

155Mbps/622Mbps/1.25Gbps/2.5Gbps

High Speed InGaAs Photodiodes

FCI-InGaAs-XXX series with active area sizes of 55µm, 70µm, 120µm, 300µm, 400µm and 500µm, 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.



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

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 _{slid}	---	+260	°C

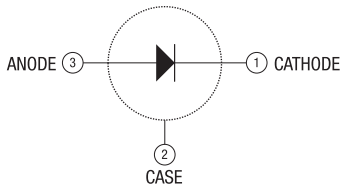
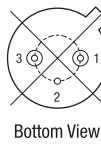
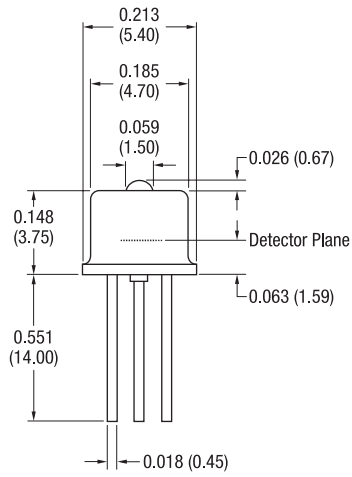
Electro-Optical Characteristics

T_A = 23°C

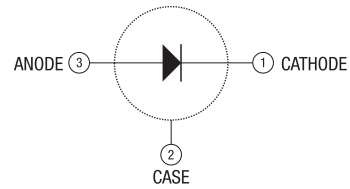
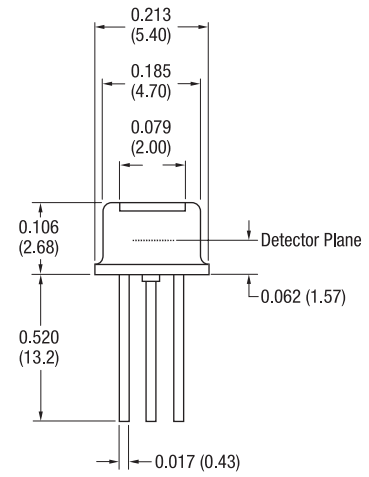
PARAMETERS	SYMBOL	CONDITIONS	FCI-InGaAs-55			FCI-InGaAs-70			FCI-InGaAs-120			FCI-InGaAs-300			FCI-InGaAs-400			FCI-InGaAs-500			UNITS
			MIN	TYP	MAX	MIN	TYP	MAX	MIN	TYP	MAX	MIN	TYP	MAX	MIN	TYP	MAX	MIN	TYP	MAX	
Active Area Diameter	AA _φ	---	---	55	---	---	70	---	---	120	---	---	300	---	---	400	---	---	500	---	µm
Responsivity (Flat Window Package)	R _s	λ=1310nm	0.80	0.90	---	0.80	0.90	---	0.80	0.90	---	0.80	0.90	---	0.80	0.90	---	0.80	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	---	1.0	---	---	1.5	---	---	2.0	---	---	10.0	---	---	14.0	---	---	20.0	---	pF
Dark Current	I _d	V _R = 5.0V	---	0.02	2	---	0.03	2	---	0.05	2	---	0.30	5	---	0.40	5	---	0.50	20	nA
Rise Time/Fall Time	t _r /t _f	V _R = 5.0V, R _L = 50Ω 10% to 90%	---	---	0.20	---	---	0.20	---	---	0.30	---	---	1.5	---	---	3.0	---	---	10.0	ns
Max. Reverse Voltage	---	---	---	---	20	---	---	20	---	---	20	---	---	15	---	---	15	---	---	15	V
Max. Reverse Current	---	---	---	---	0.5	---	---	1	---	---	2	---	---	2	---	---	2	---	---	2	mA
Max. Forward Current	---	---	---	---	5	---	---	5	---	---	5	---	---	8	---	---	8	---	---	8	mA
NEP	---	---	---	2.66E-15	---	---	3.44E-15	---	---	4.50E-15	---	---	6.28E-15	---	---	7.69E-15	---	---	8.42E-15	---	W/√Hz

■ 155Mbps/622Mbps/1.25Gbps/2.5Gbps

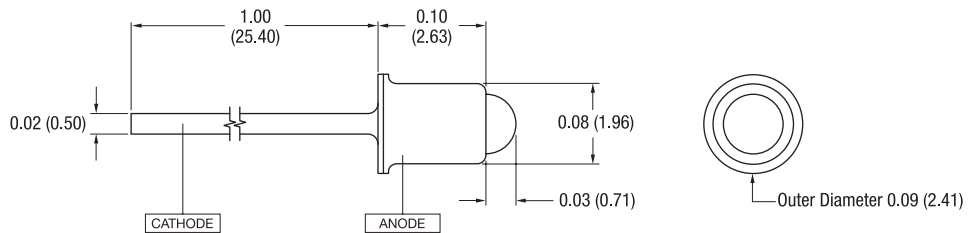
High Speed InGaAs Photodiodes



Pin Circle Diameter = 0.100 (2.54)



Pin Circle Diameter = 0.100 (2.54)



Notes:

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