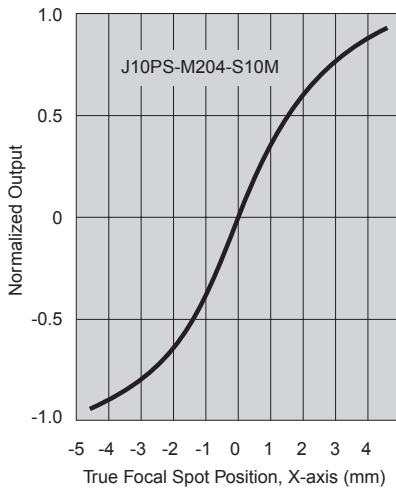


**J16PS, J12PS, J10PS  
POSITION SENSORS**

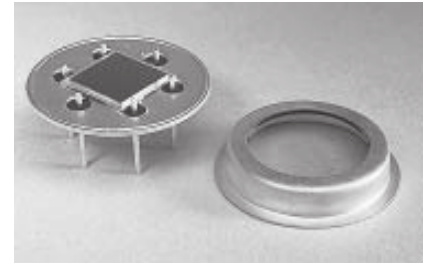
A Ge, InAs, or InSb position sensor consists of a single element photodiode with a quadrupole electrode geometry. The back plane of the detector is grounded and is common for outputs 1 through 4. These devices can provide linear X-Y beam position for lasers and other infrared beams. It consists of a single element InSb PV photodiode (1-5.5µm) with "p" on "n" structure. The diode can give linear beam position information for HF/DF laser or other infrared beams with 0.3 to 1.3mm focal spot sizes.

Example of Position Linearity

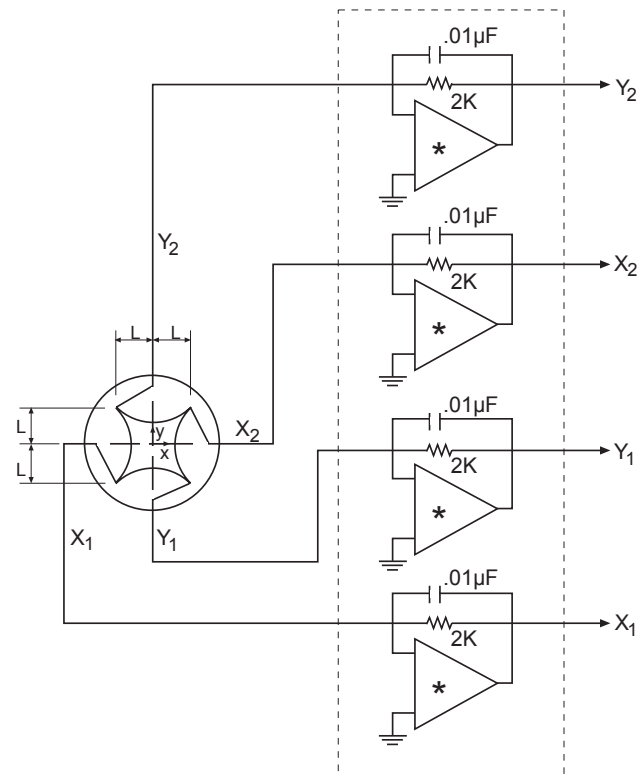


**J16QUAD, J10QUAD, J15QUAD  
QUADRANT DETECTORS**

A Ge, InAs, or HgCdTe quadrant detector consists of four separate detector elements arranged in a quadrant geometry with element separations of approximately 0.05mm. The PA7:4 preamplifier is available for J16Quad and J10Quad detectors.



PA5:4C Four Channel Transimpedance Amplifier



$$\frac{x}{L} = \frac{(X_2 + Y_1) - (X_1 + Y_2)}{X_1 + X_2 + Y_1 + Y_2}$$

$$\frac{y}{L} = \frac{(X_2 + Y_2) - (X_1 + Y_1)}{X_1 + X_2 + Y_1 + Y_2}$$



Typical Specifications for Linear Position Sensors

Model Number	Part Number	Detector Type	Wavelength Range ( $\mu\text{m}$ )	Active Size "2L" (mm)	Linear Position Zone (Dia.) (mm)	Typical Position Resolution ( $\mu\text{m}$ )	Typical Interelectrode Resistance ( $\Omega$ )	Peak Responsivity	Detector Temperature	Package Type
J16PS-P6-S10M-HS	460284	Ge	0.8-1.8	10 x 10	6	5	~ 100	0.6	22°C	TO3
J16PS-8E6-S05M-HS	460743	Ge	0.8-1.8	5 x 5	3	5	~ 100	0.6	22°C	TO8
J16PS-66G-S05M-HS	460704	Ge	0.8-1.8	5 x 5	3	5	~ 500	0.6	-30°C	TE
J12PS-66D-S05M	420080	InAs	1-3.5	5 x 5	3	25	~ 100	0.5	-30°C	TE
J10PS-M204-S05M	400284	InSb	1-5.5	5 x 5	3	25	~ 100	2.0	77°K	Dewar

Typical Specifications for Quadrant Detectors

Model Number	Part Number	Detector Type	Total Active Size "S" (mm)	Operating Temperature	Wavelength Range ( $\mu\text{m}$ )	Packages	
						Standard	Optional
J16QUAD-8D6-R02M	460035	Ge	2 (Dia.)	Room Temperature	0.8 - 1.8	6 pin	
J16QUAD-8D6-R05M	460012	Ge	5 (Dia.)	Room Temperature	0.8 - 1.8	TO-8	
J10QUAD-M204-R01M		InSb	1 (Dia.)	77°K	1 - 5.5	M204	Dewars
J10QUAD-M204-R02M	400164	InSb	2 (Dia.)	77°K	1 - 5.5	Metal	Shown
J10QUAD-M204-R05M	400186	InSb	5 (Dia.)	77°K	1 - 5.5	Sideview	in
J15QUAD-M204-S02M-60	450945	HgCdTe	2 x 2	77°K	2 - 13	Dewar	Catalog
J15QUAD-M204-R04M-60	450579	HgCdTe	4 x 4	77°K	2 - 13		

Information in this document is believed to be reliable. However, no responsibility is assumed for possible inaccuracies or omission. Specifications are subject to change without notice.