

FPT320

High Sensitivity Silicon Phototransistors

Description

The FPT320 is a silicon nitride protected NPN Planar phototransistor with exceptionally stable characteristics and high illumination-sensitivity. The case is made of a special plastic compound with transparent resin encapsulation.

PACKAGE

FPT320

OPTO-26

ABSOLUTE MAXIMUM RATINGS (Note 1)

Temperatures

Storage Temperature	-55° C to 100° C
Operating Temperature	-55° C to 85° C
Pin Temperature (Soldering, 5 s)	260°
Relative Humidity at 65° C	85%

Power Dissipation (Note 1)

Total Dissipation at $T_c = 25^\circ\text{C}$	200 mW
Derate Linearly from 25° C	3.33 mW/° C
Total Dissipation at $T_A = 25^\circ\text{C}$	100 mW
Derate Linearly from 25° C	1.67 mW/° C

Voltages & Current

$V_{CE(sus)}$	Collector to Emitter Voltage	20 V
I_c	Collector Current	25 mA

ELECTRICAL CHARACTERISTICS (25° C Ambient Temperature unless otherwise noted) (Note 7)

SYMBOL	CHARACTERISTIC	MIN	MAX	UNITS	TEST CONDITIONS
$I_{CE(II)}$	Photo Current, GaAs Source (Note 3)	0.7		mA	$V_{CE} = 5.0\text{ V}$, $H = 1\text{ mW/cm}^2$
I_{CEO}	Collector Dark Current (Note 4)		100	nA	$V_{CE} = 5.0\text{ V}$
$V_{CEO(sus)}$	Collector to Emitter Sustaining Voltage (Note 4)	20		V	$I_c = 1.0\text{ mA}$ (pulsed)
$V_{CE(sat)}$	Collector to Emitter Saturation Voltage, Tungsten Source (Note 2)		0.55	V	$I_c = 1.0\text{ mA}$, $H = 20\text{ mW/cm}^2$

NOTES:

- These are steady state limits. The factory should be consulted on applications involving pulsed or low duty cycle operations.
- Measured at noted irradiance as emitted from a tungsten filament lamp at a color temperature of 2854° K.
- These are values obtained at noted irradiance as emitted from a GaAs source at 99 nm.
- Measured with radiation flux intensity of less than 0.1 $\mu\text{W/cm}^2$ over the spectrum from 100-1500 nm.
- Same electrical characteristics as FPT120 except for $I_{CE(III)}$.
- Same electrical characteristics as FPT130 except for $I_{CE(III)}$.
- For product family characteristic curves, refer to Curve Set FPT120.