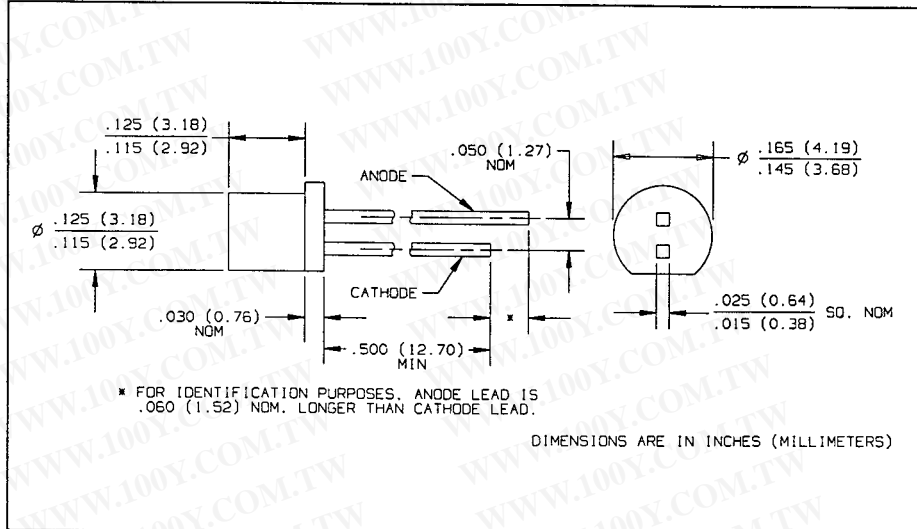
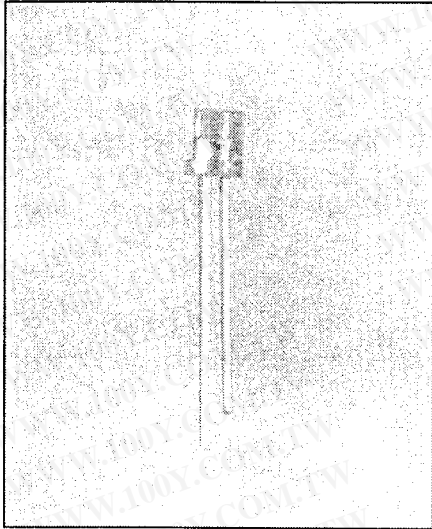


GaAlAs Plastic Infrared Emitting Diode Type OP265W



Features

- Wide irradiance pattern
- Mechanically and spectrally matched to the OP505W
- Small package size for space limited applications
- T-1 package style
- Significantly higher power output than GaAs at equivalent drive currents

Description

The OP265W is an 890 nm high intensity gallium aluminum arsenide infrared emitting diode molded in an IR transmissive amber-tinted epoxy package. The broad irradiance pattern provides relatively even illumination over a large area. This package is a T-1 style in all respects except for the length of the plastic package.

Absolute Maximum Ratings ($T_A = 25^\circ\text{C}$ unless otherwise noted)

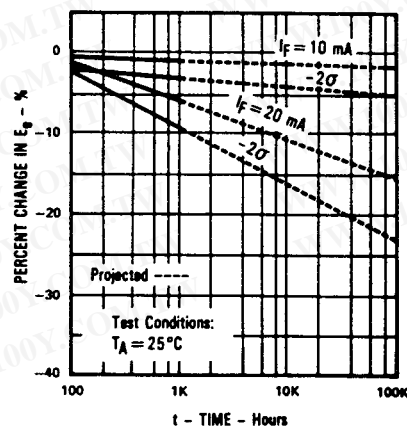
| | |
|--|---|
| Reverse Voltage | 2.0 V |
| Continuous Forward Current | 50 mA |
| Peak Forward Current (1 μs pulse width, 300 pps) | 3.0 A |
| Storage and Operating Temperature Range | -40°C to $+100^\circ\text{C}$ |
| Lead Soldering Temperature [1/16 inch (1.6 mm) from case for 5 sec. with soldering iron] | $260^\circ\text{C}^{(1)}$ |
| Power Dissipation | 100 mW ⁽²⁾ |

Notes:

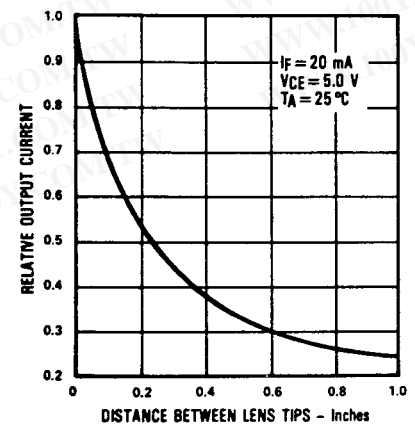
- (1) RMA flux is recommended. Duration can be extended to 10 sec. max. when flow soldering. A max. of 20 grams force may be applied to the leads when soldering.
- (2) Derate linearly 1.33 mW/ $^\circ\text{C}$ above 25°C .

