

## MF432 ST



ST Assembly

### ST Applications

- FDDI
- ESCON
- ATM-SDH/SONET 155, 622 and 2488Mbps
- FITL - Fiber In The Loop
- FTTH/FTTC - Fiber To The Home/Curb
- Intra-Office Telecommunications
- General Purpose

### Features-All MF432 Devices

- 1300 and 1550nm PIN Photodiode
- 2.5GHz Bandwidth
- Designed for Single-Mode and Multi-Mode Fiber
- Aligned in ST®, SC Receptacle or with a Single-Mode Fiber Pigtail
- Tested to Bellcore TA-NWT-000983
- High Return Loss in Pigtail Configuration

## MF432 SC



SC Assembly

### SC Applications

- FDDI
- ESCON
- ATM-SDH/SONET 155, 622 and 2488Mbps
- FITL - Fiber In The Loop
- FTTH/FTTC - Fiber To The Home/Curb
- Intra-Office Telecommunications
- General Purpose

### Description

This family of PIN Photodiodes is designed for Datacom, Telecom and General purpose applications. Their unique design combines high bandwidth with high responsivity for single-mode as well as multimode fibers up to 62.5µm core diameter. The MF432 PIN Photodiode is available in ST, SC, or Pigtail package.

Specially-designed connectors and clips for PC board assembly are included in deliveries of MF432 in SC and Pigtail configurations.

The MF431 LED is the recommended transmitter for these PIN photodiodes.

## MF432 Pigtail



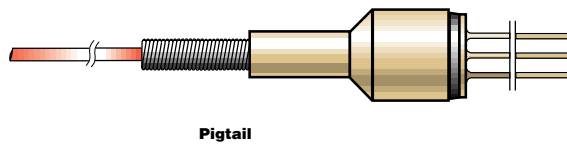
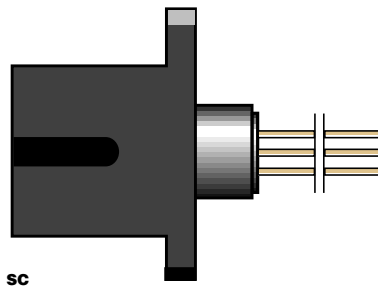
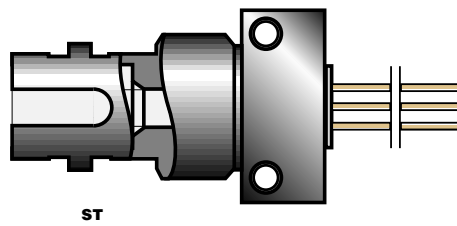
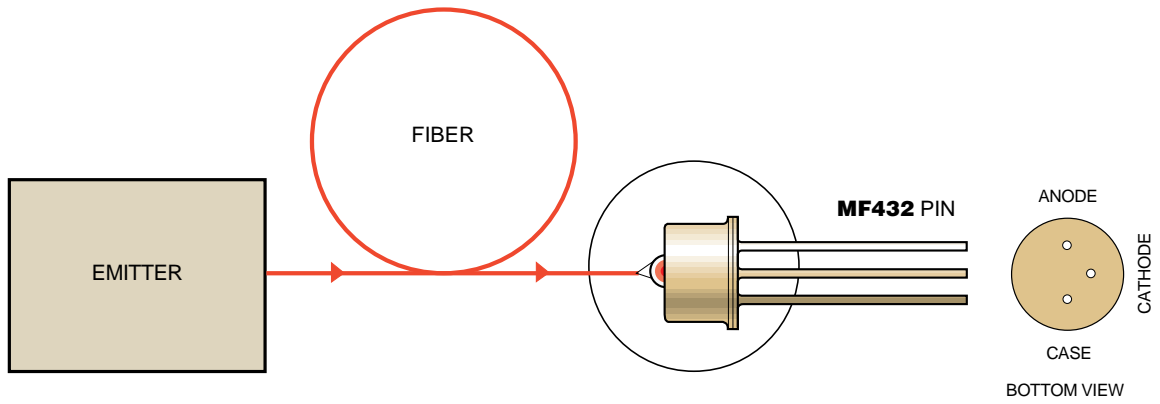
Pigtail Assembly

### Pigtail Applications

- ATM-SDH/SONET 155, 622 and 2488Mbps
- FITL - Fiber In The Loop
- FTTH/FTTC - Fiber To The Home/Curb

