

## 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

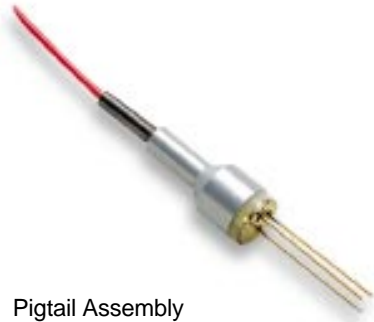
This family of PIN Photodiodes is designed for Datacom, Telecom and General purpose applications. Their unique design combines high bandwidth with high responsivity for single-mode as well as multimode fibers up to 62.5µm core diameter. The MF432 PIN Photodiode is available in ST, SC, or Pigtail package.

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.

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

## MF432 Pigtail

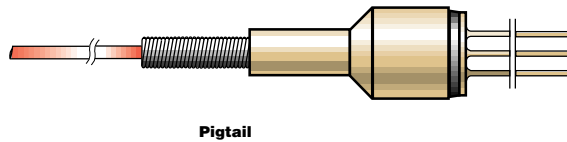
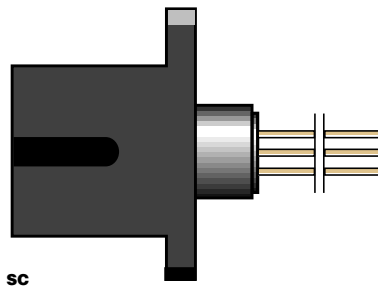
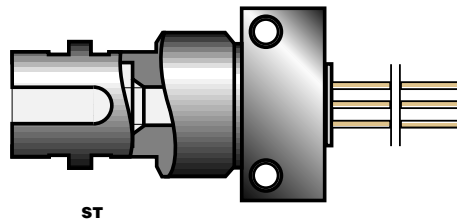
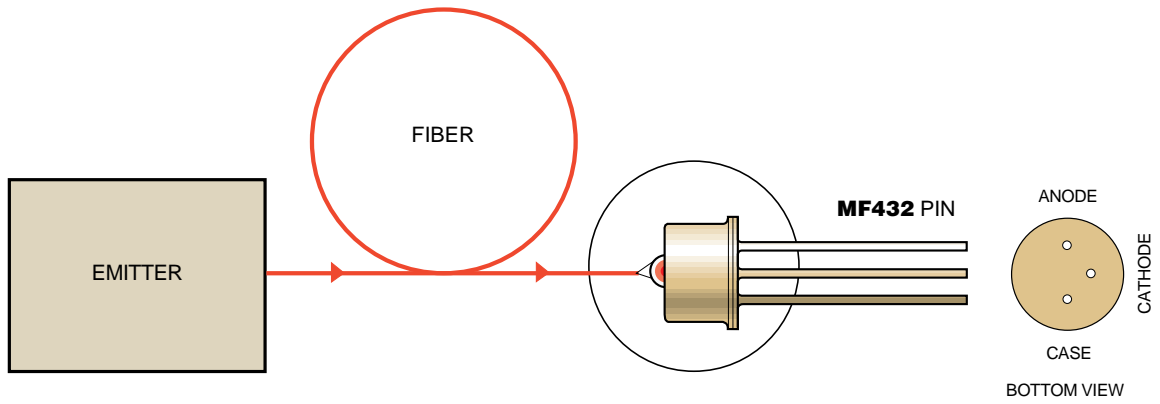


