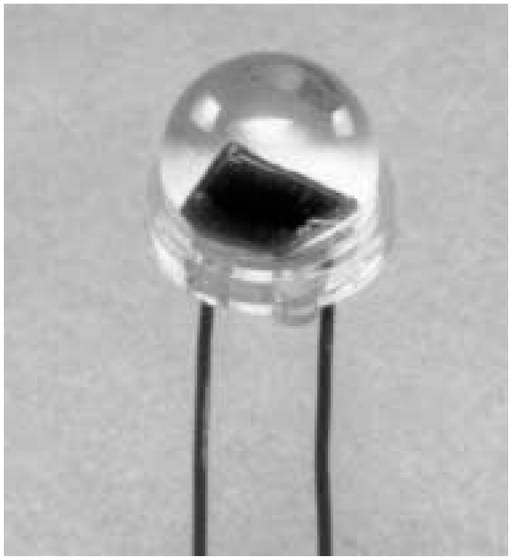
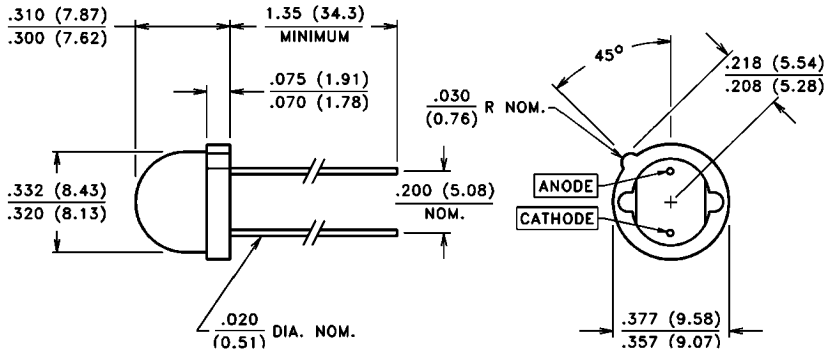
VTP Process Photodiodes

VTP1188SH



PACKAGE DIMENSIONS inch (mm)



CASE 12 LENSED CERAMIC
CHIP ACTIVE AREA: .017 in^2 (11 mm^2)

PRODUCT DESCRIPTION

Large area planar silicon photodiode mounted on a two lead ceramic substrate. A clear molded lens is used to increase sensitivity. Low junction capacitance permits fast response time.

ABSOLUTE MAXIMUM RATINGS

Storage Temperature:	-20°C to 75°C
Operating Temperature:	-20°C to 75°C

RoHS Compliant

ELECTRO-OPTICAL CHARACTERISTICS @ 25°C (See also VTP curves, pages 45-46)

SYMBOL	CHARACTERISTIC	TEST CONDITIONS	VTP11188SH			UNITS
			Min.	Typ.	Max.	
I_{SC}	Short Circuit Current	H = 100 fc, 2850 K		200		µA
TC I_{SC}	I_{SC} Temperature Coefficient	2850 K		.20		%/°C
I_{SC}	Short Circuit Current	100 µW/cm^2, 880 nm	13		25	µA
V_{OC}	Open Circuit Voltage	H = 100 fc, 2850 K		.33		mV
TC V_{OC}	V_{OC} Temperature Coefficient	2850 K		-2.0		mV/°C
I_D	Dark Current	H = 0, VR = 10 mV		3	30	nA
R_{SH}	Shunt Resistance	H = 0, V = 10 mV		67		GΩ
TC R_{SH}	R_{SH} Temperature Coefficient	H = 0, V = 10 mV		-11		%/°C
C_J	Junction Capacitance	H = 0, V =0 V		.18	.30	nF
λ_{range}	Spectral Application Range		400		1100	nm
λ_p	Spectral Response - Peak			925		nm
S_R	Sensitivity	@ Peak		.55		A/W

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VTP PROCESS
FAST RESPONSE, HIGH DARK RESISTANCE

FEATURES

- *Visible to enhanced IR spectral range*
- *Integral visible rejection filters available*
- *Response @ 940 nm, 0.60 A/W, typical*
- *-1 to 2% linearity over 7 to 9 decades*
- *Low dark currents*
- *High shunt resistance*
- *High reverse voltage rating*
- *Low capacitance*

PRODUCT DESCRIPTION

Photodiodes in this series have been designed for low junction capacitance. The lower the capacitance, the faster the response of the diode. Also, speed can be further increased by reverse biasing the diodes which lowers the capacitance even more.

These diodes have excellent response in the IR region and are well matched to IR LEDs. Responsivity is categorized at 940 nm (GaAs LED). Some diodes are available in packages which incorporate a visible rejection filter effectively blocking any light below 700 nm.

Diodes made with the VTP process are suitable for operation under reverse bias conditions but may be used in the photovoltaic mode. Typical reverse breakdown voltages are around 140 V. Low dark currents under reverse bias are also a feature of this series.