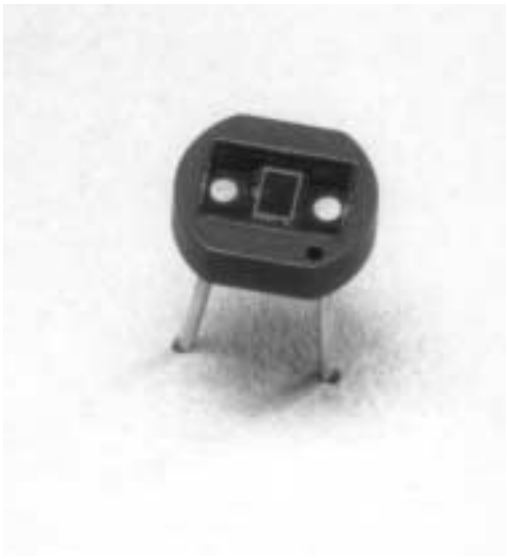
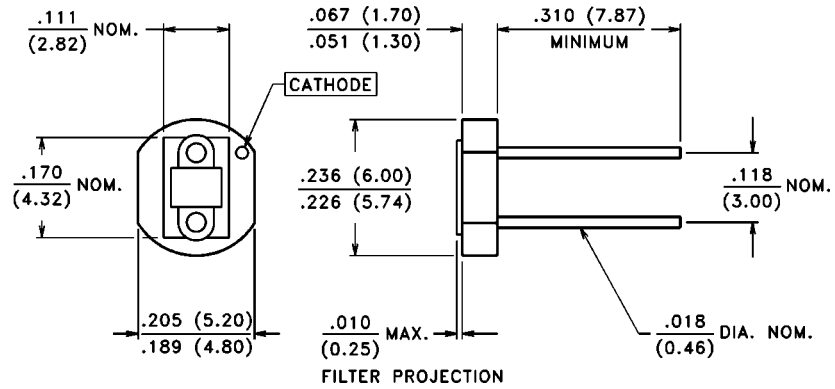
VTB Process Photodiodes

VTB9412B, 9413B



PACKAGE DIMENSIONS inch (mm)



CASE 20F 6 mm CERAMIC
CHIP ACTIVE AREA: .0025 in^2 (1.60 mm^2)

PRODUCT DESCRIPTION

Small area planar silicon photodiode in a recessed ceramic package. The package incorporates an infrared rejection filter. These diodes have very high shunt resistance and have good blue 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 VTB curves, pages 21-22)

SYMBOL	CHARACTERISTIC	TEST CONDITIONS	VTB9412B			VTB9413B			UNITS
			Min.	Typ.	Max.	Min.	Typ.	Max.	
I_{SC}	Short Circuit Current	H = 100 fc, 2850 K	.8	1.3		.8	1.3		µA
TC I_{SC}	I_{SC} Temperature Coefficient	2850 K		.02	.08		.02	.08	%/°C
V_{OC}	Open Circuit Voltage	H = 100 fc, 2850 K		420			420		mV
TC V_{OC}	V_{OC} Temperature Coefficient	2850 K		-2.0			-2.0		mV/°C
I_D	Dark Current	H = 0, VR = 2.0 V			100			20	pA
R_{SH}	Shunt Resistance	H = 0, V = 10 mV		.25			7.0		GΩ
TC R_{SH}	R_{SH} Temperature Coefficient	H = 0, V = 10 mV		-8.0			-8.0		%/°C
C_J	Junction Capacitance	H = 0, V = 0		.31			.31		nF
λ_{range}	Spectral Application Range		330		720	330		720	nm
λ_p	Spectral Response - Peak			580			580		nm
V_{BR}	Breakdown Voltage		2	40		2	40		V
$\theta_{1/2}$	Angular Resp. - 50% Resp. Pt.			±50			±50		Degrees
NEP	Noise Equivalent Power		5.3 x 10^{-14} (Typ.)			1.1 x 10^{-14} (Typ.)			$W/\sqrt{Hz}$
D*	Specific Detectivity		2.4 x 10^{12} (Typ.)			1.2 x 10^{13} (Typ.)			$cm\sqrt{Hz}$ / W