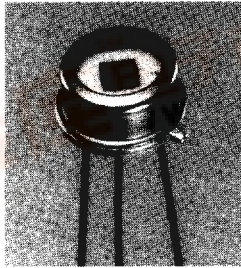


VTB Process Photodiodes

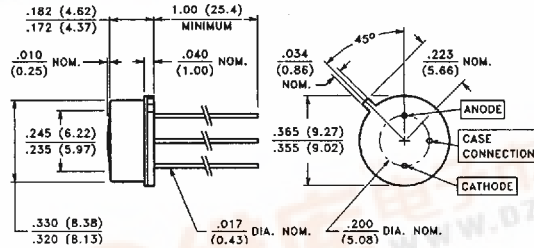
VTB5040J, 5041J

E G & G VACTEC

T-4151



PACKAGE DIMENSIONS inch (mm)



PRODUCT DESCRIPTION

Planar silicon photodiode in a "flat" window, three lead TO-5 package. Chip is isolated from the case. The third lead allows the case to be grounded. These diodes have very high shunt resistance and good blue response.

CASE 14A TO-5 HERMETIC
CHIP ACTIVE AREA: .008 in² (5.16 mm²)

ABSOLUTE MAXIMUM RATINGS

Storage Temperature: -40°C to 110°C
Operating Temperature: -40°C to 110°C

ELECTRO-OPTICAL CHARACTERISTICS @ 25°C (See also VTB curves, pages 12-13)

SYMBOL	CHARACTERISTIC	TEST CONDITIONS	VTB5040J			VTB5041J			UNITS
			Min.	Typ.	Max.	Min.	Typ.	Max.	
I _{sc}	Short Circuit Current	H = 100 fc, 2850 K	35	45		35	45		μA
TC I _{sc}	I _{sc} Temp. Coefficient	2850 K		.12	.23		.12	.23	% / °C
V _{oc}	Open Circuit Voltage	H = 100 fc, 2850 K		490			490		mV
TC V _{oc}	V _{oc} Temp. Coefficient	2850 K		-2.0			-2.0		mV / °C
I _D	Dark Current	H = 0, V _R = 2.0 V			2000			100	pA
R _{SH}	Shunt Resistance	H = 0, V = 10 mV		.07			1.4		GΩ
TC R _{SH}	R _{SH} Temp. Coefficient	H = 0, V = 10 mV		-8.0			-8.0		% / °C
C _J	Junction Capacitance	H = 0, V = 0		1.0			1.0		nF
S _R	Sensitivity	365 nm		0.1			0.1		A/W
λ _{range}	Spectral Application Range		320		1100	320		1100	nm
λ _p	Spectral Response - Peak			920			920		nm
V _{BR}	Breakdown Voltage		2	40		2	40		V
θ _{1/2}	Ang. Resp. - 50% Resp. Pt.			±45			±45		Degrees
NEP	Noise Equivalent Power			5.9 x 10 ⁻¹⁴ (Typ.)			1.3 x 10 ⁻¹⁴ (Typ.)		W/√Hz
D*	Specific Detectivity			3.9 x 10 ¹² (Typ.)			1.7 x 10 ¹³ (Typ.)		cm ² /Hz/W

