

TO-46 Package with Lens

DS5473

ISSUE 1

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Ordering Information

MF443	13451.11 TO-46 Package
MF443 PT	15169.11 Pigtail including 1.4m of 50/215mm multi mode fibre and SC connector

Note: The rated Responsivity applies to all options.

Description

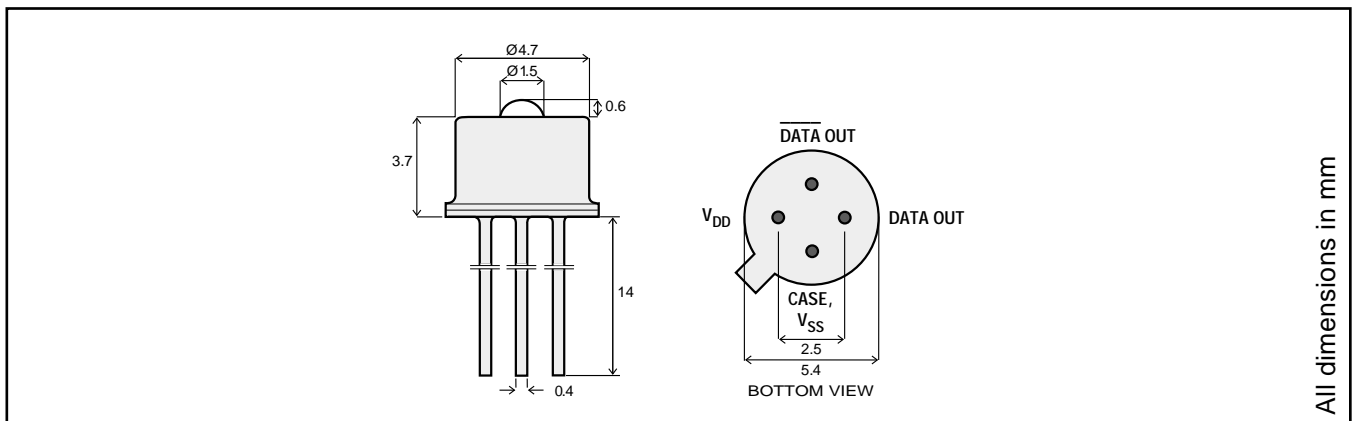
This device consists of a PIN photodiode and a transimpedance amplifier assembled in a TO-46 package. It is designed for FDDI, ATM and SDH/Sonet up to 155 Mbps. The AGC (Automatic Gain Control) ensures a wide dynamic range. Its double-lens optical system is designed for single-mode fiber as well as for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

Optical and Electrical Characteristics - Case Temperature 25°C

Parameter	Symbol	Min.	Typ.	Max.	Unit	Test Condition
Responsivity, single differential	R		100 200		kV/W	$\lambda=1300\text{nm}$ Note 1
Output Voltage (differential, peak to peak)	V_o			1.2	V	
Bandwidth (3dB _{el})	f_c		140		MHz	$P_f=1\mu\text{W}$
Noise-Equivalent Power	NEP		15		nW	$\lambda=1300\text{nm}$
Sensitivity (BER 10 ⁻⁹)	S		-39		dBm	$\lambda=1300\text{ nm}$
Dynamic Range		36	40		dB	Extinction Ratio = 0
Output Resistance (differential)	R_o		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 = 1mW average power at 100MHz/50% duty cycle



