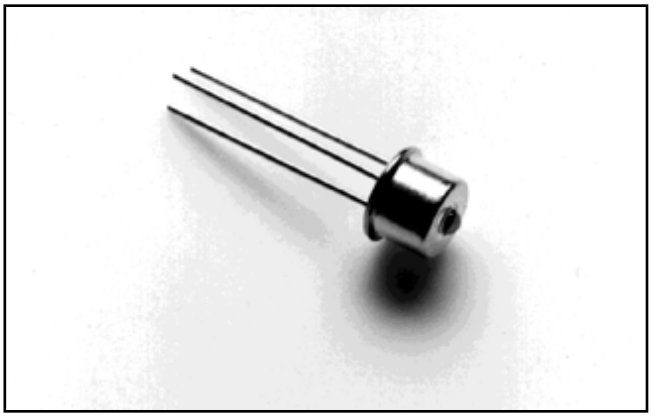
MF431

High Performance LED



TO-46 Package with Lens

DS5470 ISSUE 1 May 2001

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

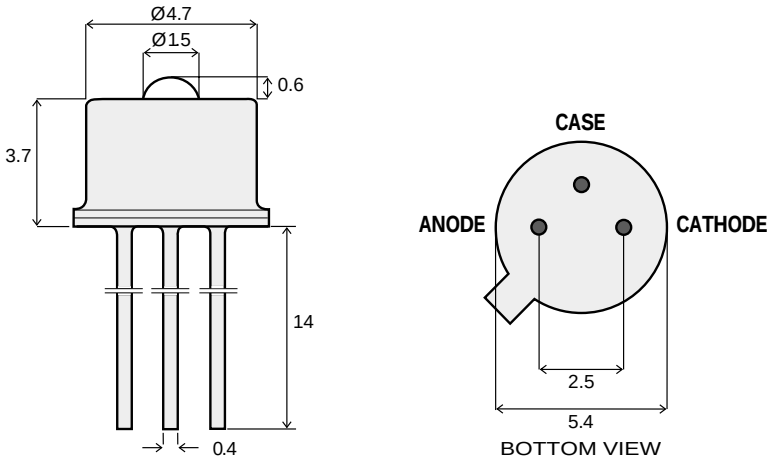
Description

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

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



The diode chip is isolated from the case

