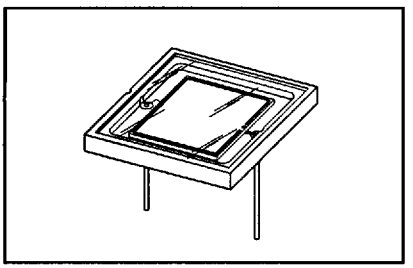
EG&G VACTEC
OPTOELECTRONICS

E G & G VACTEC

LARGE AREA PIN PHOTODIODE

VTH2090, 2091

(S1723-04, 06 INDUSTRY EQUIVALENT)

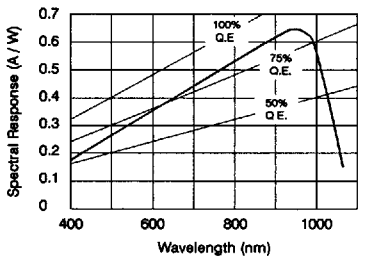


PRODUCT DESCRIPTION

This PIN photodiode consists of a chip with a 9.2 x 9.2 mm active area mounted in a black ceramic package with an epoxy window.

These devices are ideal for scintillation detection, spectrophotometry, CT scan, or other applications requiring a fast, large area, high detectivity device.

SPECTRAL RESPONSE



FEATURES

- *High quantum efficiency*
- *Excellent uniformity*
- *High shunt impedance*
- *Low junction capacitance*
- *Fast response*
- *Low noise*

ABSOLUTE MAXIMUM RATINGS @ 25°C UNLESS NOTED

PARAMETER	SYMBOL	RATING	UNITS
MAXIMUM CURRENT	I_{MAX}	2	mA
MAXIMUM POWER DISSIPATION	P_D	100	mW
MAXIMUM REVERSE VOLTAGE	V_{RMAX}	50	V, PEAK
TEMPERATURE RANGE			
OPERATING	T_A	− 20 to +60	°C
STORAGE	T_S	− 20 to +70	°C

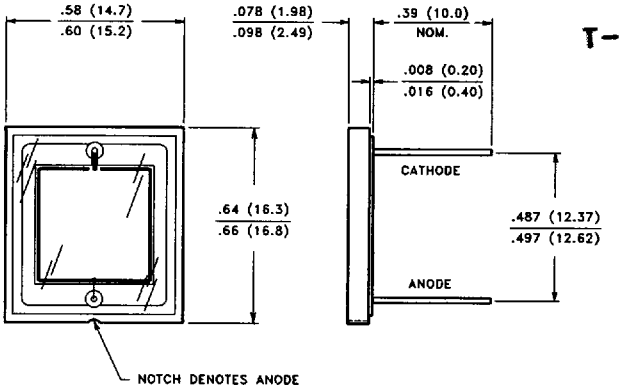
ELECTRO-OPTICAL CHARACTERISTICS @ 25° C

PART NUMBER	PEAK SPECTRAL RESPONSE λ_P,TYP. (nm)	RADIANT SENSITIVITY S_R TYP (A/W) 480 nm	540 nm	633 nm	940 nm	SHORT CIRCUIT CURRENT I_{SH} 100 LUX (μA) MIN.	TYP.	DARK CURRENT I_D V_R = 30 V (nA) MAX.	TEMP. COEFF. TC, TYP. (%/°C)	JUNCTION CAPACITANCE C_J, TYP. V_R = 30 V (pF)	RISE TIME t_r TYP (ns)	NEP V_R = 30 V TYP. (W/√Hz)	D* V_R = 30 V TYP $\left(\frac{cm\sqrt{Hz}}{W}\right)$
VTH2090	960	.25	.30	.40	.60	65	80	10	15	70	15	4×10^{-14}	2.6×10^{13}
VTH2091	960	.25	.30	.40	.60	65	80	5	15	70	15	4×10^{-14}	2.6×10^{13}

PACKAGE DIMENSIONS inches (mm)

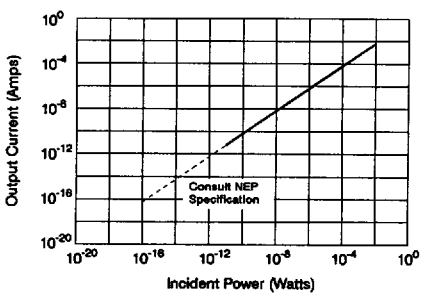
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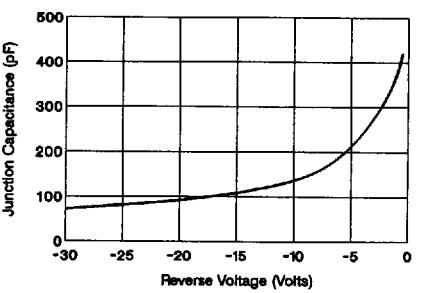


TYPICAL PERFORMANCE CURVES @ 25° C

PHOTOCURRENT LINEARITY



JUNCTION CAPACITANCE vs REVERSE VOLTAGE



Specifications subject to change without prior notice. Information supplied by EG&G Vactec is believed to be reliable, however, no responsibility is assumed for possible inaccuracies or omissions. The user should determine the suitability of this product in his own application. No patent rights are granted to any devices or circuits described herein.