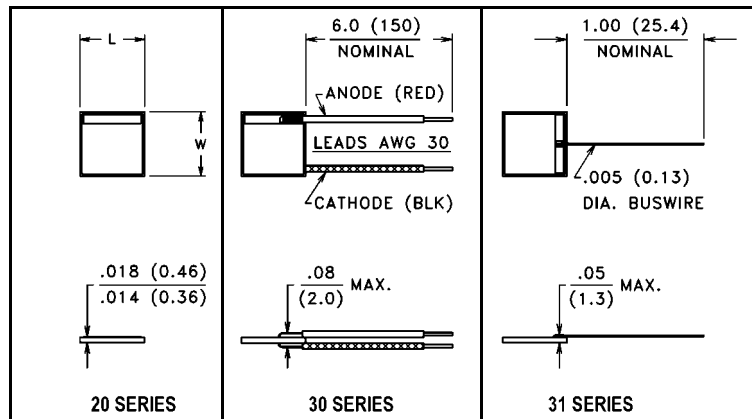


**PRODUCT DESCRIPTION**

This series of planar, P on N, large area silicon photodiodes is characterized for use in the photovoltaic (unbiased) mode. Their excellent speed and broadband sensitivity makes them ideal for detecting light from a variety of sources such as LEDs, IREDS, flashtubes, incandescent lamps, lasers, etc. Improved shunt resistance minimizes amplifier offset and drift in high gain systems. The solderable contact system on these photodiodes provides a cost effective design solution for many applications.

**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

Reverse Voltage:

6.0 Volts

**CASE 44A**  
**ANODE (ACTIVE) SURFACE SHOWN**  
**CATHODE IS BACKSIDE**

DIMENSIONS	VTS_80	VTS_82	VTS_85
L	.800 (20.32)	.400 (10.16)	.200 (5.08)
W	.800 (20.32)	.400 (10.16)	.200 (5.08)
ACTIVE AREA	.607 <sup>2</sup> (392 <sup>2</sup> )	.144 <sup>2</sup> (93 <sup>2</sup> )	.032 <sup>2</sup> (21 <sup>2</sup> )

**ELECTRO-OPTICAL CHARACTERISTICS @ 25°C** (See also VTS curves, page 67)

SYMBOL	CHARACTERISTIC	TEST CONDITIONS	VTS_80			VTS_82			VTS_85			UNITS
			Min.	Typ.	Max.	Min.	Typ.	Max.	Min.	Typ.	Max.	
I <sub>SC</sub>	Short Circuit Current	H = 1000 lux, 2850 K	2.30	3.00		0.55	0.69		0.13	0.16		mA
TC I <sub>SC</sub>	I <sub>SC</sub> Temperature Coefficient	H = 1000 Lux, 2850 K		0.20			0.20			0.20		%/°C
I <sub>D</sub>	Dark Current	H = 0, VR = 100 mV		0.2	1.0		0.05	0.2		0.02	0.1	µA
TC I <sub>D</sub>	ID Temp. Coefficient	H = 0, VR = 100 mV		+11			+11			+11		%/°C
R <sub>SH</sub>	Shunt Resistance	H = 0, VR = 10 mV		0.3			1.2			3.0		MΩ
C <sub>J</sub>	Junction Capacitance	H = 0, V = 0 V, 1 MHz		7.5			1.75			0.50		nF
S <sub>R</sub>	Sensitivity	@ 400 nm	.18	0.20		0.18	0.20		0.18	0.20		A/W
Re	Responsivity	400 nm, 0.18 A/W		0.70			0.16			0.04		A/(Wcm <sup>2</sup> )
TC V <sub>OC</sub>	Sensitivity @ Peak	925 nm		0.60			0.60			0.60		A/W
t <sub>R</sub> /t <sub>F</sub>	Response Time @ 1 kΩ Load	VR = 1 V, 830 nm		13			3.4			1.2		µsec
V <sub>OC</sub>	Open Circuit Voltage	H = 1000 Lux, 2850 K	0.25	0.45		0.25	0.45		0.25	0.45		Volts
TC V <sub>OC</sub>	V <sub>OC</sub> Temperature Coefficient	H = 1000 Lux, 2850 K		-2.6			-2.6			-2.6		mV/°C