



SERIES NUMBER

FD80

High Speed InGaAs PIN Photodiodes
diameter of active area=80 μm

DESCRIPTION

High-speed, low dark current, low capacitance photodiode for high speed communication systems. The photosensitive area is 80 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	0.85	-	A/W
		$\lambda = 1550 \text{ nm}$	0.85	0.90	-	
Dark Current	I_d	$V_R=5V$	-	0.1	1	nA
Rise/Fall Time	t_R/t_F	$V_R=5V$	-	0.15	0.5 ^①	ns
Capacitance	C	$V_R=5V$	-	0.4	0.75 ^②	pF

① $t_R/t_F < 0.3 \text{ ns}$ for diodes mounted on ceramic submounts

② $C < 0.5 \text{ pF}$ for diodes mounted on ceramic submounts

PACKAGE OPTIONS

PART NUMBER	PACKAGE DESCRIPTION
FD80W	TO-18 with AR-coated flat window cap
FD80L	TO-18 with lens cap
FD80S2	type S2 alumina ceramic submount
FD80S3	type S3 alumina ceramic submount
FD80FC	TO-style diode installed in FC-connector receptacle
FD80SC	TO-style diode installed in SC-connector receptacle
FD80ST	TO-style diode installed in ST-connector receptacle
FD80F(core/cladding)	TO-style diode with integral fiber pigtail (specify fiber core and cladding)
FD80S7F(core/cladding)	High Speed Mini-Pigtail (specify fiber core and cladding)
FD80S8F(core/cladding)	Horizontal mount ceramic with fiber pigtail (specify fiber core and cladding)



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TYPICAL CHARACTERISTICS

Fig. 1 Spectral Response (R vs λ)

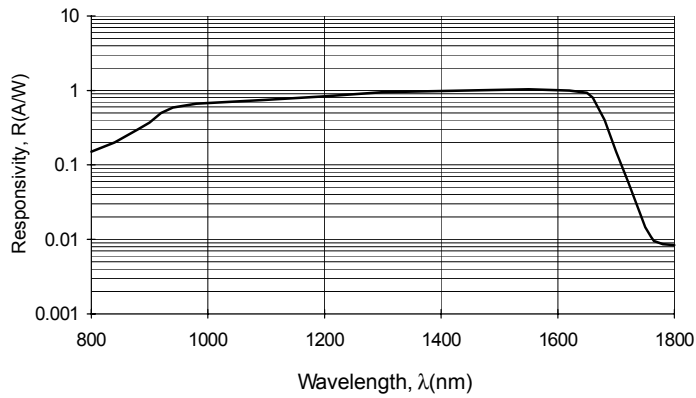


Fig. 2 Dark Current vs Reverse Voltage

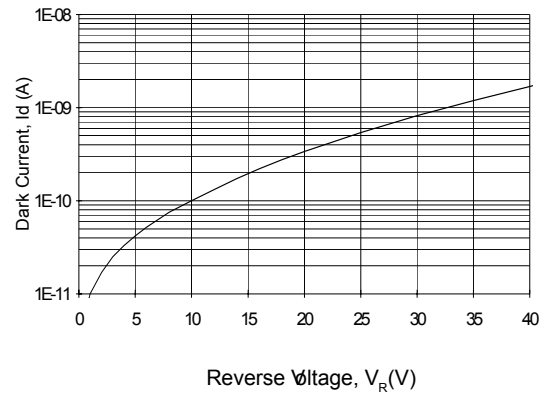


Fig. 3 Capacitance vs Reverse Voltage

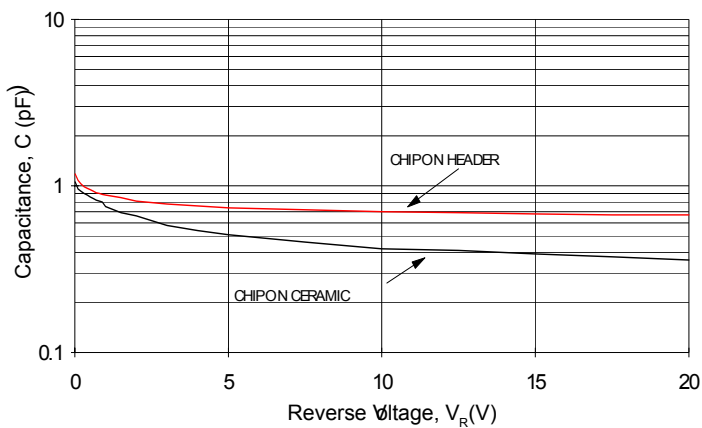


Fig. 4 Response to Optical Impulse

