



High Speed InGaAs PIN Photodiodes  
diameter of active area=100  $\mu\text{m}$

**DESCRIPTION**

High-speed, low dark current, low capacitance photodiode for high speed communication systems, LANs, and FDDI applications. The photosensitive area is 100 microns in diameter. Planar-passivated device structure.

**ABSOLUTE MAXIMUM RATINGS (T=25°C)**

PARAMETER	RATING	UNITS
Storage Temperature	-40 to +100	°C
Operating Temperature	-40 to +85	°C
Forward Current	5	mA
Reverse Current	0.5	mA
Reverse Voltage	30	V

**OPTICAL AND ELECTRICAL CHARACTERISTICS (T=25°C)**

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNITS
Responsivity	R	$\lambda = 1300 \text{ nm}$	0.80	0.90	-	A/W
		$\lambda = 1550 \text{ nm}$	0.85	0.95	-	
Dark Current	$I_d$	$V_R=5V$	-	0.5	3	nA
Rise/Fall Time	$t_R/t_F$	$V_R=5V$	-	0.3	0.7 <sup>①</sup>	ns
Capacitance	C	$V_R=5V$	-	1.1	1.5 <sup>②</sup>	pF

①  $t_R/t_F < 0.4 \text{ ns}$  for diodes mounted on ceramic submounts

②  $C < 1.2 \text{ pF}$  for diodes mounted on ceramic submounts

**PACKAGE OPTIONS**

PART NUMBER	PACKAGE DESCRIPTION
FD100W	TO-18 with AR-coated flat window cap
FD100L	TO-18 with lens cap
FD100S2	type S2 alumina ceramic submount
FD100S3	type S3 alumina ceramic submount
FD100FC	TO-style diode installed in FC-connector receptacle
FD100SC	TO-style diode installed in SC-connector receptacle
FD100ST	TO-style diode installed in ST-connector receptacle
FD100F(core/cladding)	TO-style diode with integral fiber pigtail (specify fiber core/cladding)



High Speed InGaAs PIN Photodiodes

TYPICAL CHARACTERISTICS

Fig. 1 Spectral Response (R vs  $\lambda$ )

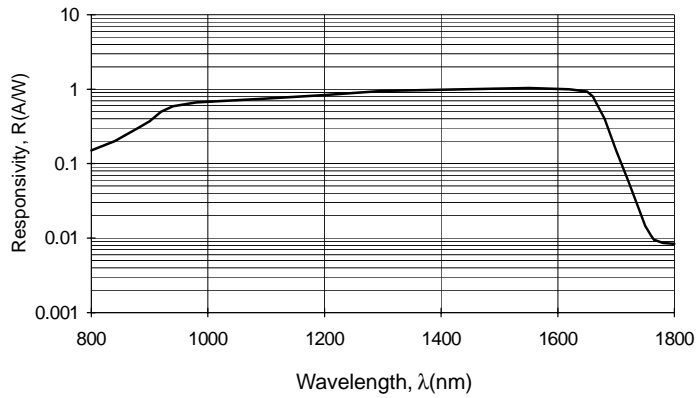


Fig. 2 Dark Current vs Reverse Voltage

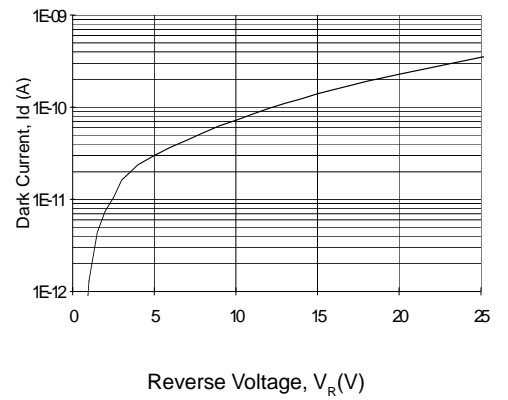


Fig. 3 Capacitance vs Reverse Voltage

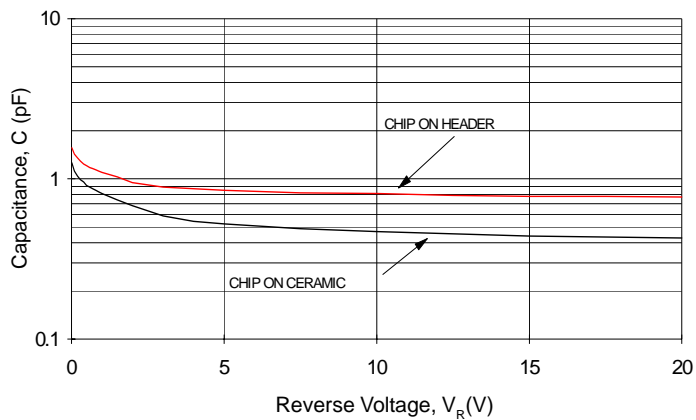


Fig. 4 Response to Optical Impulse

