Texas Photonics, Inc.

TXPI 1274
P-Type Silicon PIN Quadrant Detector
3.5 mm Diameter Active Area

DESCRIPTION

This is a Silicon P-Type PIN Quadrant detector designed for use in precision guidance and laser tracking applications.

FEATURES

- ❒ High Responsivity @ 1.06 µm, 0.45 A/W typical
- ❒ Sensitivity range 600-1100 nm
- ❒ Four Quadrant Geometry w/guard ring
- ❒ 3.5 mm Diameter Active Area

ABSOLUTE MAXIMUM RATINGS

- ❒ Storage temperature..... -54°C to +125°C
- ❒ Case operating temperature... -54°C to +100°C
- ❒ Lead solder temperature..... 260°C, 10 seconds
- ❒ Supply Voltage..... +250 Volts

OPERATING CONDITIONS

- ❒ Supply Voltage..... 180 Volts
- ❒ Forward Voltage..... 0.5 Volts
- ❒ Power Dissipation (per quadrant, 25°C).. 500 mW
- ❒ Noise Current..... 0.5×10^{-13} A√Hz

ELECTRO-OPTICAL CHARACTERISTICS (Case T = 25°C)

PARAMETER	TEST CONDITION	SYMBOL	MIN	TYP	MAX	UNIT
Breakdown Voltage	I_R = 100 µA, H = 0 mW/cm^2	V_{BR}	250			Volts
Dark Current	V_R = 180V, H = 0 mW/cm^2	I_D		30	100	nA
Capacitance	V_R = 180V, f = 1 MHz	C_T		10	12	pF
Crosstalk	V_R = 180V				1	%
Response Time	10%-90%, λ= 1.06 µm VR = 180 V, R_L=50 Ω	t_r t_f		12 12	15 20	nsec nsec
Responsivity	VR = 180V, λ= 1.06 µm	Re	0.36	0.45		A/W

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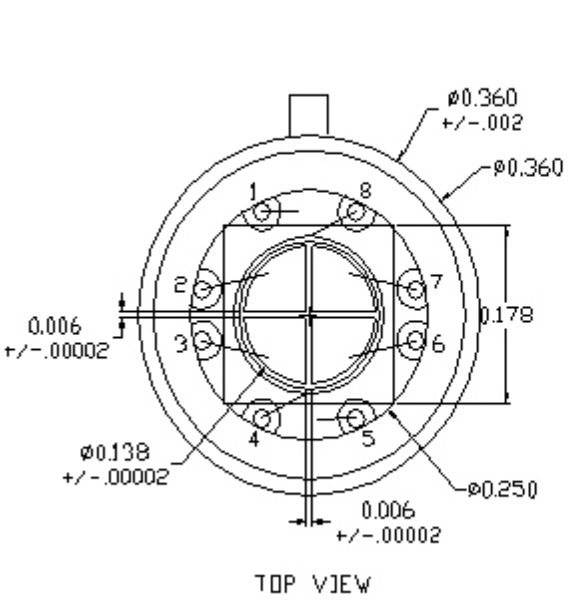
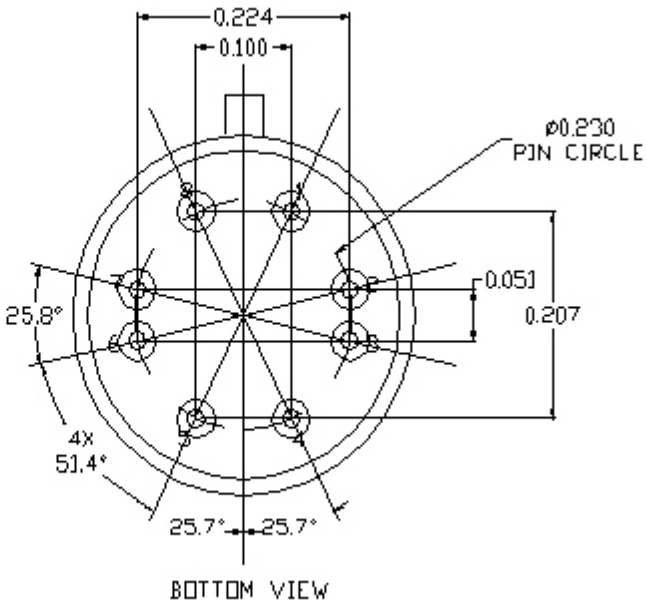
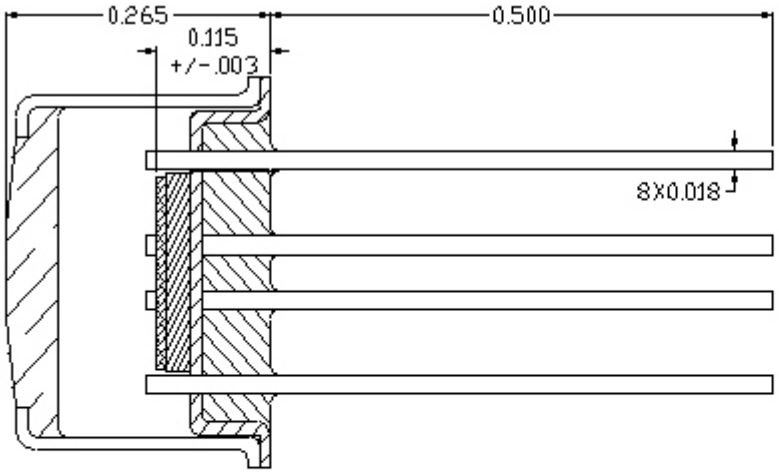




Mechanical Tolerances: +/-.005 inches, except where noted.

PINOUT:

Pin 1: Common Anode
Pin 2: Cathode 1
Pin 3: Cathode 2
Pin 4: Guard Ring Cathode
Pin 5: Common Anode
Pin 6: Cathode 3
Pin 7: Cathode 4
Pin 8: Guard Ring Cathode



Notes:

1. Center of Detector to be centered within package to +/-.002 inches, +/-1 Degree.
2. Window Material: Clear Schott Glass.
3. Window is AR Coated with MgFl.

Mechanical Tolerances: +/-.005 inches, except where noted.