

TO-46 Package with Lens

DS5470

ISSUE 1

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Ordering Information

MF431	13429.11 TO-46 Package
MF431 ST	13324.11 ST Housing
MF431 SC	13591.11 SC Housing
MF431 SMA	13548.11 SMA Housing
MF431 FC	13549.11 FC Housing

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

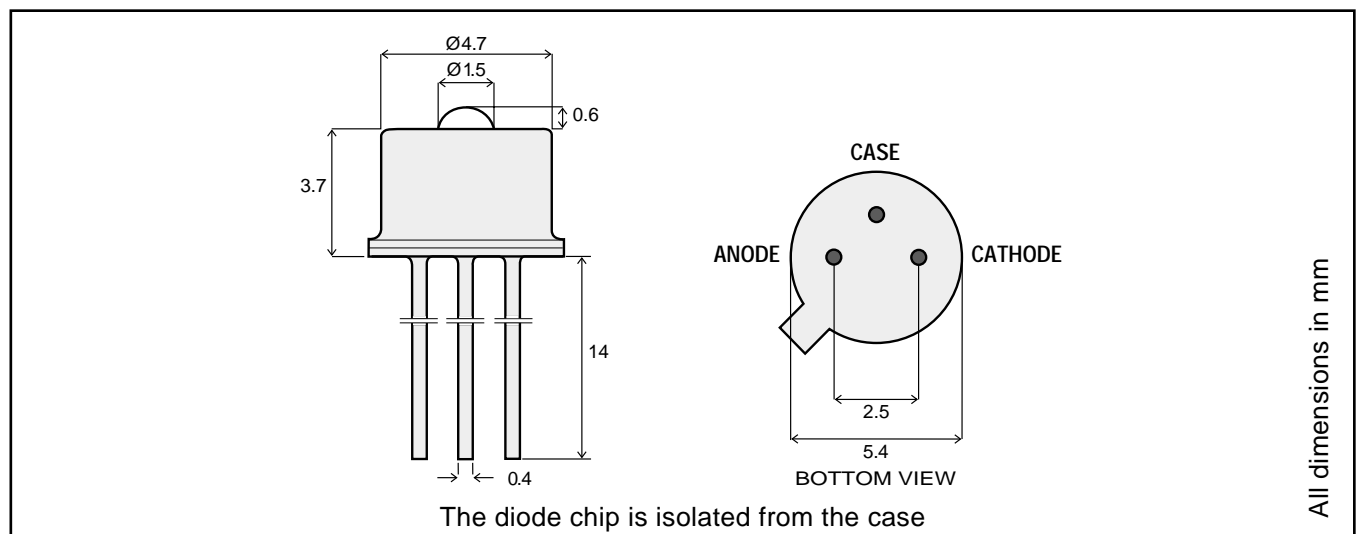
Description

This device is designed for FDDI and ATM 155 Mbps 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}	43			μW	$I_F=60\text{mA}$ (Note 1)	Fiber: 62.5/ 125 μm Graded Index
Rise and Fall Time (10-90%)	t_r, t_f		2.5		ns	$I_F=60\text{mA}$ (no bias)	
Bandwidth (3dB _{el})	f_c		125		MHz	$I_F=60\text{mA}$	
Peak Center Wavelength	λ_p		1320		nm	$I_F=60\text{mA}$	
Spectral Width (FWHM)	$\Delta\lambda$		135		nm	$I_F=60\text{mA}$	
Forward Voltage (Fig. 5)	V_F		1.3	1.65	V	$I_F=60\text{mA}$	
Reverse Current	I_R			100	μA	$V_R=1\text{V}$	
Capacitance	C		200		pF	$V_R=0\text{V}, f=1\text{ MHz}$	

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



All dimensions in mm

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}	160 mW
Continuous Forward Current (f<10kHz)	I_F	80 mA
Peak Forward Current (duty cycle<50%, f>1MHz)	I_{FRM}	130 mA
Reverse Voltage	V_R	0.5V
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}			150	°C/W
Thermal Resistance - No Heat Sink	R_{thja}			400	°C/W
Temperature Coefficient - Optical Power	dP/dT_j		-0.75		%/°C
Temperature Coefficient - Wavelength	$\Delta\lambda/dT_j$		0.45		nm/°C