Pigtail Assembly

### Pigtail Applications

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

**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

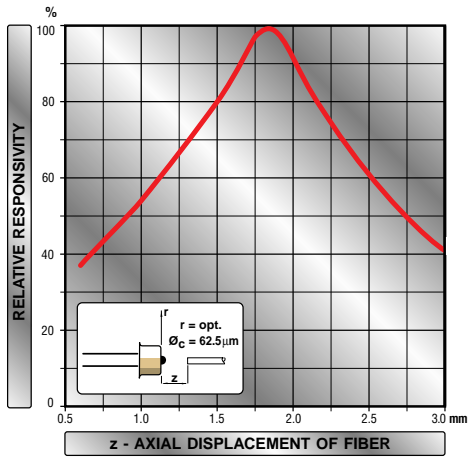


Figure 1

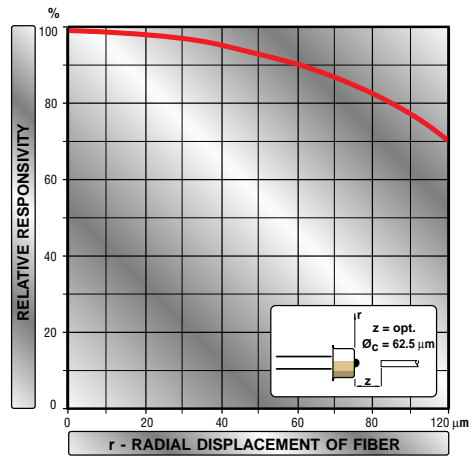


Figure 2

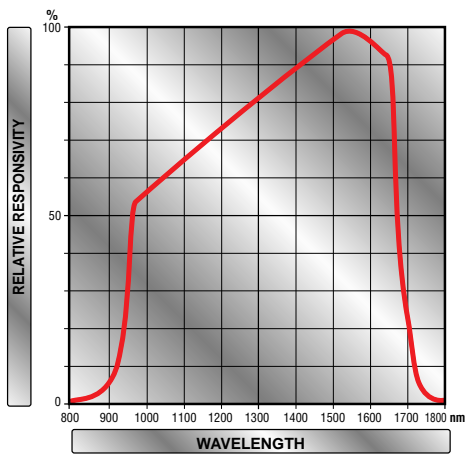


Figure 3

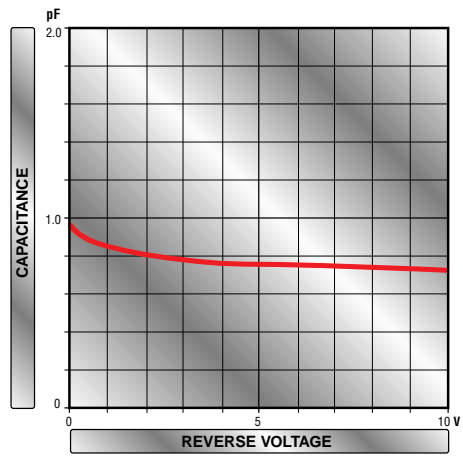
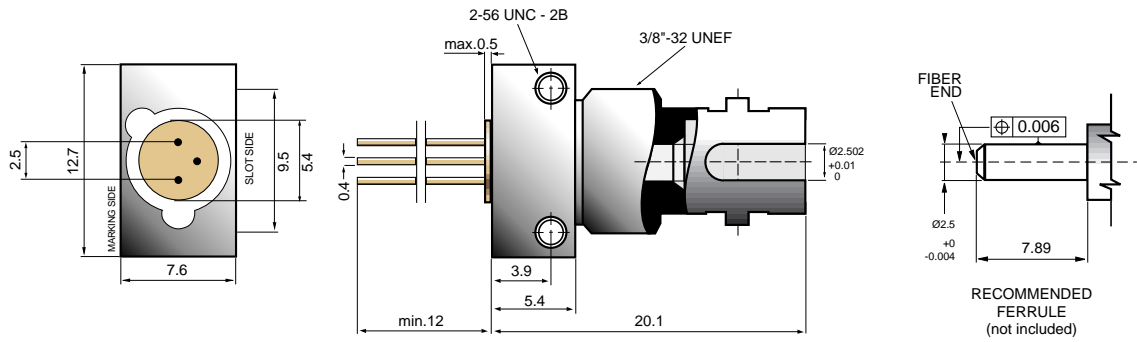


