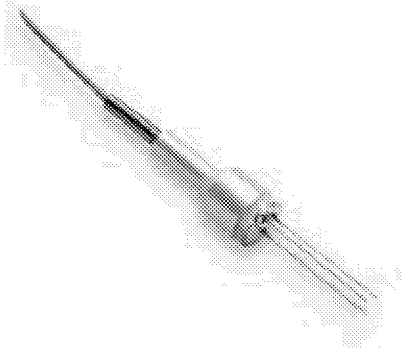


# MF435 Cable TV (CATV) PIN Photodiode

## MF435 Pigtail



Pigtail Assembly

### Applications

- CATV

### Features

- Linear 1300 and 1550nm PIN photodiode
- Very Low Intermodulation Distortion
- Very High Return Loss
- 2.5GHz Bandwidth
- Assembled with a Single-Mode Fiber Pigtail
- Pigtail Terminated with an SC Connector

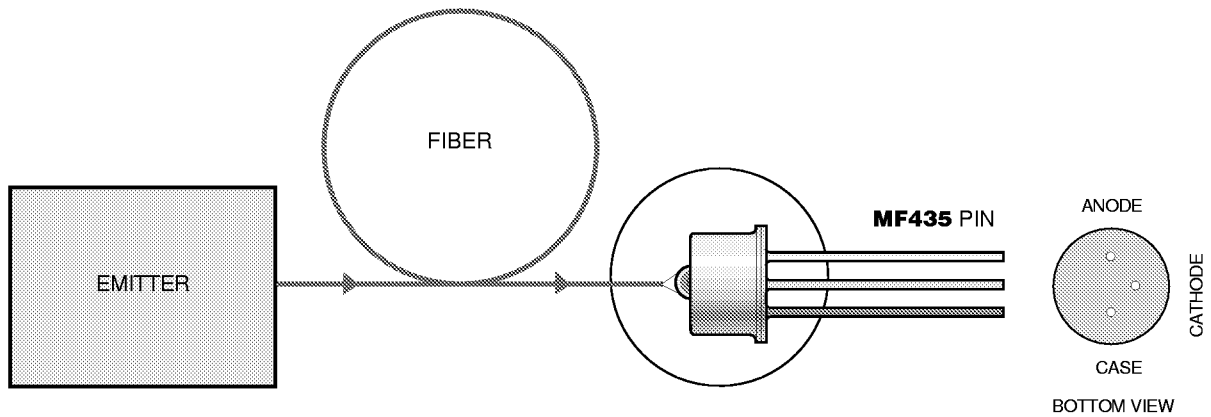
### Description

PIN Photodiode for Cable TV (CATV). This PIN has very high bandwidth, very low intermodulation distortion and very high return loss. It has an actively aligned fiber Pigtail for optimum coupling to the fiber and maximum return loss. A 1300 or 1550nm Laser is recommended as Transmitter.

### Ordering Information

PART #	RECEPTACLE
MF435 Pigtail	Pigtail
-40°C to +85°C	

## MF435 Functional Diagram



**Absolute Maximum Ratings\***

Parameter	Symbol	Min.	Max.	Units
Storage Temperature	$T_{stg}$	-40	+85	°C
Operating Temperature	$T_{op}$	-40	+85	°C
Reverse Voltage	$V_R$		20	V
Soldering Temperature (Note 1)	$T_{sld}$		260	°C

\*Exceeding these values may cause permanent damage. Functional operation under these conditions is not implied.

Note 1: 2mm from the case for 10s.