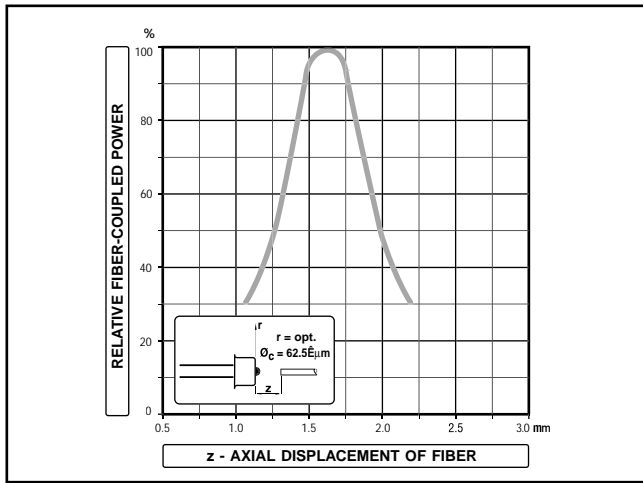


Figure 1

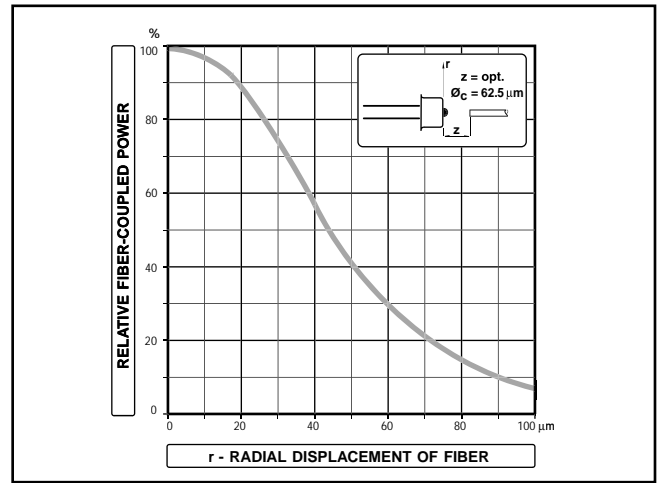


Figure 2

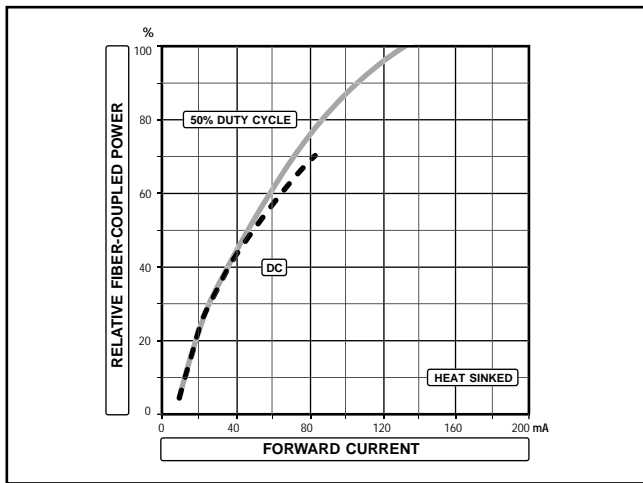


Figure 3

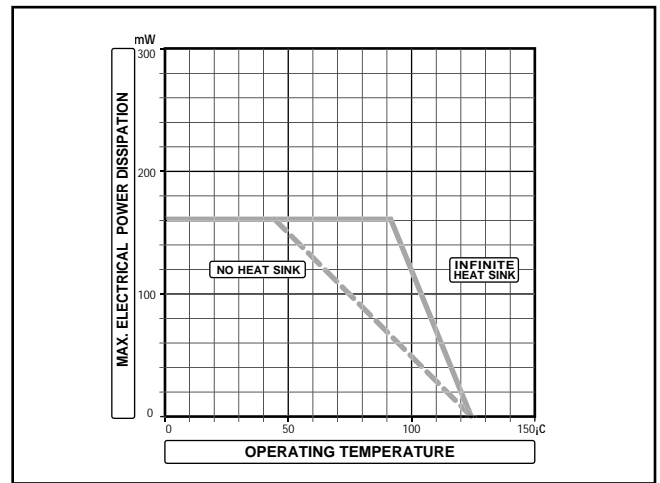


Figure 4

