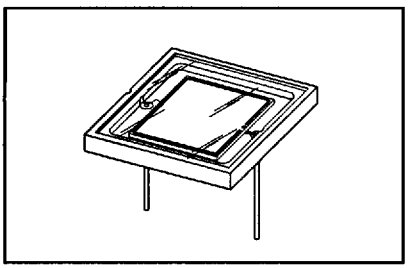
EG&G VACTEC
OPTOELECTRONICS

E G & G VACTEC

LARGE AREA PIN PHOTODIODE

VTH2090, 2091

(S1723-04, 06 INDUSTRY EQUIVALENT)

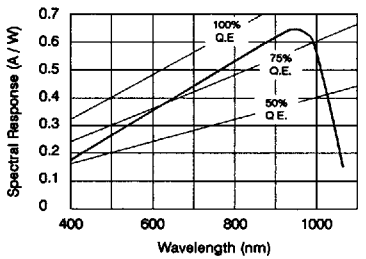


PRODUCT DESCRIPTION

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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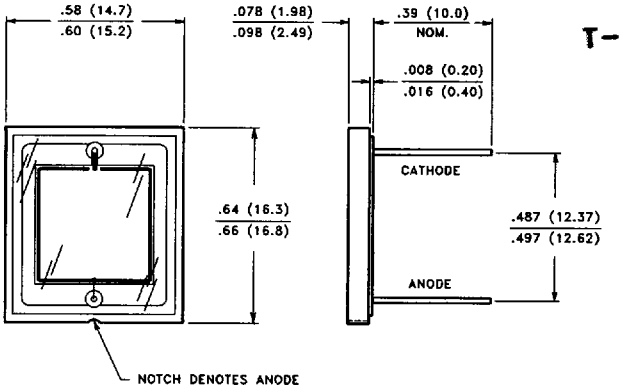
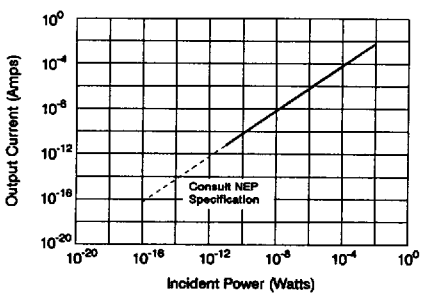
T-41-53



TYPICAL PERFORMANCE CURVES @ 25° C

PHOTOCURRENT LINEARITY



JUNCTION CAPACITANCE vs REVERSE VOLTAGE