



850nm. 1.25Gbps

Large Active Area and High Speed Silicon Photodiodes

APPLICATIONS

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

FEATURES

- Silicon Photodiodes
- High Responsivity
- Large Diameter Sensing Area
- Low Capacitance @ 3.3V
- Low Cost

DESCRIPTION

OSI Fibercomm's family of large active area and high speed silicon PIN photodiodes possesses a large sensing area optimized for short-haul optical data communication applications at 850nm. The photodetectors exhibit high responsivity, wide bandwidth, low dark current and low capacitance at 3.3V. They are designed to match the most widely used transimpedance amplifiers. The photodiodes can be used in all 850nm transceivers and GBICs up to 1.25Gbps applications such as Gigabit Ethernet and Fibre Channel. The chip is isolated in a 3 pin TO-46 package with options of micro lens cap or an AR coated flat window. They are also available in standard fiber receptacles such as FC, ST, SC and SMA. For availability in chip form please contact our sales department.

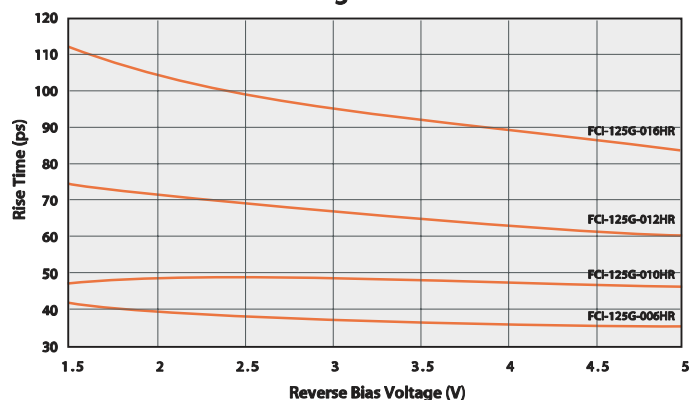
Absolute Maximum Ratings

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

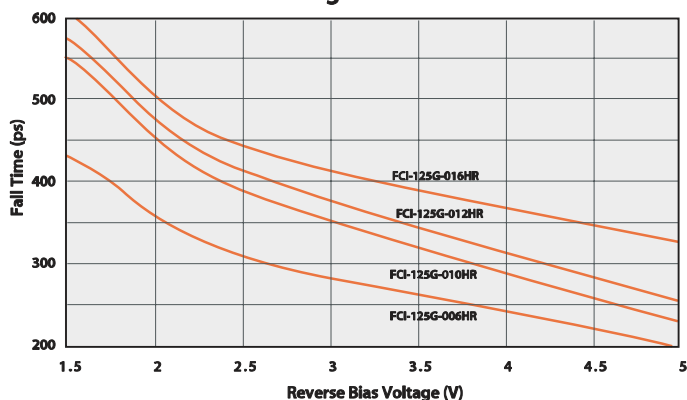
Electro-Optical Characteristics

PARAMETERS	SYMBOL	CONDITIONS		FCI-125G-006HR			FCI-125G-010HR			FCI-125G-012HR			FCI-125G-016HR			UNITS
				MIN	TYP	MAX	MIN	TYP	MAX	MIN	TYP	MAX	MIN	TYP	MAX	
Active Area Diameter	AA	---		---	150	---	---	250	---	---	300	---	---	400	---	μm
Responsivity	R	λ =850nm		---	0.36	---	---	0.36	---	---	0.36	---	---	0.36	---	A/W
Dark Current	I _d	V _R = 3.3V		---	20	500	---	25	500	---	30	500	---	40	500	pA
		V _R = 5.0V		---	30	500	---	35	500	---	40	500	---	50	500	
Capacitance	C _j	V _R = 3.3V		---	0.66	---	---	0.96	---	---	1.16	---	---	1.73	---	pF
		V _R = 5.0V		---	0.65	---	---	0.94	---	---	1.13	---	---	1.70	---	
Rise Time	t _r	20% to 80% R _L =50Ω λ =850nm	V _R = 3.3V	---	38	---	---	50	---	---	69	---	---	100	---	ps
			V _R = 5.0V	---	35	---	---	47	---	---	60	---	---	84	---	
Fall Time	t _f	80% to 20% R _L =50Ω λ =850nm	V _R = 3.3V	---	313	---	---	429	---	---	436	---	---	449	---	ps
			V _R = 5.0V	---	200	---	---	246	---	---	265	---	---	329	---	
Max. Reverse Voltage	---	---		---	---	20	---	---	20	---	---	20	---	---	20	V
NEP	---	---		---	8.60E-15	---	---	9.29E-15	---	---	9.93E-15	---	---	1.11E-14	---	W/·Hz

