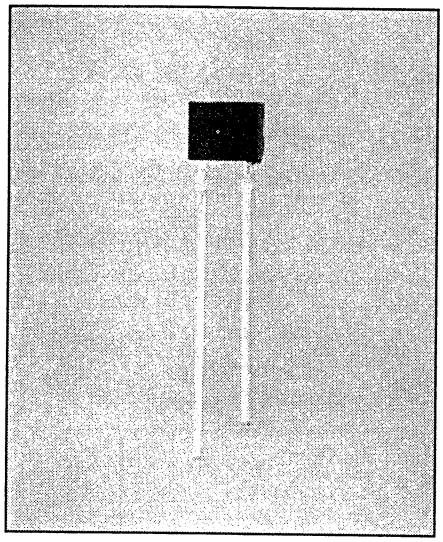
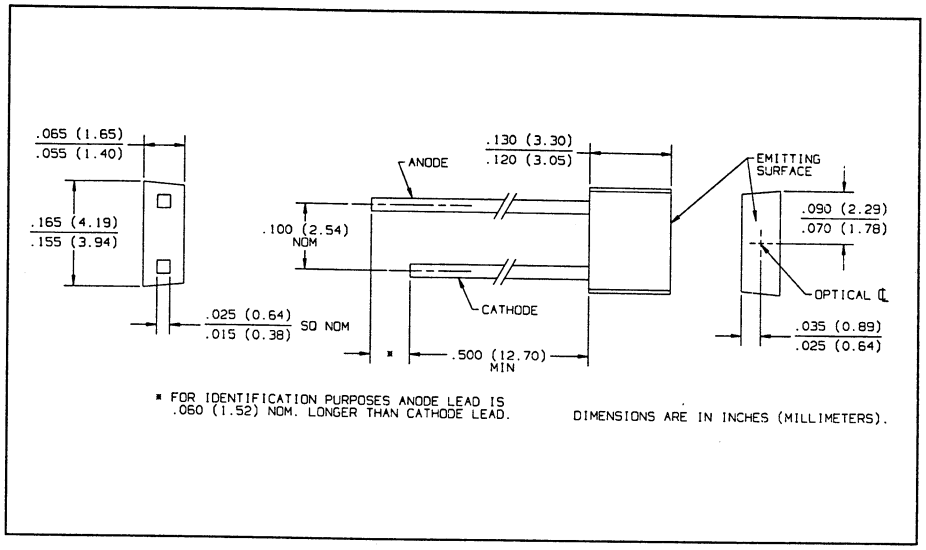
GaAlAs Plastic Infrared Emitting Diodes
Types OP268FA, OP268FB, OP268FC





Features

- Flat lensed for wide radiation angle
- Easily stackable on 0.100" (2.54 mm) hole centers
- Mechanically and spectrally matched to the OP508F series phototransistor and the OP538F series photodarlingtons

Description

The OP268F series contains a gallium aluminum arsenide infrared emitting diode mounted in an "end-looking" miniature black package. This device has a wide radiation angle due to its flat emitting surface. Small size and 0.100" (2.54 mm) lead spacing allow considerable design flexibility.

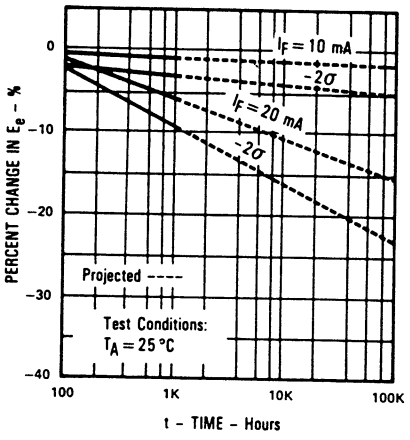
Absolute Maximum Ratings (T_A = 25° C unless otherwise noted)

Continuous Forward Current	50 mA
Peak Forward Current (Pulse Width = 1 µs, 300pps)	3.0 A
Reverse Voltage	2.0 V
Storage and Operating Temperature Range	-40° C to +100° C
Lead Soldering Temperature [1/16 inch (1.6 mm) from case for 5 sec. with soldering iron)	260° C(1)
Power Dissipation	100 mW(2)

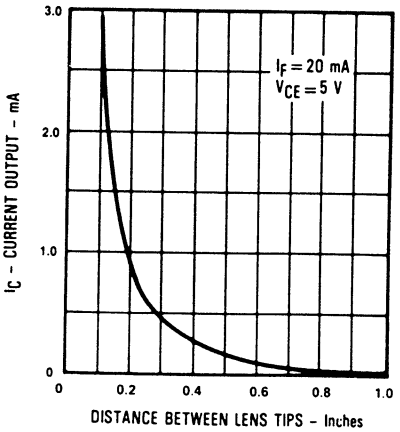
Notes:
(1) RMA flux is recommended. Duration can be extended to 10 seconds max. when flow soldering. Maximum 20 grams force may be applied to the leads when soldering.
(2) Derate linearly 1.33 mW/° C above 25° C.
(3) $E_{e(APT)}$ is a measurement of the average apertured radiant energy incident upon a sensing area 0.081" (2.06 mm) in diameter perpendicular to and centered on the mechanical axis of the "emitting surface" and 0.400" (10.16 mm) from the measurement surface. $E_{e(APT)}$ is not necessarily uniform within the measured area.

