

FEATURES

- Surface mount package
- Low capacitance
- Fast response
- High shunt impedance
- Tape & reel supplied

PRODUCT DESCRIPTION

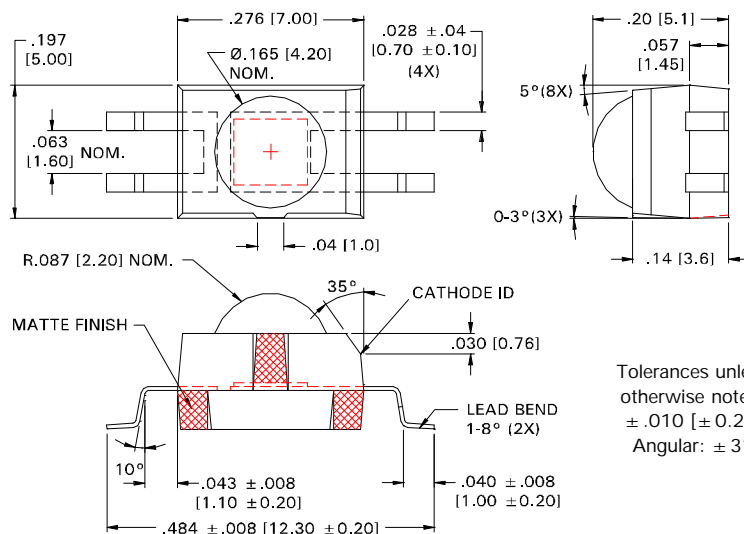
This planar silicon photodiode features a lensed, visible blocking, IR transmitting package suitable for surface mount assembly in a “back mounted” (lens up) orientation.

These photodiodes exhibit performance characteristics which make them suitable for a wide range of near-IR sensing applications. Devices are shipped taped & reeled on a 24 mm embossed carrier.

ELECTRO-OPTICAL CHARACTERISTICS @ 25° C

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNITS
SHORT CIRCUIT CURRENT @ 100 fc, 2850 K	I _{sc}	50	60		μA
DARK CURRENT @ V _R = 10 V	I _D			20	nA
SHUNT RESISTANCE @ H = 0, V = 10 mV	R _{SH}		0.25		GΩ
JUNCTION CAPACITANCE @ V _R = 3 V	C _J			50	pF
OPEN CIRCUIT VOLTAGE @ 100 fc, 2850 K	V _{OC}	325			mV
ANGULAR RESPONSE (50% RESPONSE POINT)	θ _{1/2}		±42		Degrees

PACKAGE DIMENSIONS inch (mm)



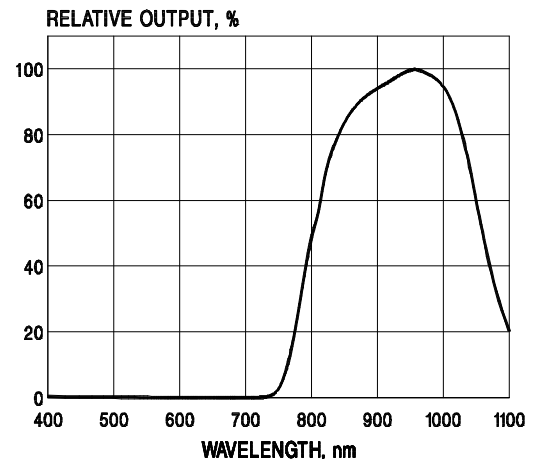
Tolerances unless otherwise noted:
 ±.010 [±0.25]
 Angular: ± 3°

CHIP SIZE: .100 x .116 (2.54 x 2.94)
 EXPOSED ACTIVE AREA: .0082 in² (5.269 mm²)

RoHS Compliant



TYPICAL SPECTRAL RESPONSE



V1P8840BTRH Rev. A 0901

GENERAL CHARACTERISTICS

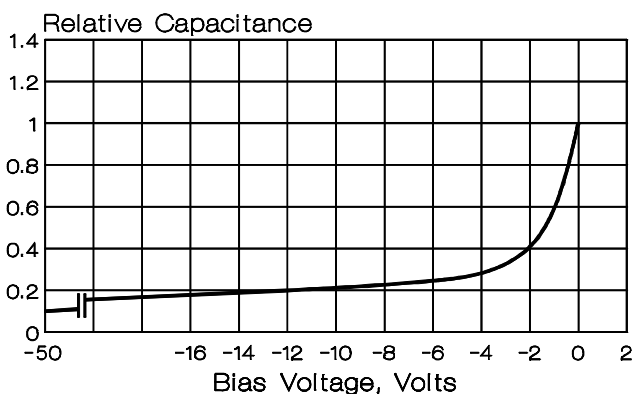
PARAMETER	SYMBOL	TYPICAL RATING	UNITS
PEAK SPECTRAL RESPONSE @ 25°C	λ_P	925	nm
RADIOMETRIC SENSITIVITY @ PEAK, 25°C	S _{RPK}	0.6	A / W
NOISE EQUIVALENT POWER	NEP	2.0×10^{-13}	W/ $\sqrt{\text{Hz}}$
SPECIFIC DETECTIVITY	D*	1.2×10^{12}	cm $\sqrt{\text{Hz}}$ / W
TEMPERATURE COEFFICIENT			
SHORT CIRCUIT CURRENT @ 2850 K SOURCE	TC I _{SC}	+0.22	%/°C
OPEN CIRCUIT VOLTAGE @ 2850 K SOURCE	TC V _{OC}	-2.0	mV/ C
DARK CURRENT	TC I _D	+15.0	%/°C

ABSOLUTE MAXIMUM RATINGS

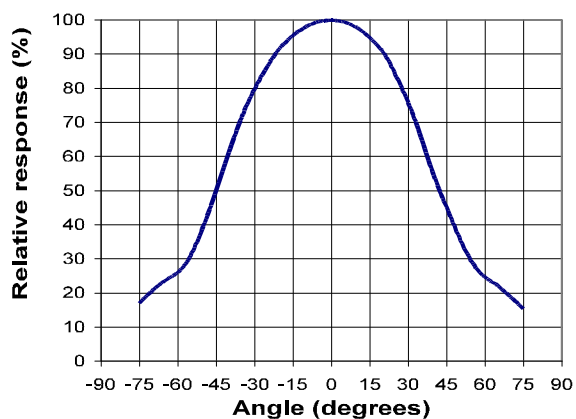
PARAMETER	SYMBOL	RATING	UNITS
TEMPERATURE RANGE OPERATING AND STORAGE	T _{AMB}	-40 to +85	°C
LEAD SOLDER TEMPERATURE (1.6 mm FROM CASE, 5 SECONDS MAX.)	T _{LS}	260°	°C
BREAKDOWN VOLTAGE @ 25°C	V _{BR}	33	Volts
POWER DISSIPATION	P _D	150	mW

TYPICAL CHARACTERISTIC CURVES

RELATIVE JUNCTION CAPACITANCE vs BIAS VOLTAGE
(REFERRED TO ZERO BIAS)



ANGULAR RESPONSE



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