**Optical & Electrical Characteristics** (Case Temperature -25 to +70°C)

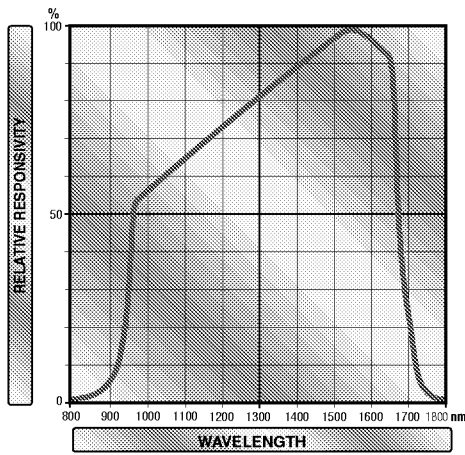
Parameter	Symbol	Min.	Typ.	Max.	Units	Test Conditions
Responsivity (Fig 1)	R	0.75 0.90	0.84 1.00		A/W	$\lambda=1300\text{nm}$ (Note 1) $\lambda=1550\text{nm}$ $V_R=10\text{V}$
Return Loss	RL	45	55		dB	(Note 1)
Bandwidth	$f_c$	2			GHz	$V_R=10\text{V}$ $R_L=50\Omega$ (Note 1)
Intermodulation Distortion	IMD <sub>2</sub> IMD <sub>3</sub>		-78 -90		dBc	OMI <sub>L</sub> =70%, $P_C=1\text{mW}$ $f_2-f_1=40\text{MHz}$ (Note 1, 2)
Capacitance (Fig 2)	C		0.8	1.2	pF	$V_R=10\text{V}$ $f=1\text{MHz}$
Dark Current	$I_d$			5 50	nA	$T_{Case}=25^\circ\text{C}$ $T_{Case}=70^\circ\text{C}$ $V_R=10\text{V}$

Note 1: 10/125 $\mu\text{m}$  single-mode fiber pigtail (NA=0.11).

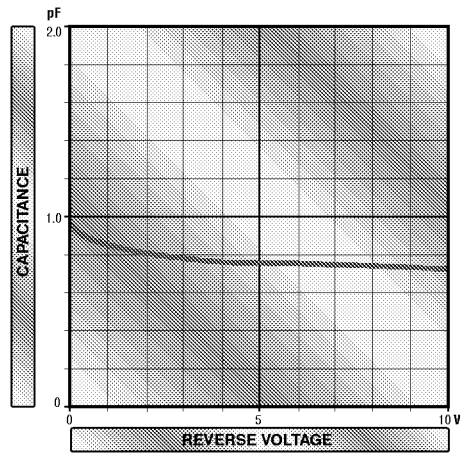
Note 2:  $f_1=100 - 1000\text{MHz}$ ,  $V_R=10\text{V}$   $R_L=50\Omega$ .

**Thermal Characteristics**

Parameter	Symbol	Min.	Typ.	Max.	Units
Temperature Coefficient - Dark Current	$dI_d/dT_j$		5		% / °C

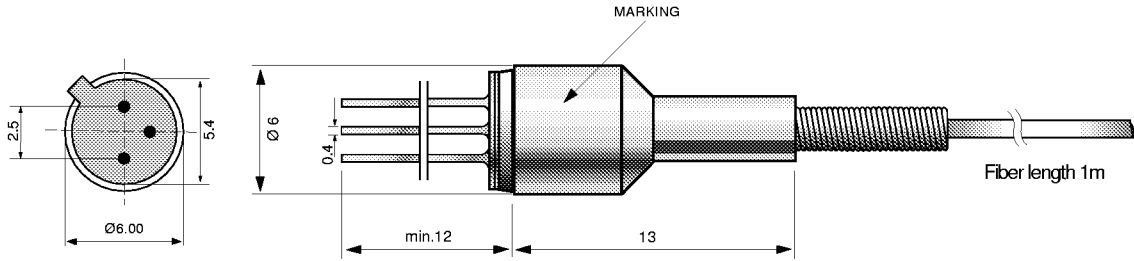


**Figure 1**



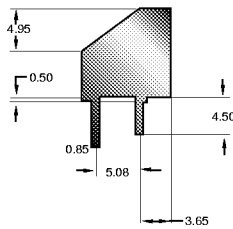
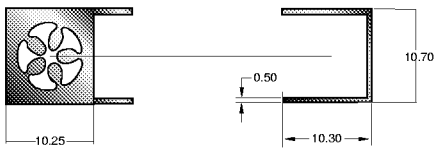
**Figure 2**

**MF435 Pigtail Mechanical Data**



Note: The PIN chip is isolated from the case. All dimensions in mm.

**MF435 Pigtail Clip**



**SC Connector on MF435 Pigtail**

