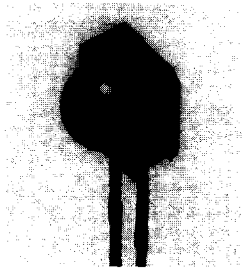
VTP Process Photodiodes

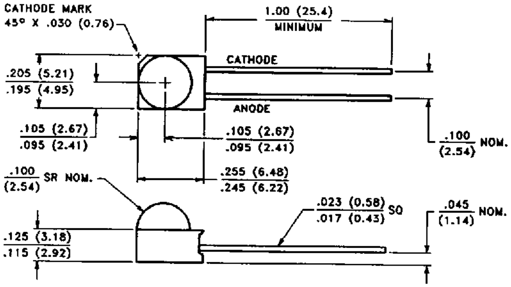
VTP413

E G & G VACTEC

T-41-51



PACKAGE DIMENSIONS inch (mm)



CASE 51 LENSED SIDELOOKER
CHIP ACTIVE AREA: .012 in^2 (7.45 mm^2)

PRODUCT DESCRIPTION

Planar silicon photodiode in a molded large lensed, sidelooker package. The dark package material filters out visible light but passes infrared. These diodes exhibit low dark current under reverse bias and fast speed of response.

ABSOLUTE MAXIMUM RATINGS

Storage Temperature: -40°C to 100°C
Operating Temperature: -40°C to 100°C

ELECTRO-OPTICAL CHARACTERISTICS @ 25°C (See also VTP curves, pages 48-49)

SYMBOL	CHARACTERISTIC	TEST CONDITIONS	VTP413									UNITS
			Min.	Typ.	Max.	Min.	Typ.	Max.	Min.	Typ.	Max.	
Isc	Short Circuit Current	H = 100 fc, 2850 K		75								μA
TC Isc	Isc Temp. Coefficient	2850 K		.20								%/°C
Voc	Open Circuit Voltage	H = 100 fc, 2850 K		350								mV
TC Voc	Voc Temp. Coefficient	2850 K		-2.0								mV/°C
I_D	Dark Current	H = 0, V_R = 10 V			30							nA
R_{SH}	Shunt Resistance	H = 0, V = 10 mV		.25								GΩ
C_J	Junction Capacitance	H = 0, V = 3 V			50							pF
R_e	Responsivity	940 nm	.050	.078								A/(W/cm^2)
S_R	Sensitivity	@ Peak		.55								A/W
λ_{range}	Spectral Application Range		400		1150							nm
λ_p	Spectral Response - Peak			925								nm
V_{BR}	Breakdown Voltage		30	140								V
$\theta_{1/2}$	Ang. Resp. - 50% Resp. Pt.			±48								Degrees
NEP	Noise Equivalent Power		2.3×10^{-14} (Typ.)									W/$\sqrt{Hz}$
D*	Specific Detectivity		1.2×10^{13} (Typ.)									cm$\sqrt{Hz}$/W