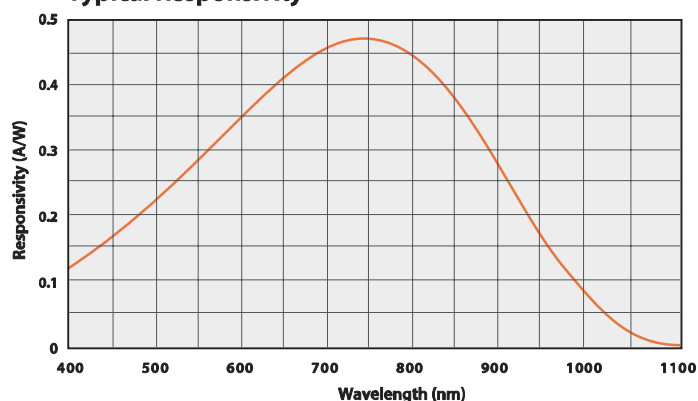
Rise Time vs. Bias Voltage



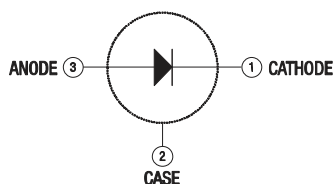
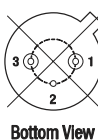
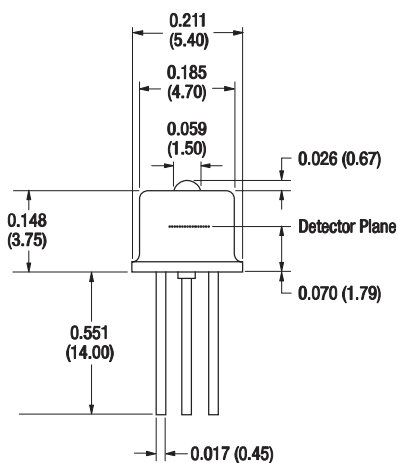
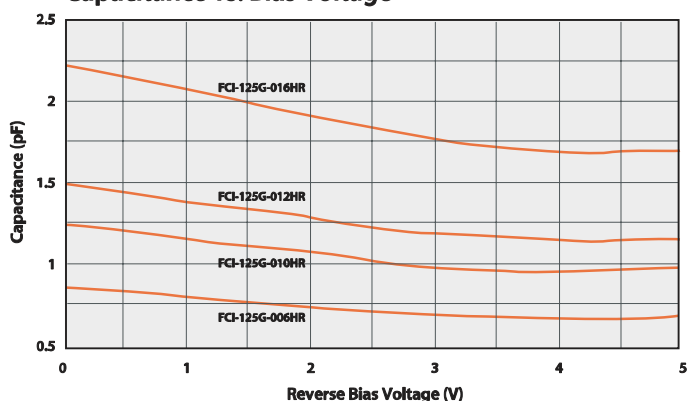
Fall Time vs. Bias Voltage



Typical Responsivity

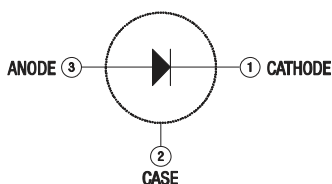
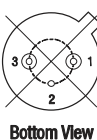
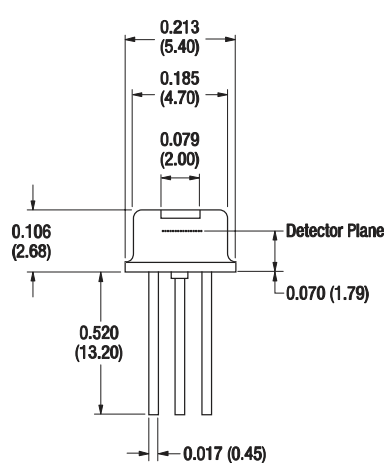


Capacitance vs. Bias Voltage



Pin Circle Diameter = 0.100 (2.54)

www.lasercomponents.com



Pin Circle Diameter = 0.100 (2.54)

Issue: 02/04 / V1 / HW / www.pdf/osifiber/850nm-1_25gbps.pdf

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 850nm.
- ⑤ The thickness of the flat window=0.008 (0.21).