



Obsolescence Notice

This product is obsolete.

This information is available for your convenience only.

For more information on Zarlink's obsolete products and replacement product lists, please visit http://products.zarlink.com/obsolete_products/



Ordering Information

MF443	TO-46 with lens
MF443ST	ST receptacle
MF443PT	Pigtail including 1.4 m of 50/125 mm multi-mode fiber and SC connector

-40°C to +85°C

Note: The rated Responsivity applies to all options.

Features

- 1310-1550 nm PIN/TIA
- Data-rate up to 200 Mbps
- TIA with AGC
- Low power consumption

Applications

- Sonet OC-3
- FDDI
- ATM 155 Mbps
- General Purpose

Description

This device consists of a PIN photodiode and a transimpedance amplifier assembled in a TO-46 package. It is designed for FDDI, ATM and SDH/ Sonet up to 155 Mbps. The AGC (Automatic Gain Control) ensures a wide dynamic range. Its double-lens optical system is designed for single-mode fiber as well as for multimode fiber with core diameter up to 62.5 μm .

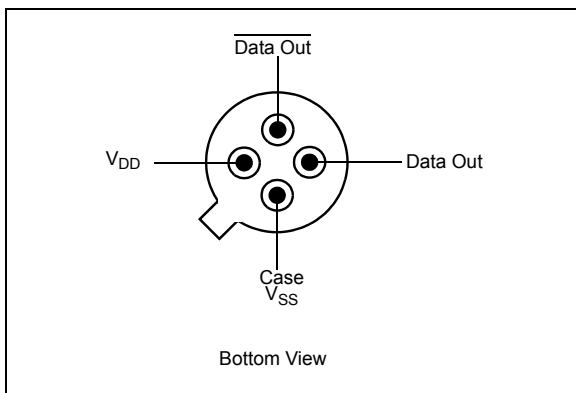


Figure 1 - Pin Diagram

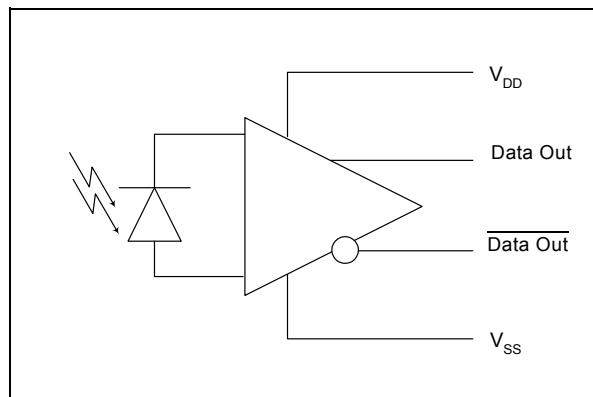


Figure 2 - Functional Schematic

Optical and Electrical Characteristics - Case Temperature 25°C

Parameter	Symbol	Min.	Typ.	Max.	Unit	Test Condition
Responsivity, single differential	R		100 200		kV/W	$\lambda = 1300$ nm Note 1
Output Voltage (differential, peak to peak)	V_o			1.2	V	
Bandwidth (3 dB _{e1})	f _c		140		MHz	$P_f = 1$ μ W
Noise-Equivalent Power	NEP		15		nW	$\lambda = 1300$ nm
Sensitivity (BER 10 ⁻⁹)	S		-39		dBm	$\lambda = 1300$ nm Extinction Ratio = 0
Dynamic Range		36	40		dB	
Output Resistance (differential)	R_0		50		Ω	
Power Supply Current	I_{DD}		32	40	mA	

Operating Conditions: See table. Fiber: Single-mode to multimode 62.5/125 μ m.

Note 1: $P_f = 1$ μ W average power at 10 MHz/50% duty cycle.