Ordering Information	
PART #	RECEPTACLE
MF431 ST	ST
MF 432 SC	SC
MF 432 Pigtail	Pigtail
-40°C to +85°C	

**MF432 Functional Diagram For ST, SC and Pigtail**



## 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, 2, 3)	R	0.7 0.8	0.8 1.0		A/W	$\lambda=1300\text{nm}$ (Note 1) $\lambda=1550\text{nm}$ $V_R=5\text{V}$
Bandwidth	$f_c$	2.5			GHz	$V_R=5\text{V}$ $R_L=50\Omega$ (Note 1)
Capacitance (Fig 4)	C		0.8	1.2	pF	$V_R=5\text{V}$ $f=1\text{MHz}$
Dark Current	$I_d$			3 50	nA	$T_{Case}=25^\circ\text{C}$ $T_{Case}=70^\circ\text{C}$ $V_R=5\text{V}$
Return Loss	RL	40	55			(Note 2)

Note 1: Data for 10/125 $\mu\text{m}$  single-mode fiber (NA=0.11) to 62.5/125 $\mu\text{m}$  graded index fiber (NA=0.275).

Note 2: With 10/125 $\mu\text{m}$  single-mode fiber pigtail (NA:0.11).

## Thermal Characteristics

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

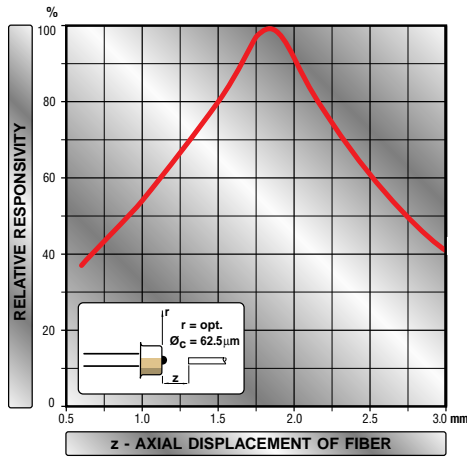


Figure 1

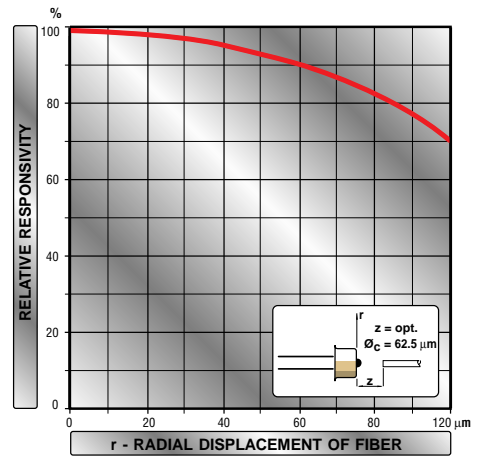


Figure 2

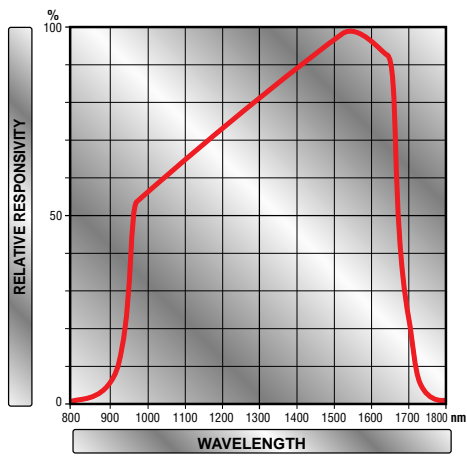


Figure 3

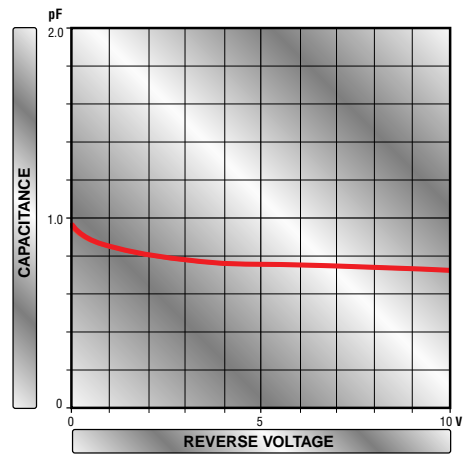
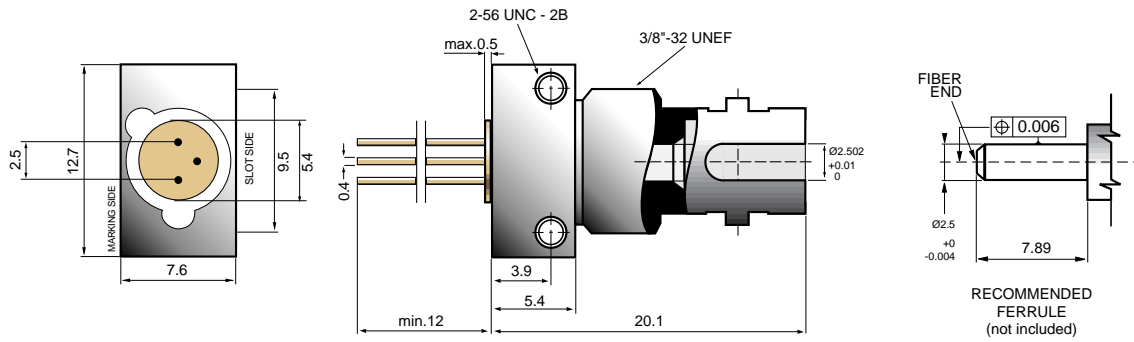


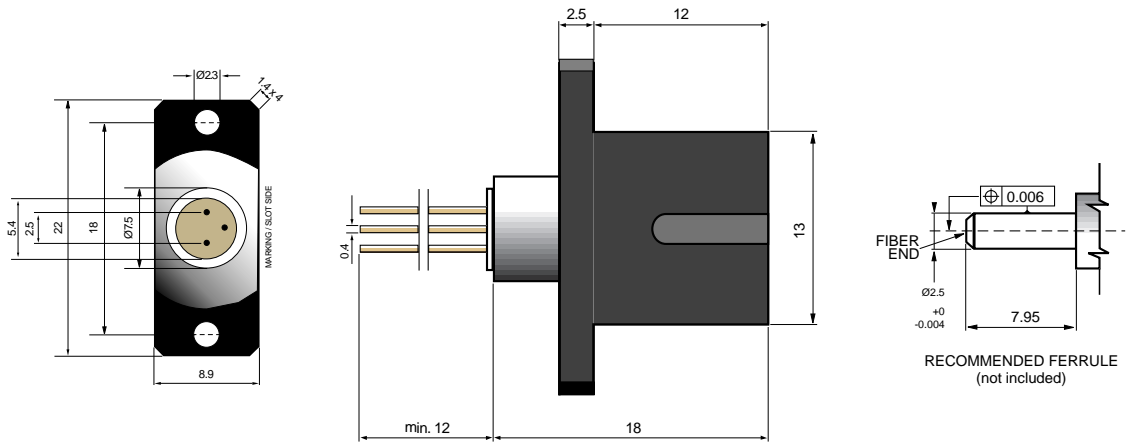
Figure 4

## MF432 ST Mechanical Data

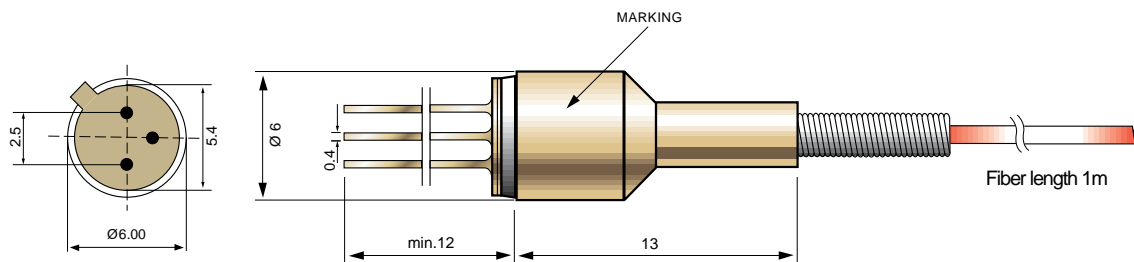


Note: The PIN chip is isolated from the case. All dimensions in mm.

