PerkinElmer™ optoelectronics.

SILICON PHOTODIODE

VTP1332

FEATURES

- *Low dark current*
- *Fast response*
- *Infrared transmitting/visible blocking spectral range*
- *Low junction capacitance*

PRODUCT DESCRIPTION

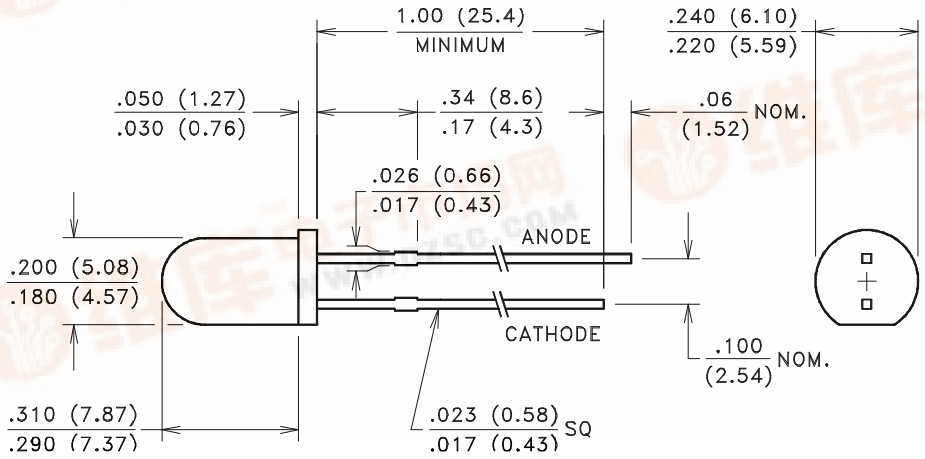
This VTP processed P on N planar silicon photodiode is housed in an IR transmitting, T-1 3/4 endlooking package.

These diodes exhibit low dark current under reverse bias. The VTP process offers low capacitance, resulting in fast response times.

ELECTRO-OPTICAL CHARACTERISTICS @ 25° C

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNITS
SHORT CIRCUIT CURRENT @ 100 fc, 2850 K	I_{SC}	75			µA
RESPONSIVITY @ 880 nm	R_e	0.050	0.065		A/(W/cm^2)
DARK CURRENT @ V_R = 10 V	I_D			25	nA
REVERSE BREAKDOWN VOLTAGE @ 100 µA	V_{BR}	30			V
JUNCTION CAPACITANCE @ V_R = 0 V, 1 MHz	C_J			100	pF
ANGULAR RESPONSE (50% RESPONSE POINT)	$\theta_{1/2}$		±20		Degrees

PACKAGE DIMENSIONS inch (mm)



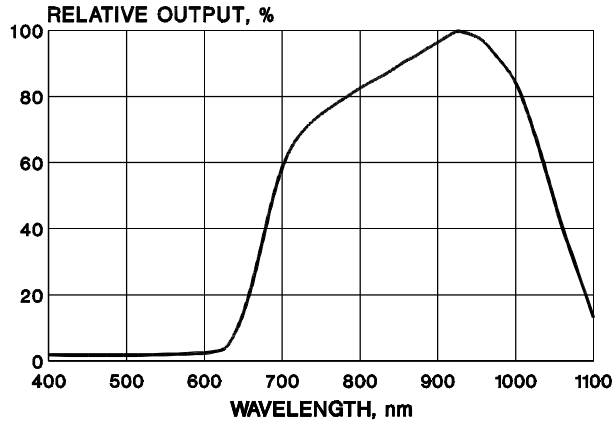
CASE 26 T-1 3/4
CHIP SIZE: .075 x .075 (1.90 x 1.90)
TOTAL EXPOSED AREA: .0036 in^2 (2.326 mm^2)

GENERAL CHARACTERISTICS

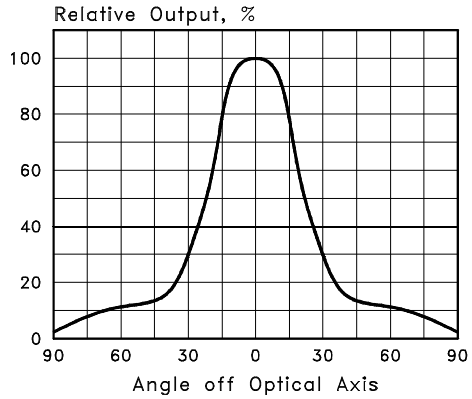
PARAMETER	SYMBOL	TYPICAL RATING	UNITS
OPEN CIRCUIT VOLTAGE @ 100 fc, 2850 K SOURCE	V_{OC}	420	mV
PEAK SPECTRAL RESPONSE @ 25°C	λ_{pk}	920	nm
SPECTRAL APPLICATION RANGE	λ_{range}	725 - 1100	nm
RISE/FALL TIMES @ 800 nm, V_R =10 V, R_L = 50 Ω	t_R / t_F	20	ns
TEMPERATURE COEFFICIENT			
SHORT CIRCUIT CURRENT @ 2850 K SOURCE	TC I_{SC}	+0.20	% / °C
DARK CURRENT @ V_R = 10 V	TC I_D	+11.0	% / °C
OPEN CIRCUIT VOLTAGE	TC V_{OC}	–2.0	mV/ °C
TEMPERATURE RANGE, OPERATING & STORAGE	T_{AMB}	– 40 to +100	°C

TYPICAL CHARACTERISTIC CURVES

RELATIVE SPECTRAL RESPONSE



ANGULAR RESPONSE



RELATIVE JUNCTION CAPACITANCE vs BIAS VOLTAGE
(REFERRED TO ZERO BIAS)