

TO-46 Package with Lens

DS5468

ISSUE 1

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Ordering Information

MF388	12940.11 TO-46 Package
MF388 ST	13208.11 ST Housing

Note: Rated Fiber coupled power apply only on the TO-46 package, for housing options fiber coupled power is typically 10% less

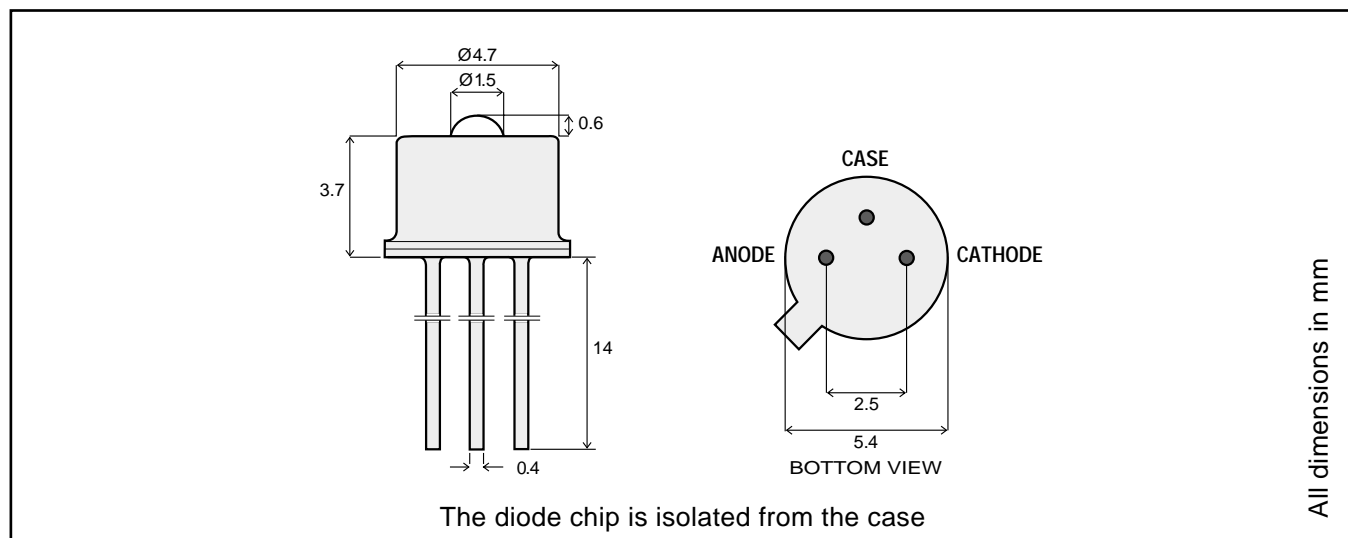
Description

This device is designed for Ethernet 100 Mbps and Intra-Office Telecom applications and offers an excellent price/performance ratio for cost effective solutions. Its double-lens optical system results in optimum coupling of power into the fiber.

Optical and Electrical Characteristics - Case Temperature 25°C

Parameter	Symbol	Min.	Typ.	Max.	Unit	Test Condition	
Fiber-Coupled Power (Fig. 1,2 & 3) (Table 1)	P_{fiber}	40	50		μW	$I_{\text{F}}=50\text{mA}$ (Note 1)	Fiber: 62.5/ 125μm Graded Index NA=0.275
Rise and Fall Time (10-90%)	$t_{\text{r}}, t_{\text{f}}$			2	ns	$I_{\text{F}}=50\text{mA}$ (no bias)	
Bandwidth (3dB _{el})	f_{c}	200	250		MHz	$I_{\text{F}}=50\text{mA}$	
Peak Wavelength	λ_{p}	800	820	840	nm	$I_{\text{F}}=50\text{mA}$	
Spectral Width (FWHM)	$\Delta\lambda$			60	nm	$I_{\text{F}}=50\text{mA}$	
Forward Voltage (Fig. 5)	V_{F}			1.85	V	$I_{\text{F}}=50\text{mA}$	
Reverse Current	I_{R}			20	μA	$V_{\text{R}}=1\text{V}$	
Capacitance	C		20		pF	$V_{\text{R}}=0\text{V}$, f=1MHz	

