

FCI-InGaAs-QXXX

Large Active Area InGaAs Quadrants

FCI-InGaAs-QXXX series are large active area InGaAs photodiodes segmented into four separate active areas. These photodiodes come in 1mm and 3mm active area diameter. The InGaAs Quad series with high response uniformity and the low cross talk between the elements are ideal for accurate nulling or centering applications as well as beam profiling applications. They exhibit excellent responsivity from 1100nm to 1620nm, and are stable over time and temperature, and fast response times necessary for high speed or pulse operation. The photodiodes are packaged in isolated TO-5 or TO-8 cans with a broadband double sided AR coated flat window, and also can be mounted on ceramic substrate per request.



APPLICATIONS

- Position Sensing
- Beam Alignment
- Beam Profiling

FEATURES

- High Responsivity
- Low Noise
- Spectral Range 900nm to 1700nm
- Low Crosstalk
- Wide Field of View



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Absolute Maximum Ratings

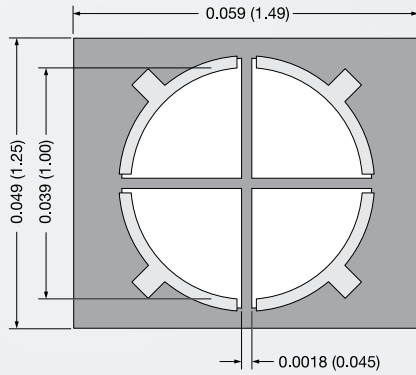
PARAMETERS	SYMBOL	MIN	MAX	UNITS
Storage Temperature	T_{stg}	-55	+125	°C
Operating Temperature	T_{op}	-40	+75	°C
Soldering Temperature	T_{sld}	---	+260	°C

Electro-Optical Characteristics (per 1 element)

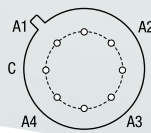
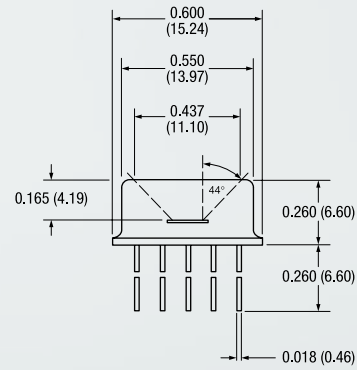
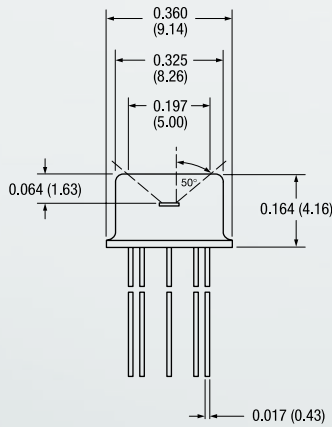
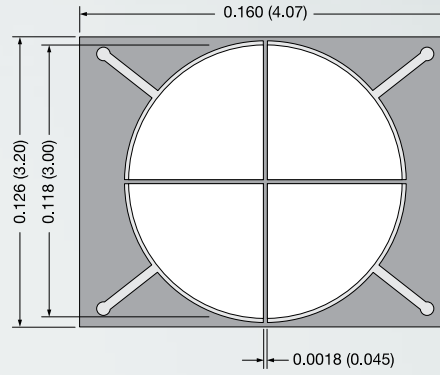
$T_A = 23^\circ\text{C}$

PARAMETERS	SYMBOL	CONDITIONS	FCI-InGaAs-Q1000			FCI-InGaAs-Q3000			UNITS
			MIN	TYP	MAX	MIN	TYP	MAX	
Active Area Diameter	AA_ϕ	---	---	1000	---	---	3000	---	μm
Responsivity	R_λ	$\lambda = 1310\text{nm}$	0.85	0.90	---	0.85	0.90	---	A/W
		$\lambda = 1550\text{nm}$	0.90	0.95	---	0.90	0.95	---	
Element Gap	---	---	---	0.045	---	---	0.045	---	mm
Capacitance	C_j	$V_R = 5.0\text{V}$	---	---	25	---	---	225	pF
Dark Current	I_d	$V_R = 5.0\text{V}$	---	0.5	15	---	2.0	100	nA
Rise Time/ Fall Time	t_r/t_f	$V_R = 5.0\text{V}, 50\Omega$ 10% to 90%	---	3	---	---	24	---	ns
Crosstalk	---	$\lambda = 1550\text{nm},$ $V_R = 5.0\text{V}$	---	---	1	---	---	1	%
Max. Reverse Voltage	---	---	---	---	15	---	---	10	V
NEP	---	$\lambda = 1550\text{nm}$	---	1.20E-14	---	---	2.50E-14	---	W/√Hz

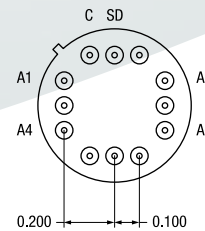
InGaAs-Q1000



InGaAs-Q3000



Pin Circle Dia.=0.230
Bottom View



Bottom View

Pinout

PIN	Description
A1	ANODE QUADRANT 1
A2	ANODE QUADRANT 2
A3	ANODE QUADRANT 3
A4	ANODE QUADRANT 4
C	COMMON CATHODE

Pinout

PIN	Description
A1	ANODE QUADRANT 1
A2	ANODE QUADRANT 2
A3	ANODE QUADRANT 3
A4	ANODE QUADRANT 4
C	COMMON CATHODE
SD	SUCTION DIODE