All dimensions in mm

Absolute Maximum Ratings

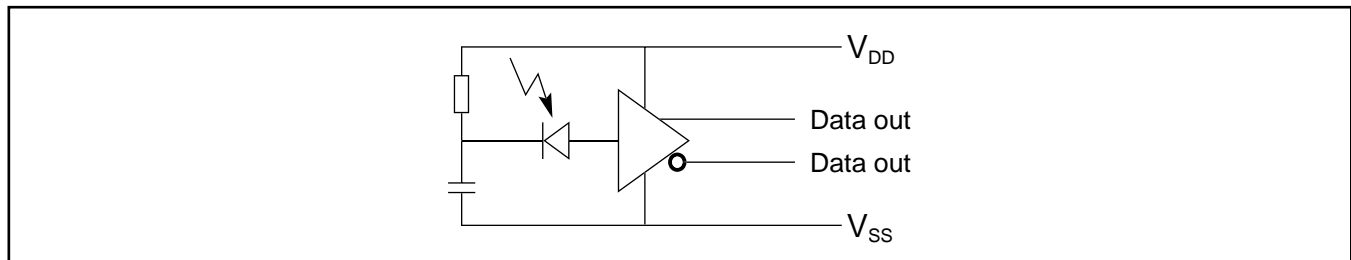
Parameter	Symbol	Min.	Max.	Unit
Supply Voltage	$V_{DD}-V_{SS}$	0	6.0	V
Operating Temperature	T_{op}	-40	+85	°C
Storage Temperature	T_{stg}	-55	+125	°C

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		kΩ

Typical Responsivity

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



Functional Schematic

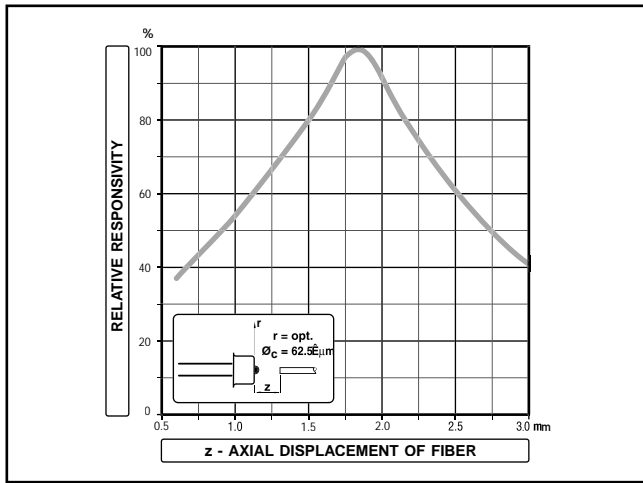


Figure 1

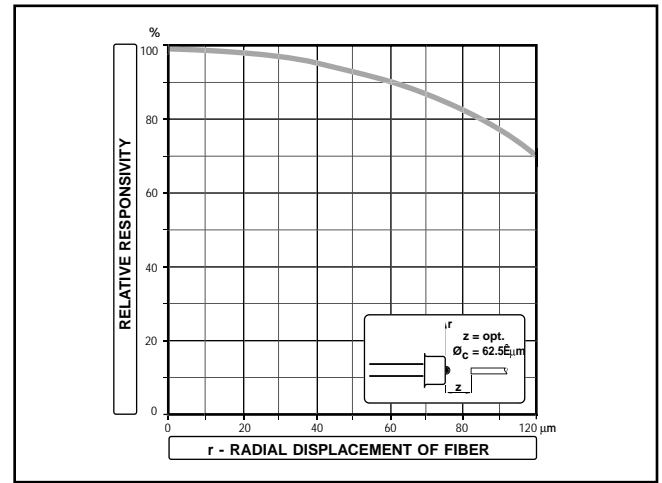


Figure 2

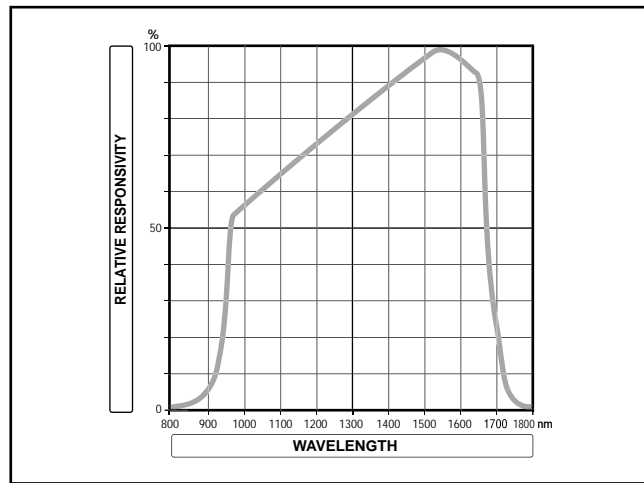


Figure 3



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