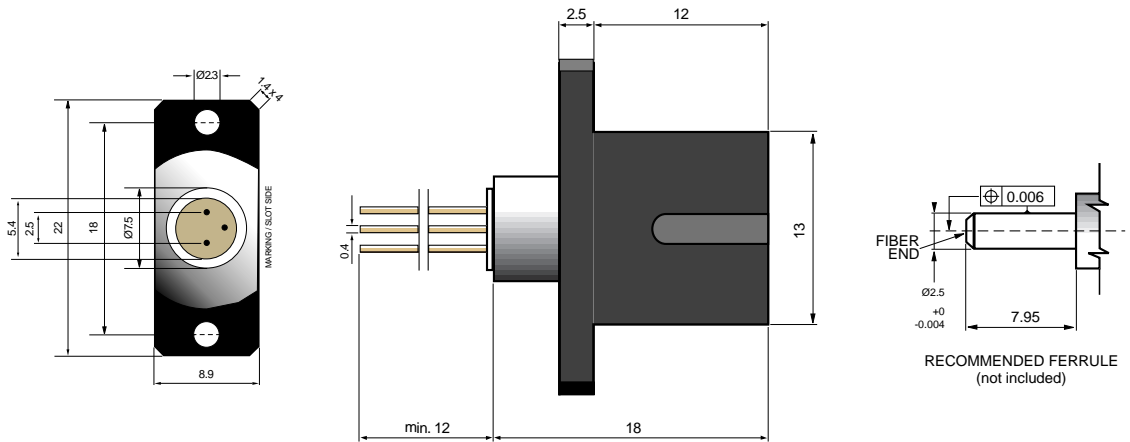
Figure 4

## MF432 ST Mechanical Data

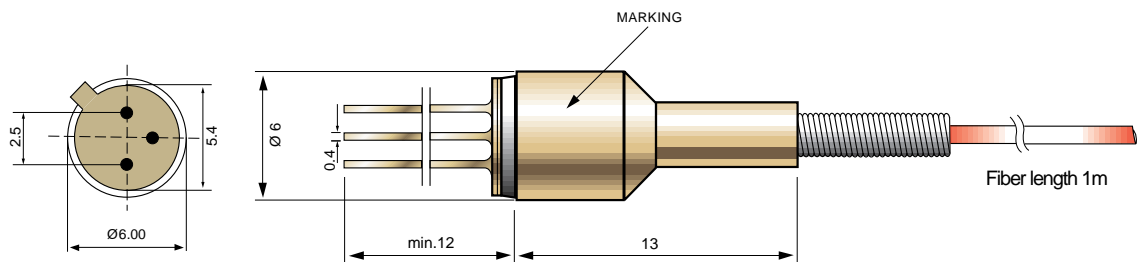


Note: The PIN chip is isolated from the case. All dimensions in mm.

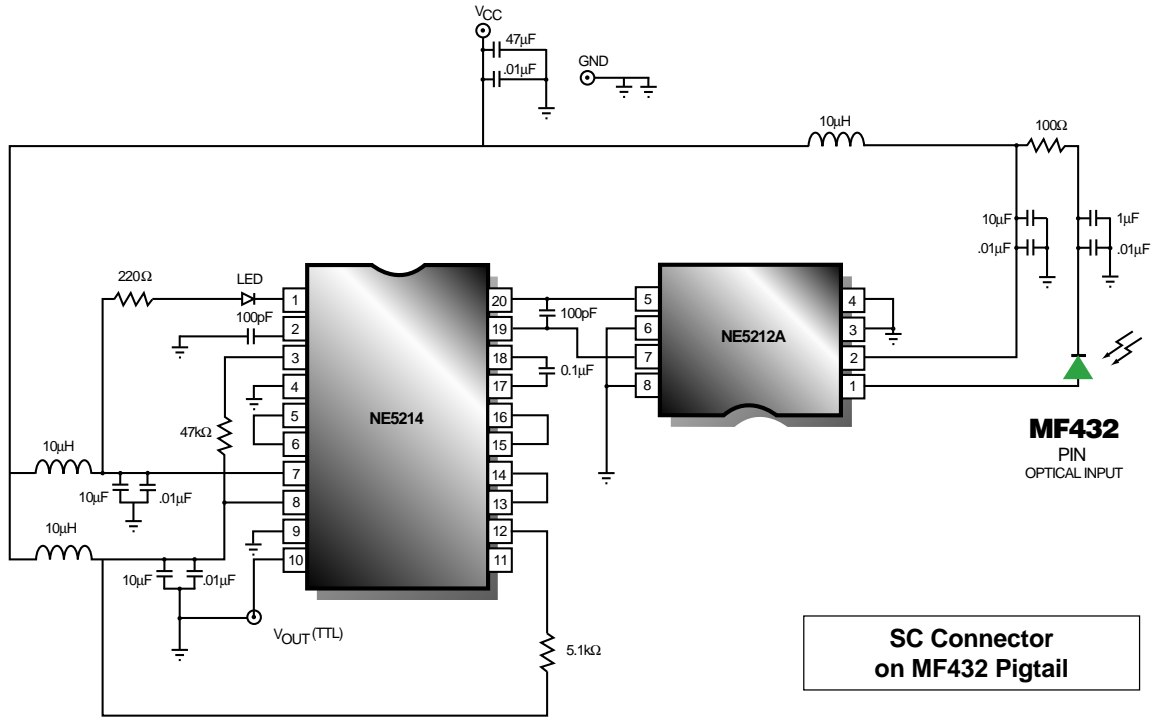
## MF432 SC Mechanical Data



## MF432 Pigtail Mechanical Data

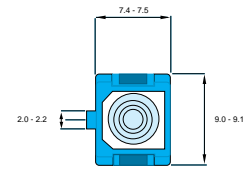
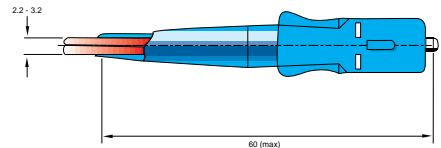