Absolute Maximum Ratings

Parameter	Symbol	Min.	Max.	Unit
Supply voltage	$V_{DD}-V_{SS}$	0	6.0	V
Operating Temperature	T_{op}	-40	+85	°C
Storage Temperature	T_{stg}	-55	+125	°C

Recommended Operating Conditions

Parameter	Symbol	Min.	Typ.	Max.	Unit
Supply Voltage	$V_{DD}-V_{SS}$	4.5	5.0	5.2	V
Output Differential Load	R_L	1	3		k Ω

Typical Responsivity

Core Diameter/Cladding Diameter Numerical Aperture			
	10/125 μ m 0.11	50/125 μ m 0.20	62.5/125 μ m 0.275
Single	100 kV/W	100 kV/W	100 kV/W
Differential	200 kV/W	200 kV/W	200 kV/W

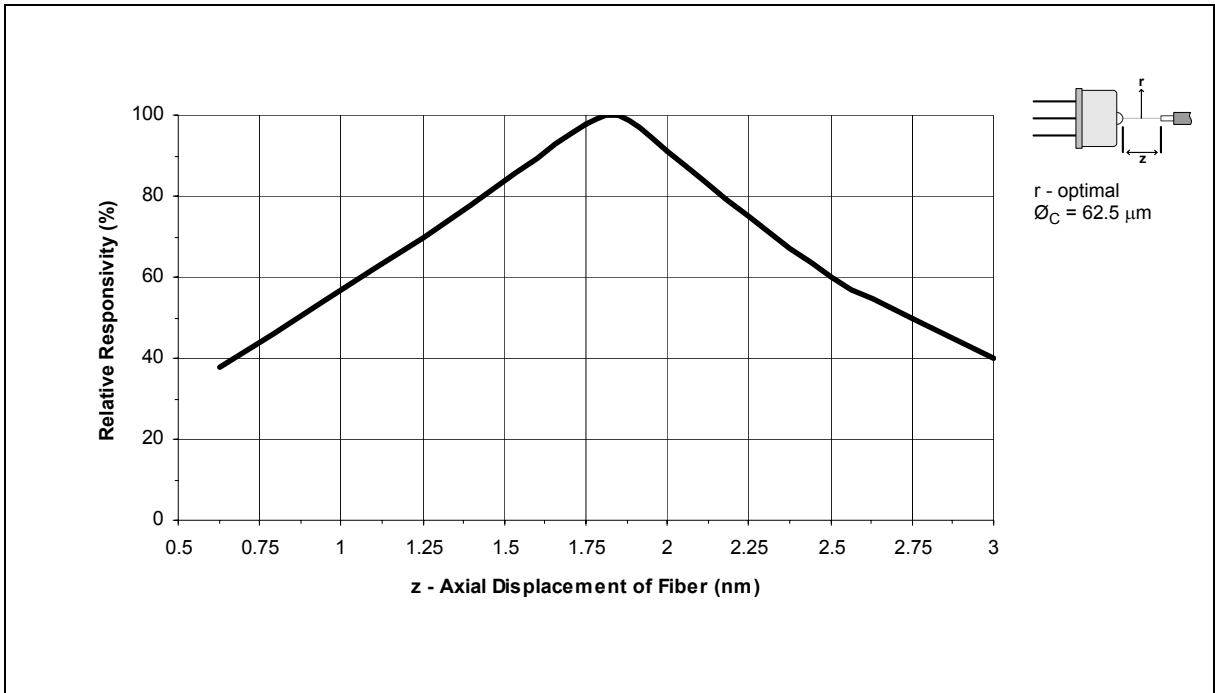


Figure 3 - z - Axial Displacement of Fiber

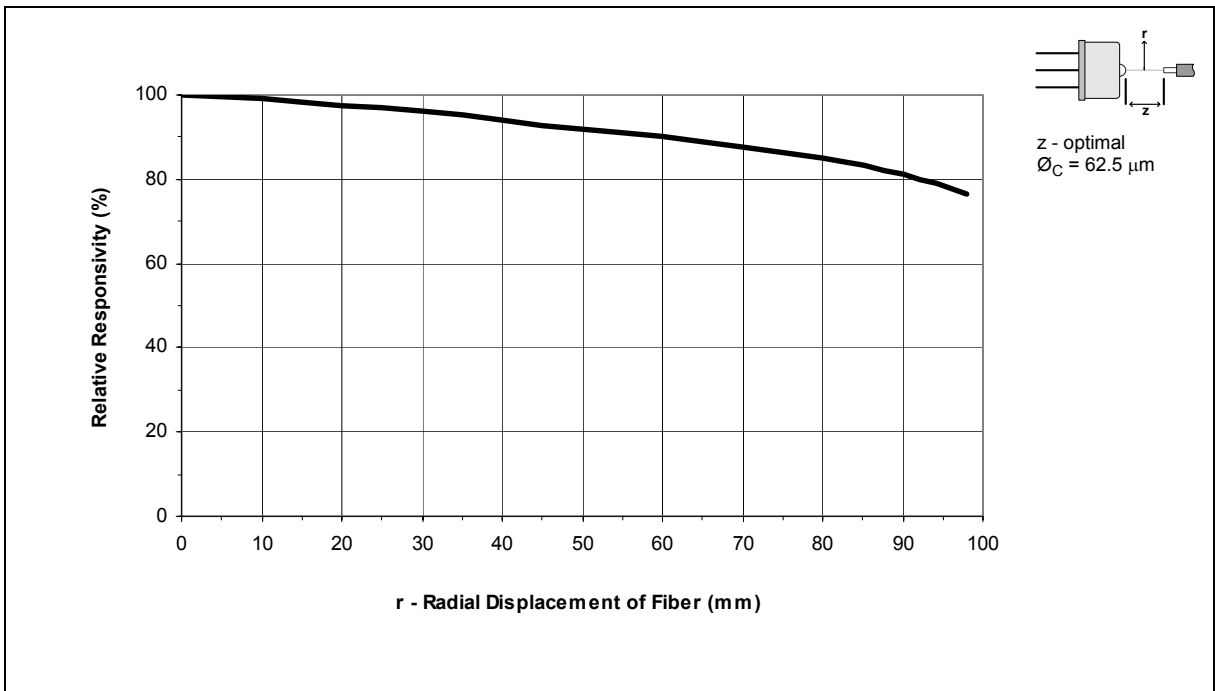


Figure 4 - r - Radial Displacement of Fiber

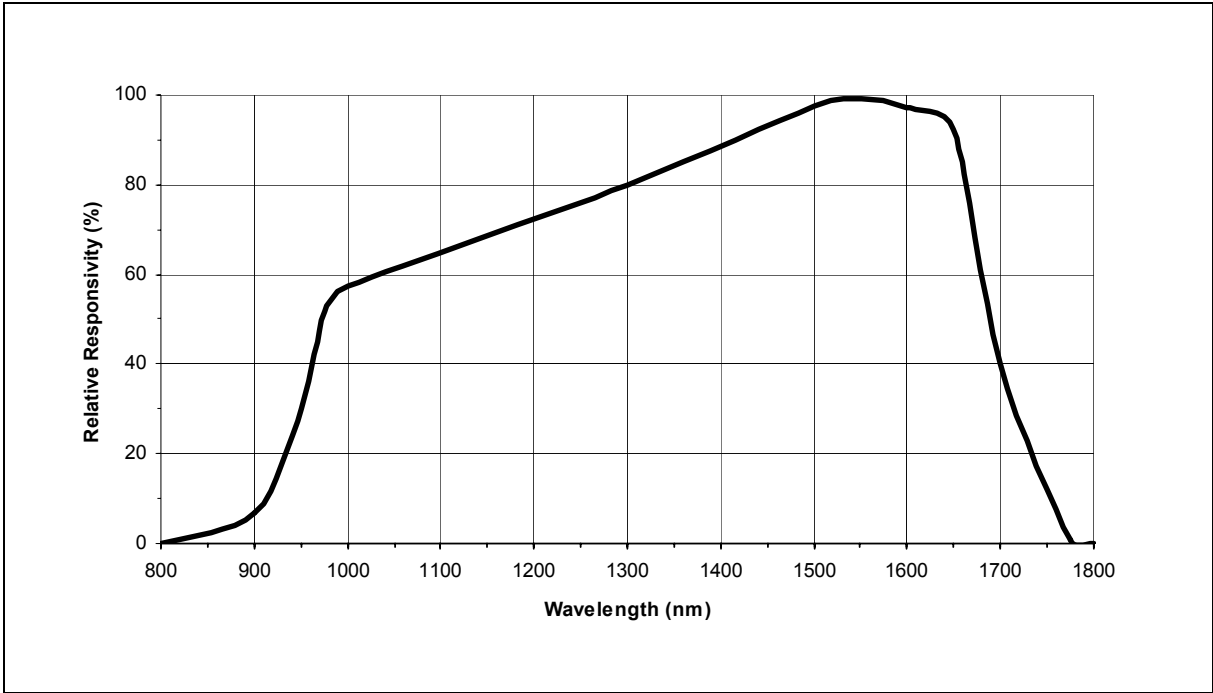
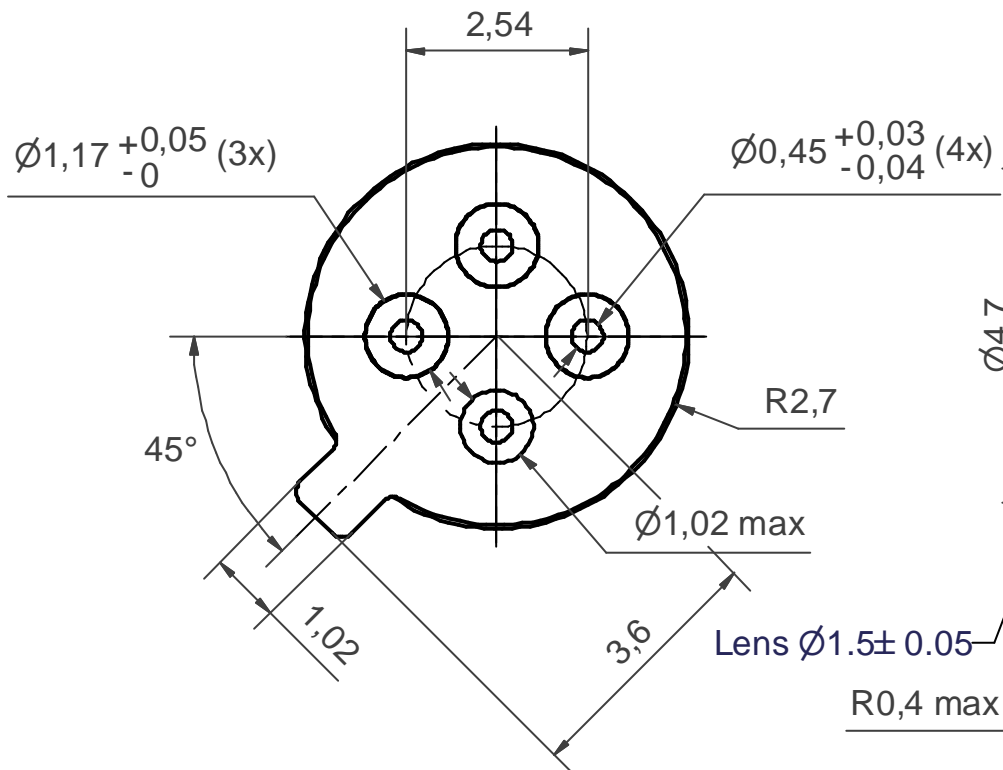
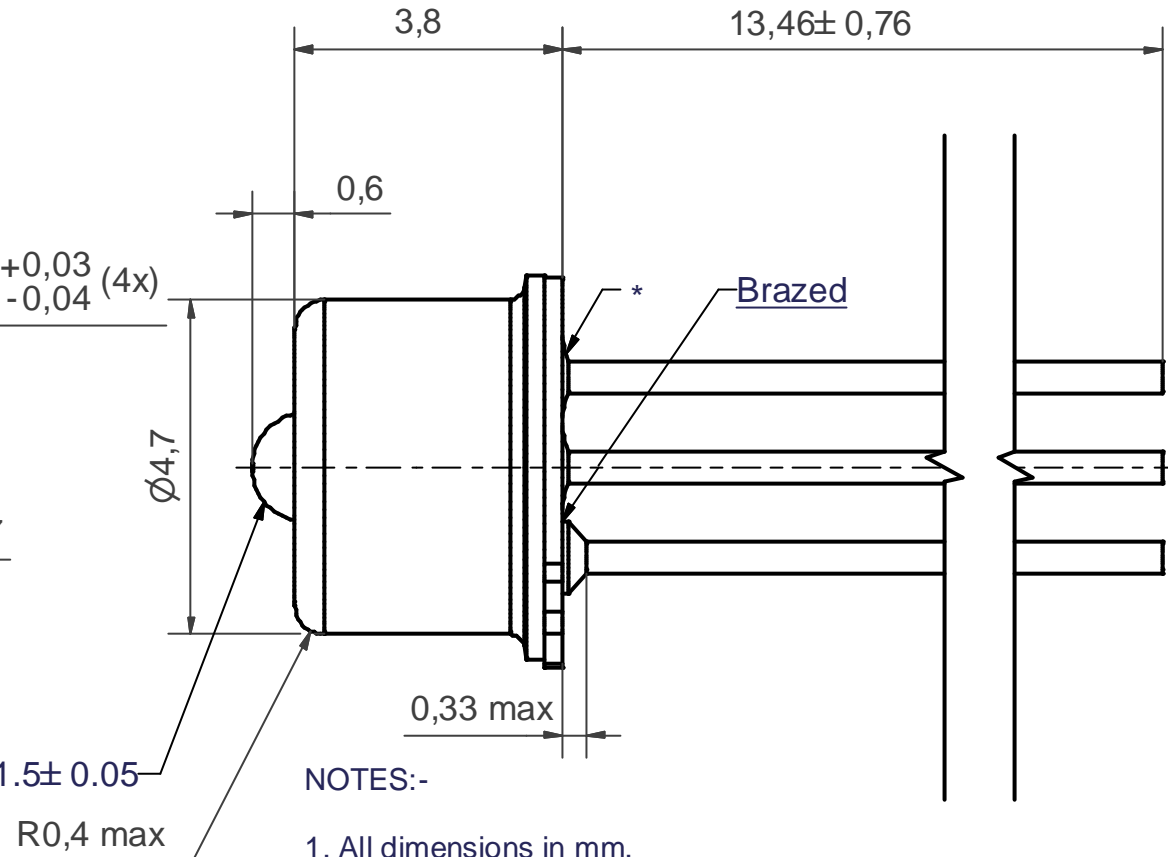


