

155Mbps / 622Mbps / 1.25Gbps / 2.5Gbps High Speed InGaAs Photodiodes



APPLICATIONS

- High Speed Optical Communications
- Single/Multi-Mode Fiber Optic Receiver
- Gigabit Ethernet/Fibre Channel
- SONET/SDH, ATM
- Optical Taps

FEATURES

- High Speed
- High Responsivity
- Low Noise
- Spectral Range 900nm to 1700nm

DESCRIPTION

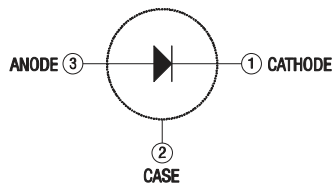
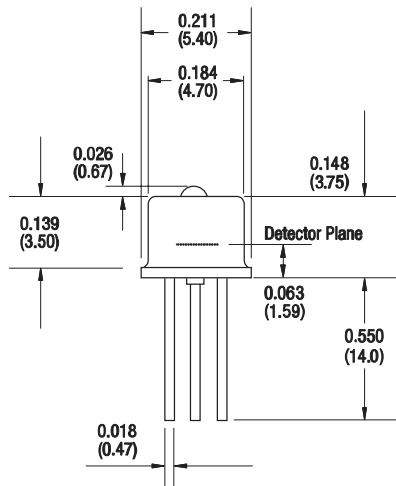
FCI-InGaAs-XXX series with active area sizes of 55 μ m, 70 μ m, 120 μ m, 300 μ m, 400 μ m and 500 μ m, exhibit the characteristics need for Datacom and Telecom applications. Low capacitance, low dark current and high responsivity from 1100nm to 1620nm make these devices ideal for high-bit rate receivers used in LAN, MAN, WAN, and other high speed communication systems. The photodiodes are packaged in 3 lead isolated TO-46 cans or in 1 pin pill packages with AR coated flat windows or micro lenses to enhance coupling efficiency. FCI-InGaAs-XXX series is also offered with FC, SC, ST and SMA receptacles.

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 _{sl}	---	+260	°C

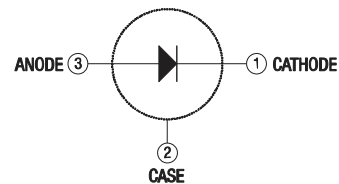
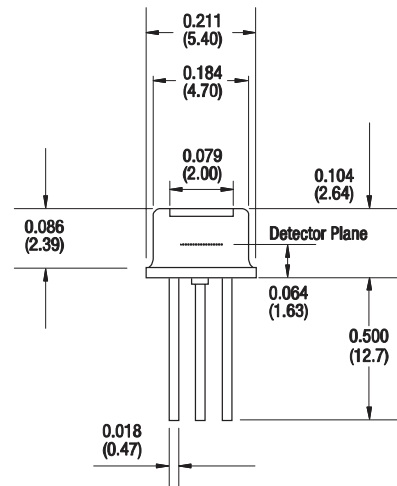
Electro-Optical Characteristics																				T _A =23°C	
PARAMETERS	SYMBOL	CONDITIONS	FCI-InGaAs-55			FCI-InGaAs-70			FCI-InGaAs-120			FCI-InGaAs-300			FCI-InGaAs-400			FCI-InGaAs-500			UNITS
			MIN	TYP	MAX	MIN	TYP	MAX	MIN	TYP	MAX	MIN	TYP	MAX	MIN	TYP	MAX	MIN	TYP	MAX	
Active Area Diameter	AA ₀	---	---	55	---	---	70	---	---	120	---	---	300	---	---	400	---	---	500	---	μ m
Responsivity	R _s	λ =1310nm	0.85	0.90	---	0.85	0.90	---	0.85	0.90	---	0.85	0.90	---	0.85	0.90	---	0.85	0.90	---	A/W
		λ =1550nm	0.90	0.95	---	0.90	0.95	---	0.90	0.95	---	0.90	0.95	---	0.90	0.95	---	0.90	0.95	---	
Capacitance	C _j	V _R = 5.0V	---	0.60	---	---	0.65	---	---	1.0	---	---	4.5	---	---	12.5	---	---	18.0	---	pF
Dark Current	I _d	V _R = 5.0V	---	0.02	2	---	0.03	2	---	0.05	2	---	0.10	5	---	0.15	5	---	0.20	20	nA
Rise Time/ Fall Time	t _r /t _f	V _R = 5.0V, R _L =50 Ω 10% to 90%	---	---	0.2	---	---	0.2	---	---	0.3	---	---	1.5	---	---	3.0	---	---	4.0	ns
Max. Reverse Voltage	---	---	---	---	20	---	---	20	---	---	20	---	---	15	---	---	15	---	---	15	V
Max. Reverse Current	---	---	---	---	0.5	---	---	1	---	---	2	---	---	5	---	---	5	---	---	5	mA
Max. Forward Current	---	---	---	---	5	---	---	5	---	---	5	---	---	25	---	---	35	---	---	45	mA
NEP	---	---	---	2.66E-15	---	---	3.44E-15	---	---	4.50E-15	---	---	6.28E-15	---	---	7.69E-15	---	---	8.42E-15	---	W/ $\sqrt$ Hz

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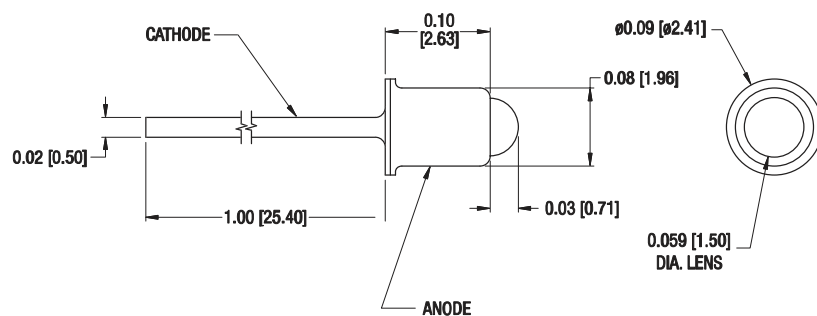
High Speed InGaAs Photodiodes



Pin Circle Diameter = 0.100 (2.54)



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**Notes:**

- 1) All units in inches (mm).
- 2) All tolerances: 0.005 (0.125).
- 3) Please specify when ordering the flat window or lens cap devices.
- 4) The flat window devices have broadband AR coatings centered at 1310nm.
- 5) The thickness of the flat window=0.008 (0.21).