Typical Performance Curves

Percent Changes in Radiant Intensity vs Time



Coupling Characteristics of OP268F and OP508F/OP538F



Types OP268FA, OP268FB, OP268FC

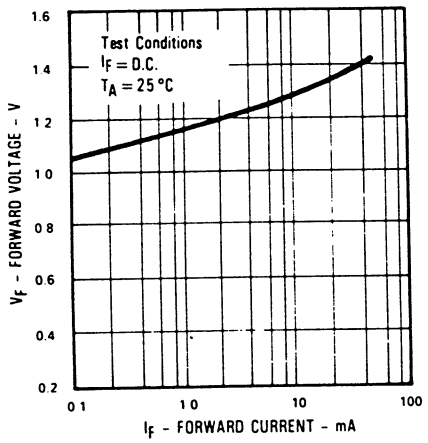
Electrical Characteristics (T_A = 25° C unless otherwise noted)

SYMBOL	PARAMETER		MIN	TYP	MAX	UNITS	TEST CONDITIONS
$E_{e(APT)}$	Apertured Radiant Incidence	OP268FC OP268FB OP268FA	0.36 0.45 0.64		0.99	mW/cm^2	I_F = 20 mA(3)
V_F	Forward Voltage				1.80	V	I_F = 20 mA
I_R	Reverse Current				100	µA	V_R = 2.0 V
λp	Wavelength at Peak Emission			890		nm	I_F = 20 mA
B	Bandwidth Between Half Power Points			80		nm	I_F = 10 mA
Δλp/ΔT	Spectral Shift with Temperature			+0.18		nm/°C	I_F = Constant
θHP	Emission Angle at Half Power Points			104		Deg.	I_F = 20 mA
t_r	Output Rise Time			500		ns	$I_{F(PK)}$ = 100 mA, PW = 10.0 µs, D.C. = 10.0%
t_f	Output Fall Time			250		ns	

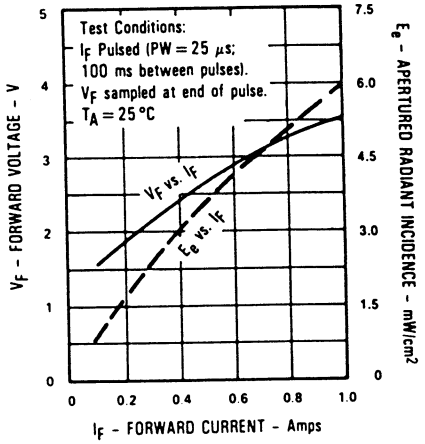
INFRARED EMITTING DIODES

Typical Performance Curves

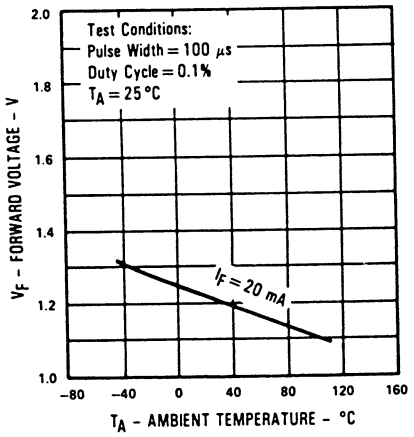
Forward Voltage vs Forward Current



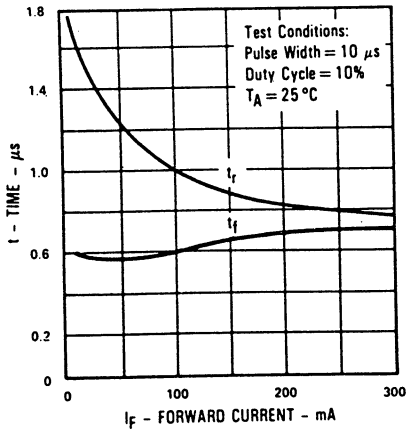
Forward Voltage and Radiant Incidence vs Forward Current



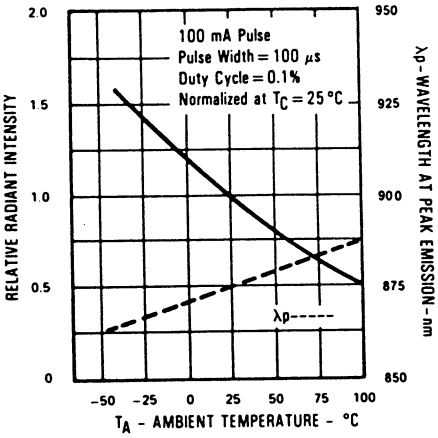
Forward Voltage vs Ambient Temperature



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