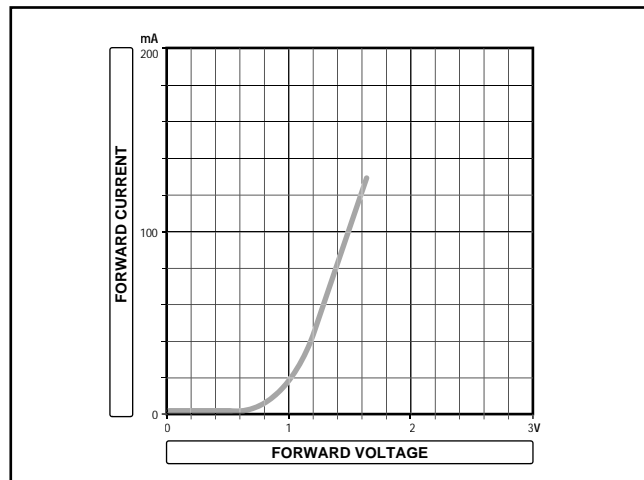
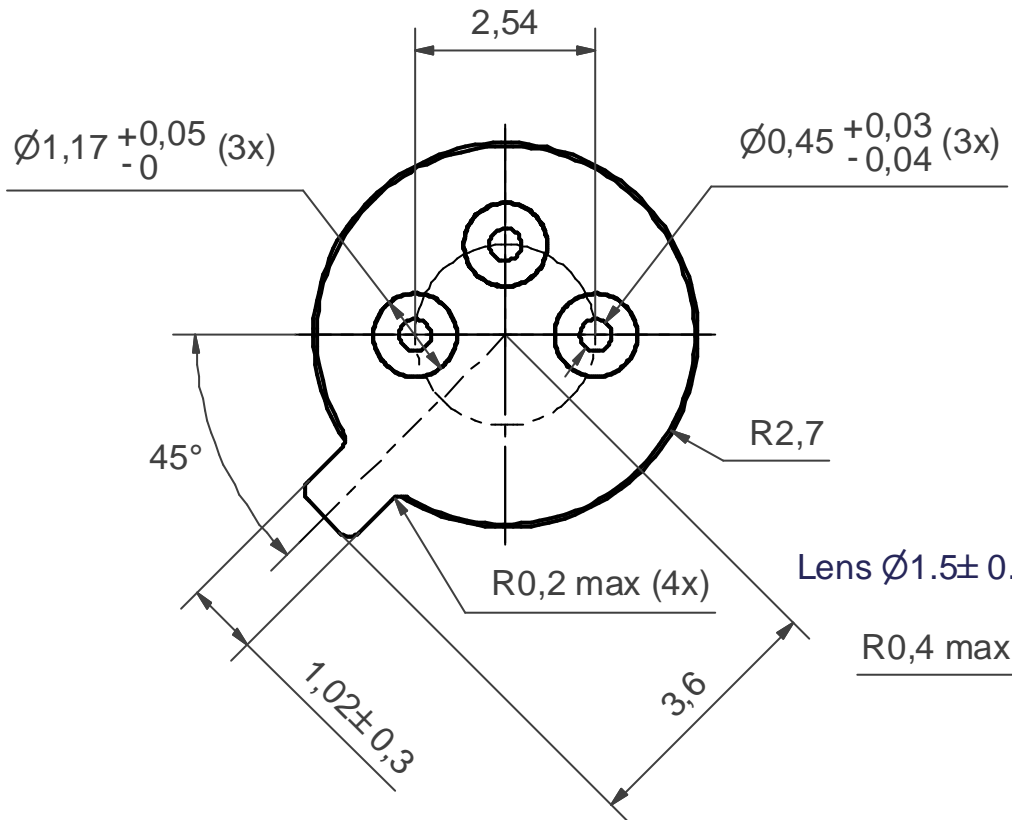
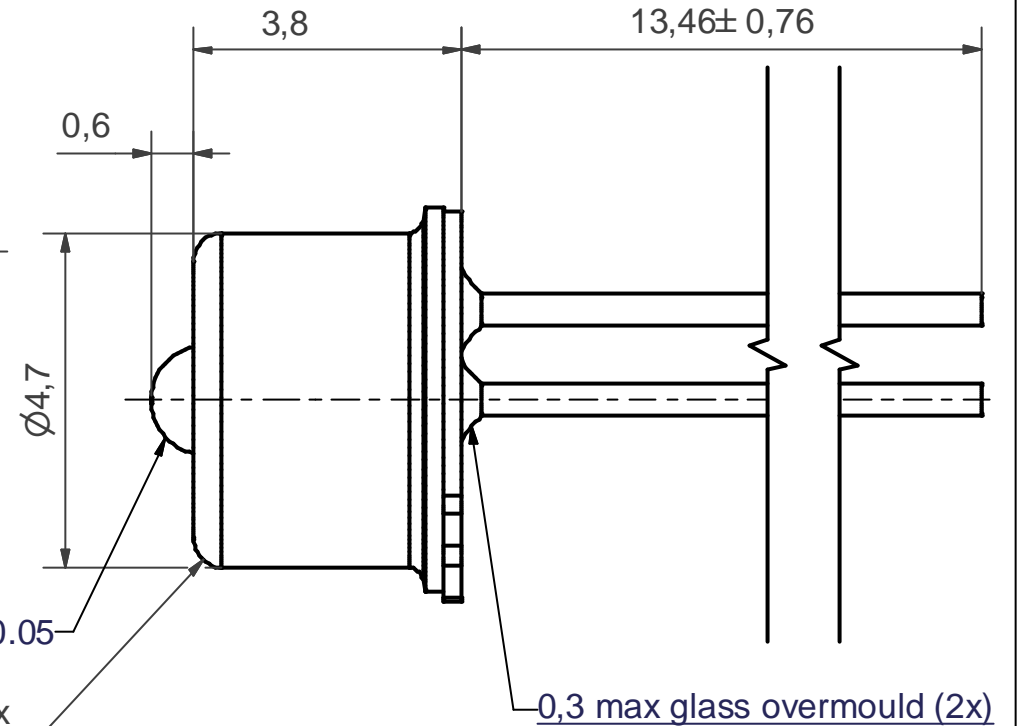


Figure 5

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

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