Note 1: Measured at the exit of 100 meters of fiber



Absolute Maximum Ratings

Parameter	Symbol	Limit
Storage Temperature	T_{stg}	-55 to +125°C
Operating Temperature see (derating: Fig. 4)	T_{op}	-40 to +85°C
Electrical Power Dissipation (derating: Fig. 4)	P_{tot}	250 mW
Continuous Forward Current (f<10kHz)	I_F	110 mA
Peak Forward Current (duty cycle<50%, f>1MHz)	I_{FRM}	180 mA
Reverse Voltage	V_R	1.5V
Soldering Temperature (2mm from the case for 10sec)	T_{sld}	260°C

Thermal Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit
Thermal Resistance-Infinite Heat Sink	R_{thjc}			100	°C/W
Thermal Resistance-No Heat Sink	R_{thja}			400	°C/W
Temperature Coefficient - Optical Power	dP/dT_j		-0.6		%/°C
Temperature Coefficient - Wavelength	$d\lambda/dT_j$		0.3		nm/°C

Typical Fiber-Coupled Power

Core Diameter/Cladding Diameter Numerical Aperture			
50/125 μm 0.20	62.5/125 μm 0.275	100/140 μm 0.29	200/230 μm 0.37
20 μW	50 μW	100 μW	140 μW