Typical Performance Curves

Percent Changes in Radiant Intensity vs Time



Coupling Characteristics of OP265W and OP505W



Type OP265W

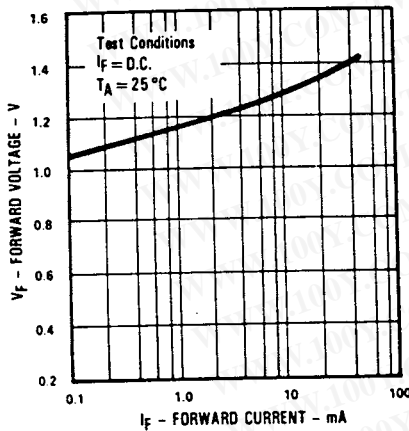
Electrical Characteristics ($T_A = 25^\circ\text{C}$ unless otherwise noted)

| SYMBOL | PARAMETER | MIN | TYP | MAX | UNITS | TEST CONDITIONS |
|----------------------------|--|-----|-------|------|----------------------|---|
| P_O | Radiant Power Output | 1.0 | | | mW | $I_F = 20\text{ mA}$ |
| V_F | Forward Voltage | | | 1.80 | V | $I_F = 20\text{ mA}$ |
| I_R | Reverse Current | | | 100 | μA | $V_R = 2\text{ V}$ |
| λ_p | Wavelength at Peak Emission | | 890 | | nm | $I_F = 10\text{ mA}$ |
| B | Spectral Bandwidth Between Half Power Points | | 80 | | nm | $I_F = 10\text{ mA}$ |
| $\Delta\lambda_p/\Delta T$ | Spectral Shift with Temperature | | +0.18 | | nm/ $^\circ\text{C}$ | $I_F = \text{Constant}$ |
| θ_{HP} | Emission Angle at Half Power Points | | 90 | | Deg. | $I_F = 20\text{ mA}$ |
| t_r | Output Rise Time | | 500 | | ns | $I_F(PK) = 100\text{ mA}$, PW = 10 μs , D.C. = 10% |
| t_f | Output Fall Time | | 250 | | ns | $I_F(PK) = 100\text{ mA}$, PW = 10 μs , D.C. = 10% |

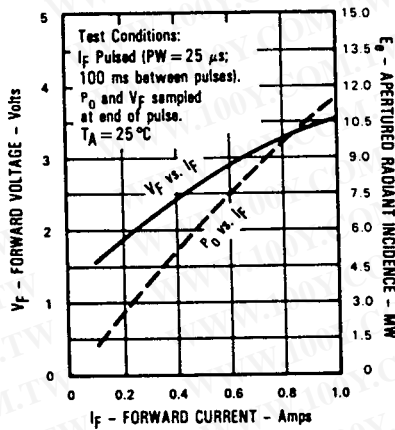
INFRARED EMITTING DIODES

Typical Performance Curves

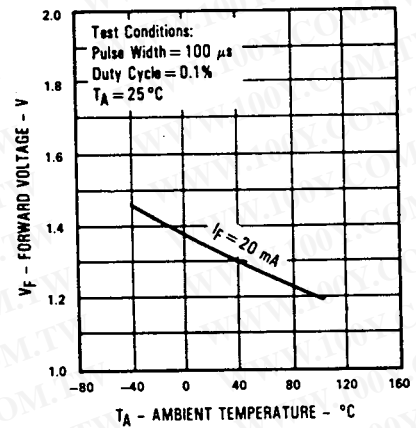
Forward Voltage vs Forward Current



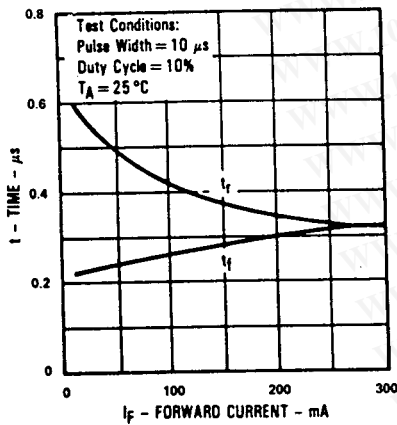
Forward Voltage and Radiant Incidence vs Forward Current



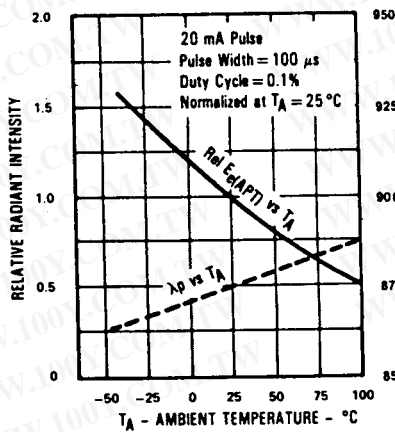
Forward Voltage vs Ambient Temperature



Rise Time and Fall Time vs Forward Current



Relative Radiant Intensity and Wavelength at Peak Emission vs Ambient Temperature



Relative Radiant Intensity vs Angular Displacement