**Typical Receiver Circuit**

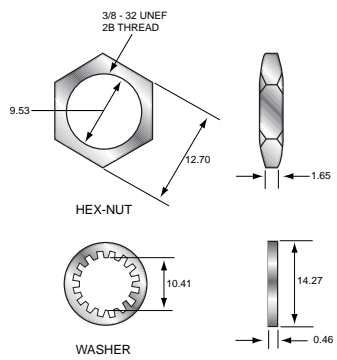


**SC Connector  
on MF432 Pigtail**

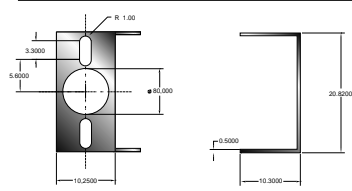
A typical Fiber Optic Receiver Circuit interfacing the PIN Photodiode to a Philips NE52121 transimpedance amplifier (140MHz) and to the Philips NE5211 FDDI Fiber Optic Postamplifier. This design is capable of operating at 125Mbps with single +5 or -5.2V supply with differential output impedance of 100k.



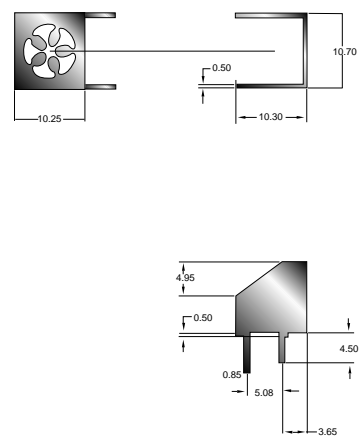
**ST Packaging Hardware**



**MF432 SC Clip**



**MF432 Pigtail Clip**





<http://www.mitelsemi.com>

**World Headquarters - Canada**

Tel: +1 (613) 592 2122  
Fax: +1 (613) 592 6909

**North America**

Tel: +1 (770) 486 0194  
Fax: +1 (770) 631 8213

**Asia/Pacific**

Tel: +65 333 6193  
Fax: +65 333 6192

**Europe, Middle East,  
and Africa (EMEA)**

Tel: +44 (0) 1793 518528  
Fax: +44 (0) 1793 518581

Information relating to products and services furnished herein by Mitel Corporation or its subsidiaries (collectively "Mitel") is believed to be reliable. However, Mitel assumes no liability for errors that may appear in this publication, or for liability otherwise arising from the application or use of any such information, product or service or for any infringement of patents or other intellectual property rights owned by third parties which may result from such application or use. Neither the supply of such information or purchase of product or service conveys any license, either express or implied, under patents or other intellectual property rights owned by Mitel or licensed from third parties by Mitel, whatsoever. Purchasers of products are also hereby notified that the use of product in certain ways or in combination with Mitel, or non-Mitel furnished goods or services may infringe patents or other intellectual property rights owned by Mitel.

This publication is issued to provide information only and (unless agreed by Mitel in writing) may not be used, applied or reproduced for any purpose nor form part of any order or contract nor to be regarded as a representation relating to the products or services concerned. The products, their specifications, services and other information appearing in this publication are subject to change by Mitel without notice. No warranty or guarantee express or implied is made regarding the capability, performance or suitability of any product or service. Information concerning possible methods of use is provided as a guide only and does not constitute any guarantee that such methods of use will be satisfactory in a specific piece of equipment. It is the user's responsibility to fully determine the performance and suitability of any equipment using such information and to ensure that any publication or data used is up to date and has not been superseded. Manufacturing does not necessarily include testing of all functions or parameters. These products are not suitable for use in any medical products whose failure to perform may result in significant injury or death to the user. All products and materials are sold and services provided subject to Mitel's conditions of sale which are available on request.

M Mitel (design) and ST-BUS are registered trademarks of MITEL Corporation  
Mitel Semiconductor is an ISO 9001 Registered Company  
Copyright 1999 MITEL Corporation  
All Rights Reserved  
Printed in CANADA

TECHNICAL DOCUMENTATION - NOT FOR RESALE