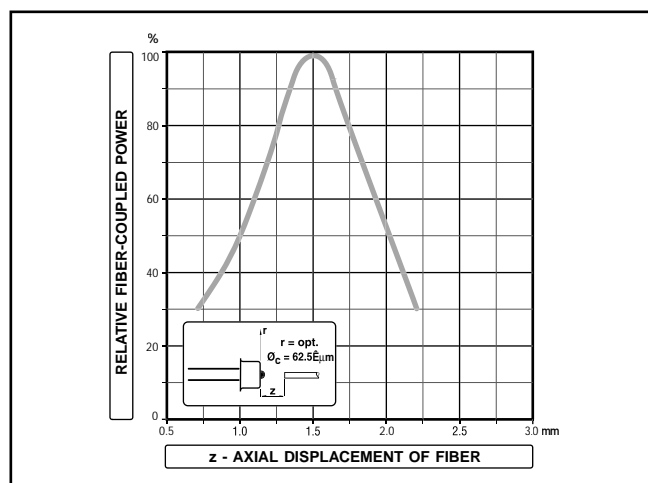


Figure 1

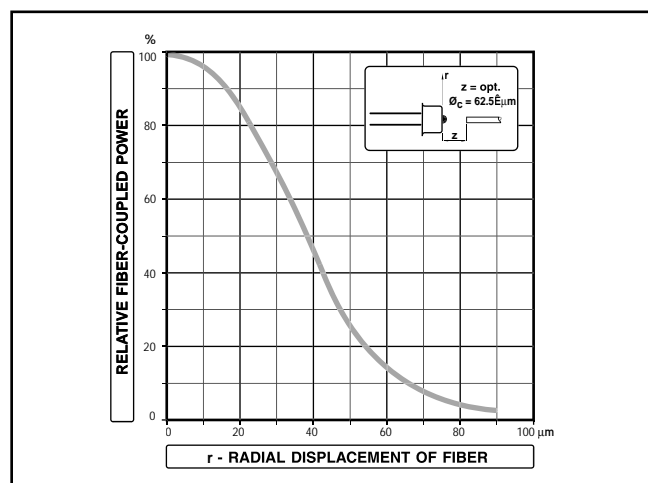


Figure 2

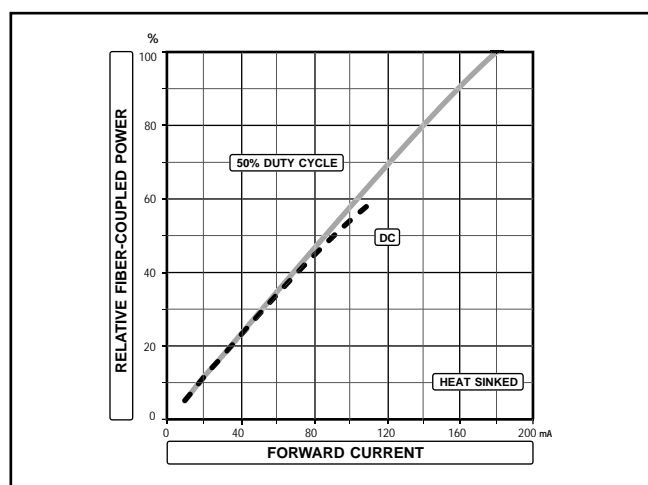


Figure 3

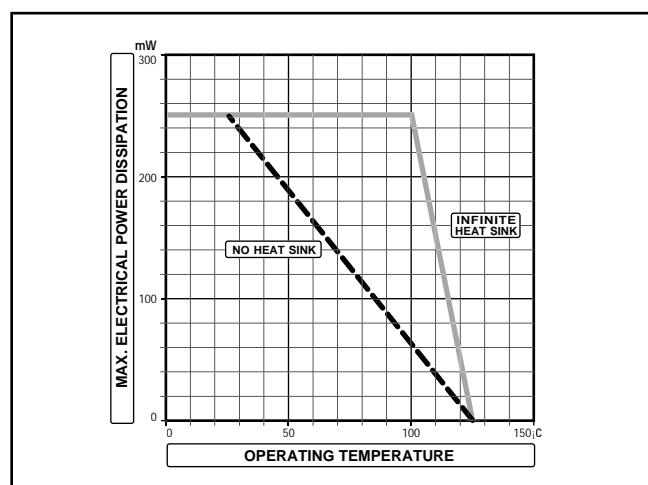


Figure 4

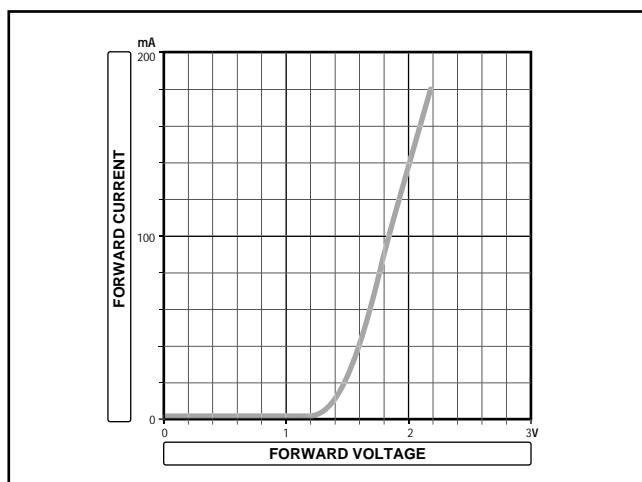