Figure 5 - Relative Responsivity vs. Wavelength

BOTTOM VIEW (10 : 1)



SIDE VIEW



NOTES:-

- 1. All dimensions in mm.
- 2. General tol. ISO-2768-mK.
- 3. Coating: Case: Ni 1,5-2,5 μ m.
Header: Ni min 0,5 μ m / Au min 1,5 μ m.

* 0,25 max glass overmould (3x)

© Zarlink Semiconductor 2002. All rights reserved.

ISSUE	1			
ACN	JS004078R1A			
DATE	22-MAR-03			
APPRD.	TD/BE			



	Package code TB
Previous package codes	Drawing type Package drawing, TO-46 with lens
	Title JS004078



**For more information about all Zarlink products
visit our Web Site at
www.zarlink.com**

Information relating to products and services furnished herein by Zarlink Semiconductor Inc. or its subsidiaries (collectively "Zarlink") is believed to be reliable. However, Zarlink 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 Zarlink or licensed from third parties by Zarlink, whatsoever. Purchasers of products are also hereby notified that the use of product in certain ways or in combination with Zarlink, or non-Zarlink furnished goods or services may infringe patents or other intellectual property rights owned by Zarlink.

This publication is issued to provide information only and (unless agreed by Zarlink 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 Zarlink 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 Zarlink's conditions of sale which are available on request.

Purchase of Zarlink's I²C components conveys a licence under the Philips I²C Patent rights to use these components in and I²C System, provided that the system conforms to the I²C Standard Specification as defined by Philips.

Zarlink, ZL and the Zarlink Semiconductor logo are trademarks of Zarlink Semiconductor Inc.

Copyright Zarlink Semiconductor Inc. All Rights Reserved.

TECHNICAL DOCUMENTATION - NOT FOR RESALE
