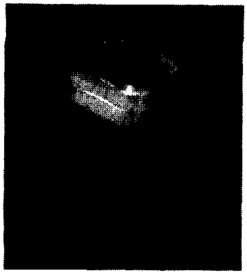
VTP Process Photodiodes

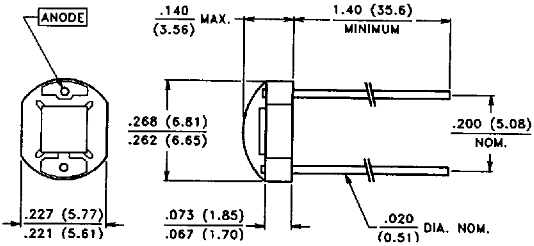
VTP8350, 50S, 51

E G & G VACTEC

T-41-51



PACKAGE DIMENSIONS inch (mm)



CASE 11 CERAMIC
CHIP ACTIVE AREA: .012 in^2 (7.45 mm^2)

PRODUCT DESCRIPTION

Planar silicon photodiode mounted on a two lead ceramic substrate and coated with a thick layer of clear epoxy. These diodes exhibit low dark current under reverse bias and fast speed of response.

ABSOLUTE MAXIMUM RATINGS

Storage Temperature: -20°C to 75°C
Operating Temperature: -20°C to 75°C

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

SYMBOL	CHARACTERISTIC	TEST CONDITIONS	VTP8350			VTP8350S			VTP8351			UNITS
			Min.	Typ.	Max.	Min.	Typ.	Max.	Min.	Typ.	Max.	
I_{SC}	Short Circuit Current	H = 100 fc, 2850 K	65	80			80		65	80		μA
TC I_{SC}	Isc Temp. Coefficient	2850 K		.20			.20			.20		% / °C
V_{OC}	Open Circuit Voltage	H = 100 fc, 2850 K		350			350			350		mV
TC V_{OC}	Voc Temp. Coefficient	2850 K		-2.0			-2.0			-2.0		mV / °C
I_D	Dark Current	H = 0, V_R = 50 V			30 ■			—			18	nA
R_{SH}	Shunt Resistance	H = 0, V = 10 mV		100		50	100			100		MΩ
C_J	Junction Capacitance	H = 0, V = 3 V			50			120 ■			24 ■	pF
R_e	Responsivity	940 nm		.06		.04	.06			.06		A/(W/cm^2)
S_R	Sensitivity	@ Peak		.55			.55			.55		A/W
λ_{range}	Spectral Application Range		400		1150	400		1150	400		1150	nm
λ_p	Spectral Response - Peak			925			925			925		nm
V_{BR}	Breakdown Voltage		33	140		50	140		50	140		V
$\theta_{1/2}$	Ang. Resp. - 50% Resp. Pt.			±60			±60			±60		Degrees
NEP	Noise Equivalent Power		1.8 x 10^{-13} (Typ.)			1.8 x 10^{-13} (Typ.)			1.4 x 10^{-13} (Typ.)			W/√Hz
D*	Specific Detectivity		1.5 x 10^{12} (Typ.)			1.5 x 10^{12} (Typ.)			2.0 x 10^{12} (Typ.)			cm√Hz/W

■ V_R = 10 V ■ V = 0 V ■ V = 15 V