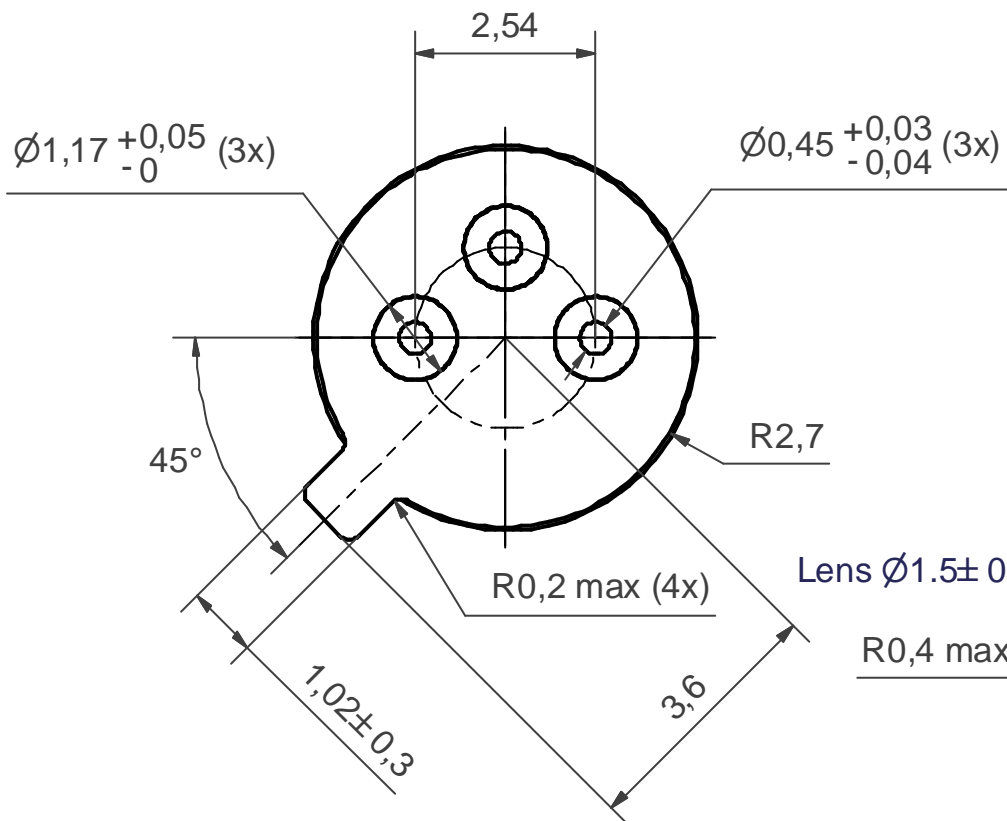
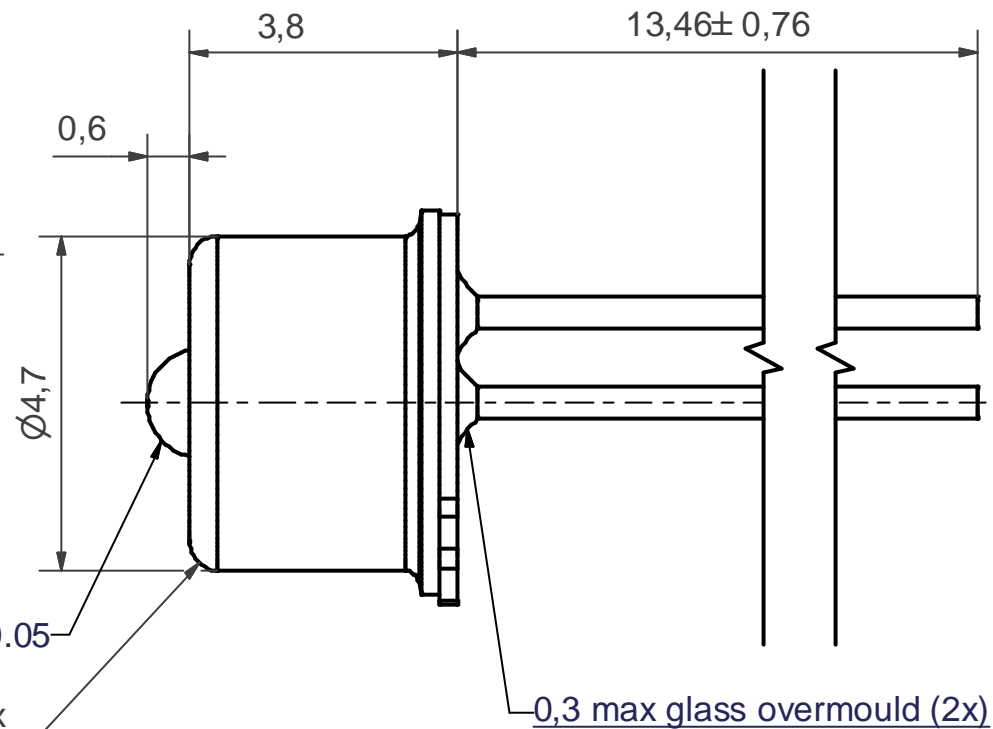


Figure 5

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 μm .
Header: Ni 2-3 μm / Au min 1,32 μm .

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