm

**FEATURES**
- High-output power
- Medium beam angle
- 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 )

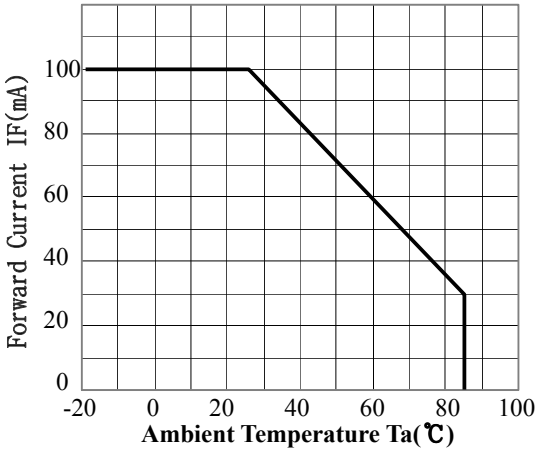
| Item | Symbol | Rating | Unit |
|---|---|---|---|
| Power Dissipation | $P_D$ | 150 | mW |
| Forward current | $I_F$ | 100 | mA |
| Pulse forward current *1 | $I_{FP}$ | 1.0 | A |
| Reverse voltage | $V_R$ | 5.0 | V |
| Operating temp. | Topr. | -25~ +85 | °C |
| Soldering temp. *2 | Tsol. | 260. |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

*1.Duty ratio = 1/100, pulse width=0.1ms.
*2.Lead Soldering Temperature (2㎜ from case for 5sec.).

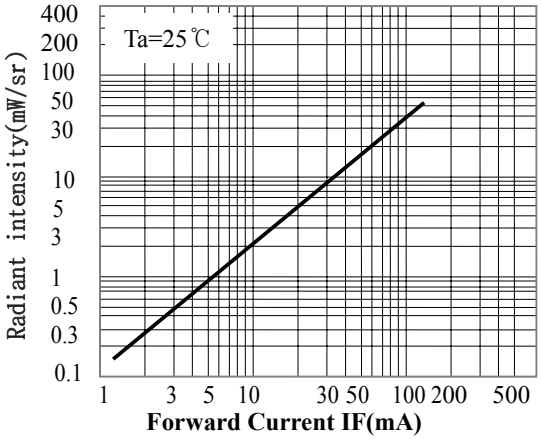
**ELECTRO-OPTICALCHARACTERISTICS** (Ta=25°C)

| 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 | | 40 | | mW/sr |
| Peak emission wavelength | $\lambda_p$ | $I_F$= 50mA | | 940 | | nm |
| Spectral bandwidth 50% | $\Delta\lambda$ | $I_F$= 50mA | | 45 | | nm |
| Half angle | $\Delta\Theta$ | $I_F$=100mA | | ±22 | | deg. |

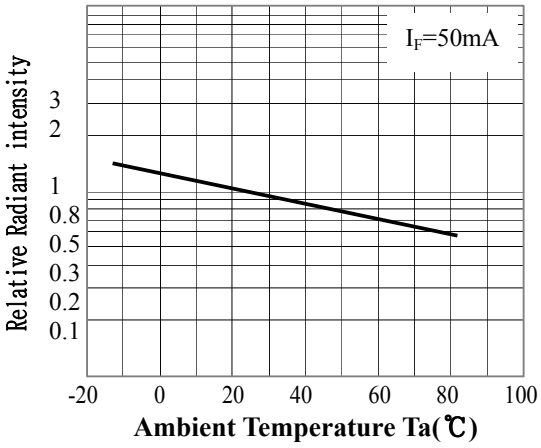
● **FORWARD CURRENT Vs. AMBIENT TEMP.**



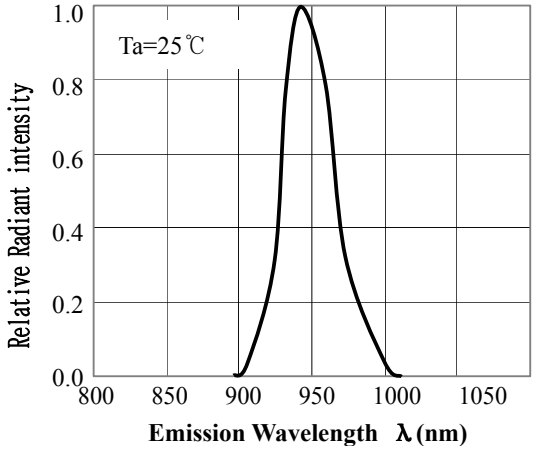

● **RADIANT INTENSITY Vs. FORWARD CURRENT.**



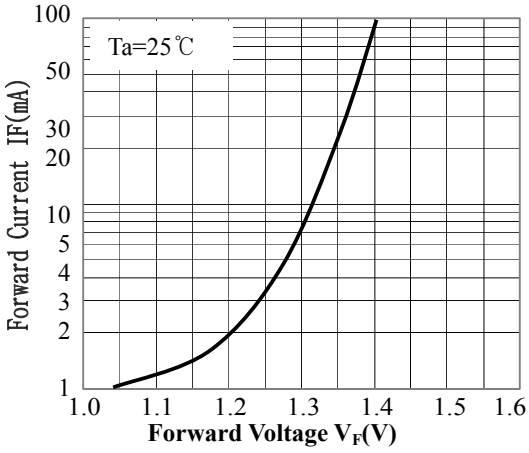

● **RELATIVE RADIANT INTENSITY Vs. AMBIENT TEMP.**




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




● **FORWARD CURRENT Vs. FORWARD VOLTAGE**




● **ANGULAR DISPLACEMENT Vs RELATIVE RADIANT INTENSITY**