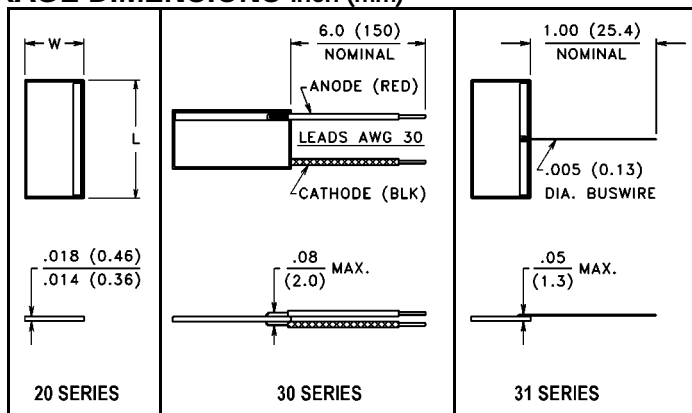


## PRODUCT DESCRIPTION

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 44C  
ANODE (ACTIVE) SURFACE SHOWN  
CATHODE IS BACKSIDE

DIMENSIONS	VTS__81	VTS__83	VTS__84
L	.800 (20.32)	.800 (20.32)	.400 (10.16)
W	.400 (10.16)	.200 (5.08)	.200 (5.08)
ACTIVE AREA	.290 <sup>2</sup> (187 <sup>2</sup> )	.132 <sup>2</sup> (85 <sup>2</sup> )	.065 <sup>2</sup> (42 <sup>2</sup> )

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

SYMBOL	CHARACTERISTIC	TEST CONDITIONS	VTS__81H			VTS__83H			VTS__84H			UNITS
			Min.	Typ.	Max.	Min.	Typ.	Max.	Min.	Typ.	Max.	
I <sub>SC</sub>	Short Circuit Current	H = 1000 lux, 2850 K	1.10	1.50		0.5	0.64		0.25	0.33		mA
TC I <sub>SC</sub>	I <sub>SC</sub> Temperature Coefficient	H = 1000 Lux, 2850 K		0.20			.20			.20		%/°C
I <sub>D</sub>	Dark Current	H = 0, VR = 100 mV		100	500		50	200		40	100	nA
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		0.6			1.2			1.5		MΩ
C <sub>J</sub>	Junction Capacitance	H = 0, V = 0 V, 1 MHz		3.5			1.75			1.0		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		0.34			0.15			0.07		A/(W/cm <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		6.4			3.4			1.8		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