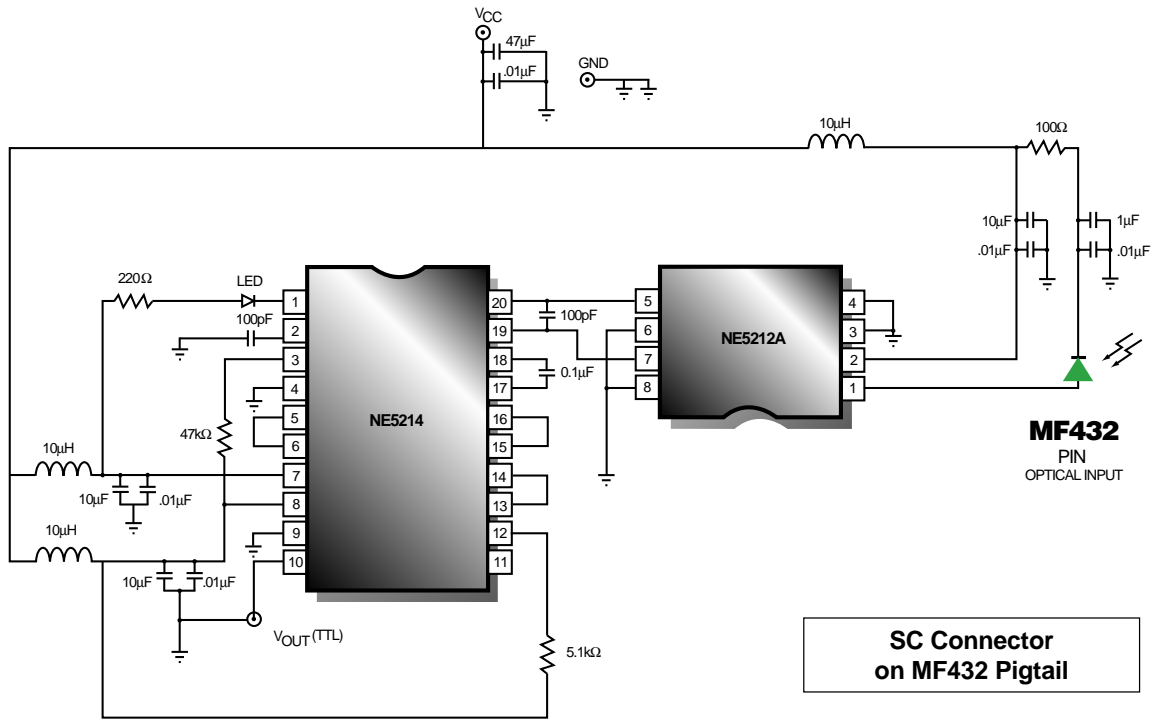
## MF432 SC Mechanical Data



## MF432 Pigtail Mechanical Data

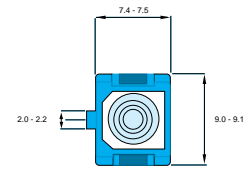
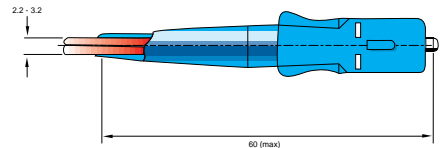


**Typical Receiver Circuit**

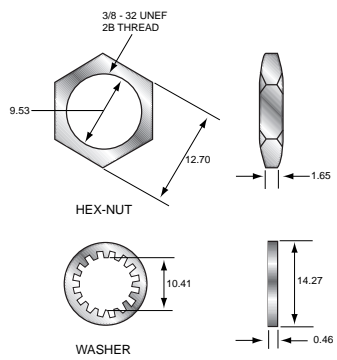


**SC Connector on MF432 Pigtail**

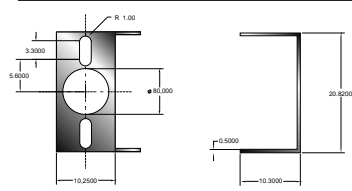
A typical Fiber Optic Receiver Circuit interfacing the PIN Photodiode to a Philips NE52121 transimpedance amplifier (140MHz) and to the Philips NE5211 FDDI Fiber Optic Postamplifier. This design is capable of operating at 125Mbps with single +5 or -5.2V supply with differential output impedance of 100k.



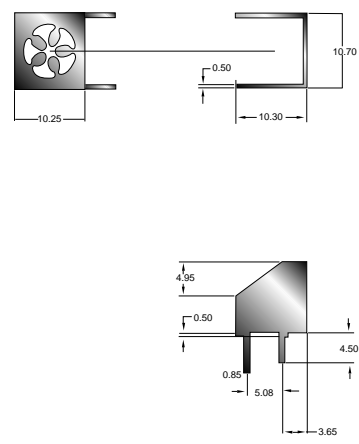
**ST Packaging Hardware**



**MF432 SC Clip**



**MF432 Pigtail Clip**





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