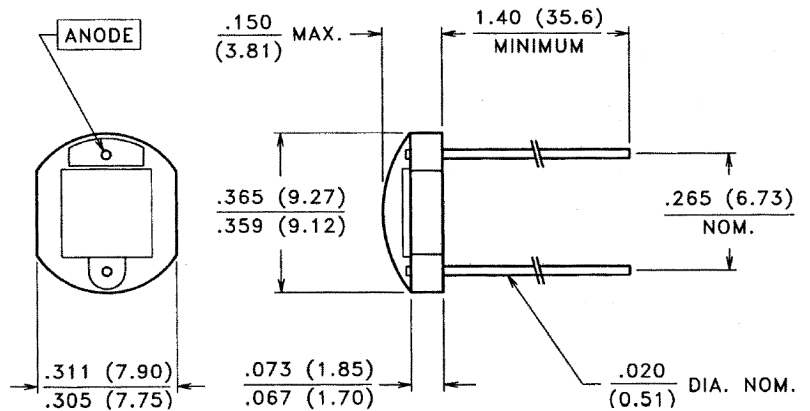


## PACKAGE DIMENSIONS inch (mm)



CASE 13 CERAMIC  
CHIP ACTIVE AREA: .032 in<sup>2</sup> (21 mm<sup>2</sup>)

## PRODUCT DESCRIPTION

Large area planar silicon mounted on a two lead ceramic substrate and coated with a layer of clear epoxy. 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	VTP4085H			VTP4085SH			UNITS
			Min.	Typ.	Max.	Min.	Typ.	Max.	
I <sub>SC</sub>	Short Circuit Current	H = 100 fc, 2850		200			200		μA
TC I <sub>SC</sub>	I <sub>SC</sub> Temperature Coefficient	2850 K		.20			.20		%/°C
I <sub>SC</sub>	Short Circuit Current	100 μW/cm <sup>2</sup> , 940 nm	11.4	15		11.4	15		μA
V <sub>OC</sub>	Open Circuit Voltage	H = 100 fc, 2850 K		.33			.33		mV
TC V <sub>OC</sub>	V <sub>OC</sub> Temperature Coefficient	2850 K		-2.0			-2.0		mV/°C
I <sub>D</sub>	Dark Current	H = 0, VR = 100 V			100		15	50	nA
R <sub>SH</sub>	Shunt Resistance	H = 0, V = 10 mV		2.0			4.0		MΩ
TC R <sub>SH</sub>	R <sub>SH</sub> Temperature Coefficient	H = 0, V = 10 mV		-11			-11		%/°C
C <sub>J</sub>	Junction Capacitance	H = 0, V = 0 V		.35			.35		nF
λ <sub>range</sub>	Spectral Application Range		400		1100	400		1100	nm
λ <sub>p</sub>	Spectral Response - Peak			925			925		nm
S <sub>R</sub>	Sensitivity	@ Peak		.55			.55		A/W

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# VTP Process Photodiodes

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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.