

VTS-2 Process Photodiodes

VTS__86, 87, 90

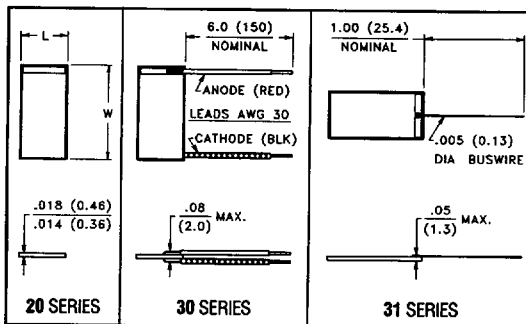
E G & G VACTEC

T-41-51

PRODUCT DESCRIPTION

Large area planar silicon photodiodes suitable for use in the photovoltaic mode, but may be used with a small reverse bias. The low capacitance of these units permits fast response time. These cells have moderate shunt resistance which provides low offset gain in transimpedance op-amp circuits. Cells have solderable contacts and are available with or without flexible flying leads. Devices with leads are acrylic (plastic) coated.

PACKAGE DIMENSIONS Inch (mm)



ABSOLUTE MAXIMUM RATINGS

Storage Temperature:

-40°C to 150°C Series 20, 31

-40°C to 105°C Series 30

Operating Temperature:

-40°C to 125°C Series 20, 31

-40°C to 105°C Series 30

CASE 44B

ANODE (ACTIVE) SURFACE SHOWN
CATHODE IS BACKSIDE

DIMENSIONS	VTS__86	VTS__87	VTS__90
L	.100 (2.54)	.087 (2.21)	.050 (1.27)
W	.200 (5.08)	.200 (5.08)	.125 (3.18)
ACTIVE AREA	.015 ² (10 ²)	.013 ² (8.5 ²)	.005 ² (3.2 ²)

ELECTRO-OPTICAL CHARACTERISTICS @ 25°C (See also VTS-2 curves, page 87)

SYMBOL	CHARACTERISTIC	TEST CONDITIONS	VTS__86			VTS__87			VTS__90			UNITS
			Min.	Typ.	Max.	Min.	Typ.	Max.	Min.	Typ.	Max.	
I _{sc}	Short Circuit Current	H = 100 fc, 2850 K	65	85		55	74		14	19		μA
TC I _{sc}	I _{sc} Temp. Coefficient	2850 K		.20			.20			.20		%/°C
I _{sc}	Short Circuit Current	100 mW/cm ² , 940 nm		5.5			4.7			1.7		μA
V _{oc}	Open Circuit Voltage	H = 100 fc, 2850 K		.33			.33			.33		V
TC V _{oc}	V _{oc} Temp. Coefficient	2850 K		-2.0			-2.0			-2.0		mV/°C
I _D	Dark Current	H = 0, V _R = 100 mV		10	100		10	100		5	100	nA
R _{SH}	Shunt Resistance	H = 0, V = 10 mV		6.0			6.0			12		MΩ
TC R _{SH}	R _{SH} Temp. Coefficient	H = 0, V = 10 mV		-11			-11			-11		%/°C
C _J	Junction Capacitance	H = 0, V = 0 V		.16			.13			.07		nF
λ _{range}	Spectral Application Range		400		1100	400		1100	400		1100	nm
λ _p	Spectral Response - Peak			925			925			925		nm
S _R	Sensitivity	@ Peak		.55			.55			.55		A/W