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

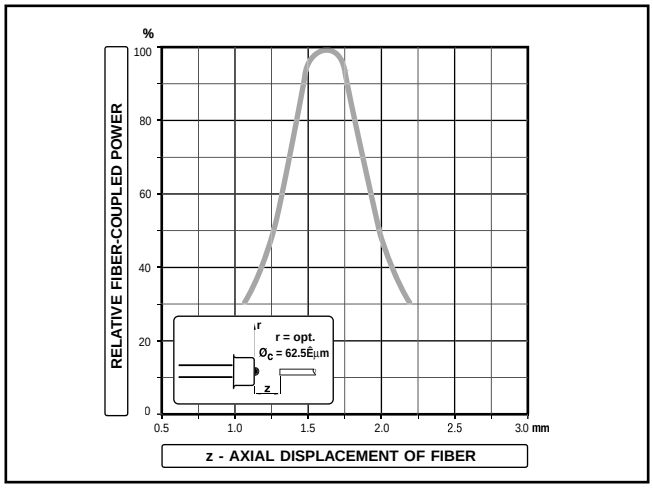


Figure 1

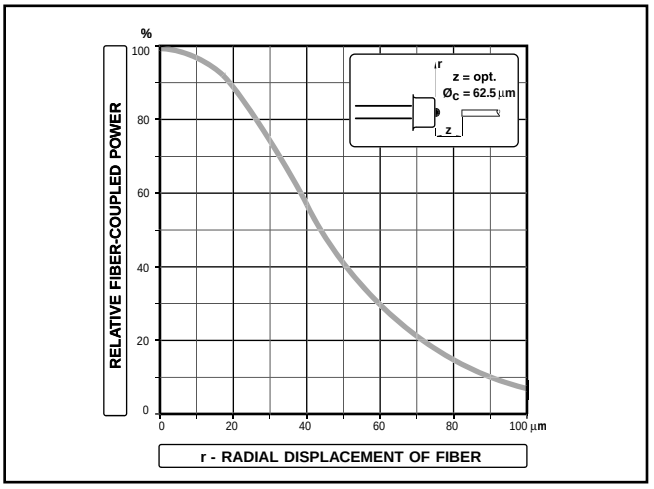


Figure 2

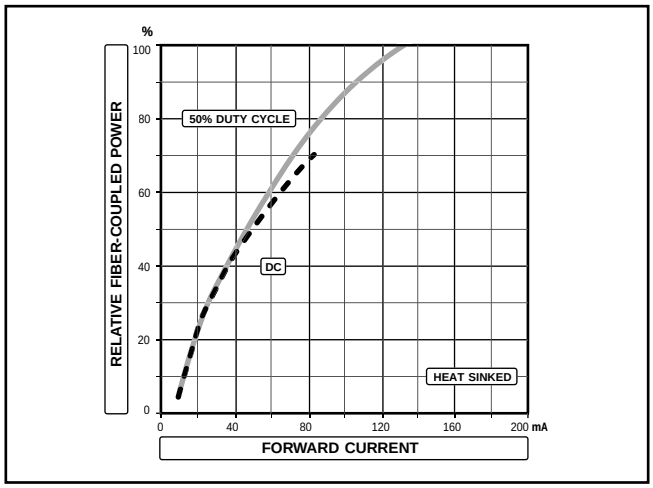


Figure 3

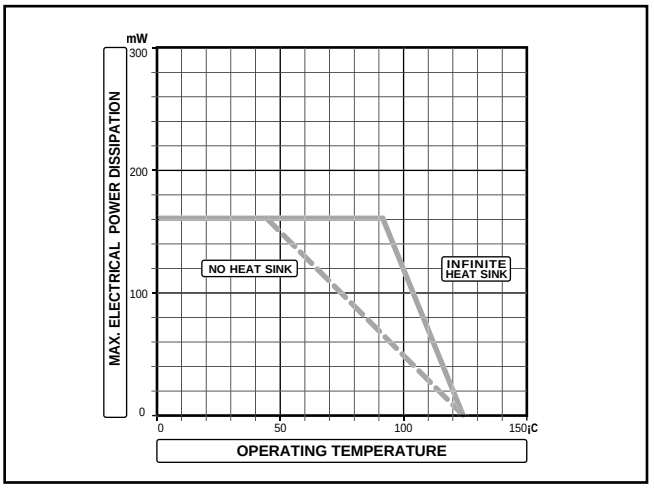


Figure 4

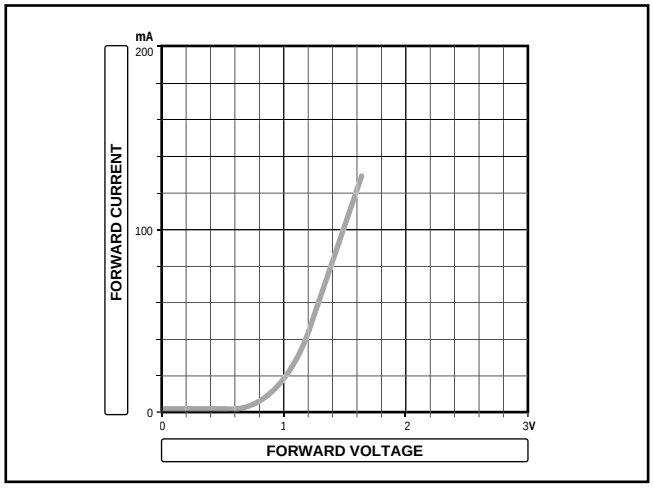
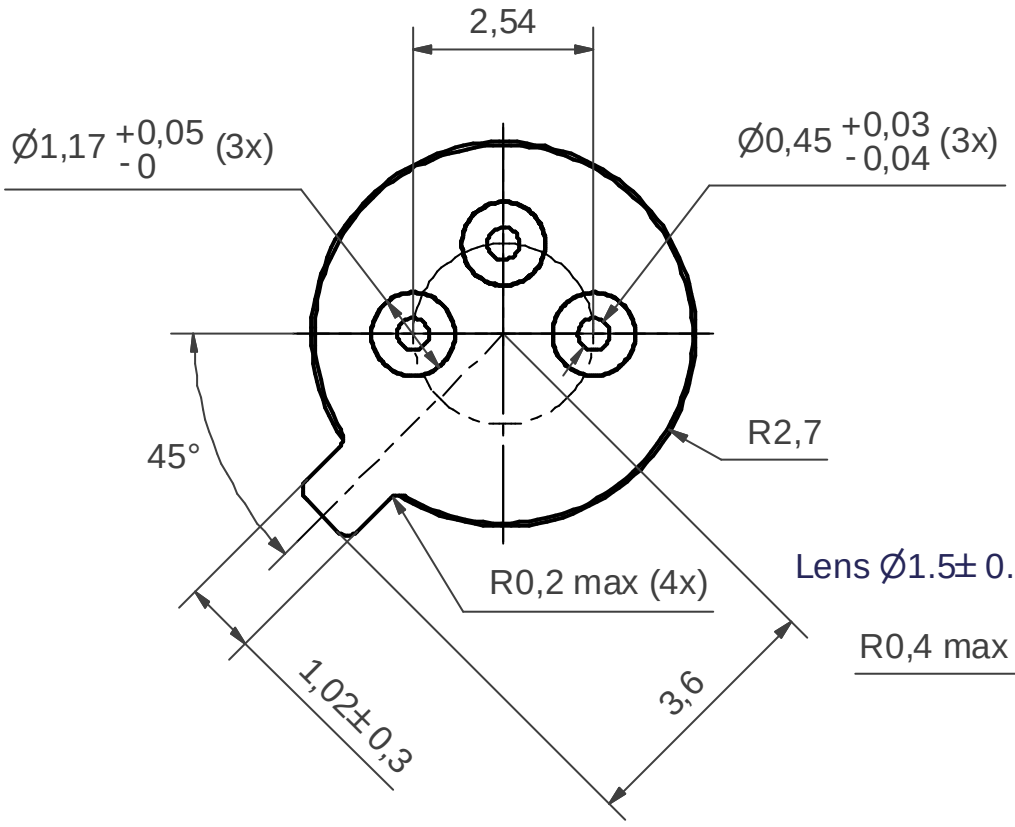
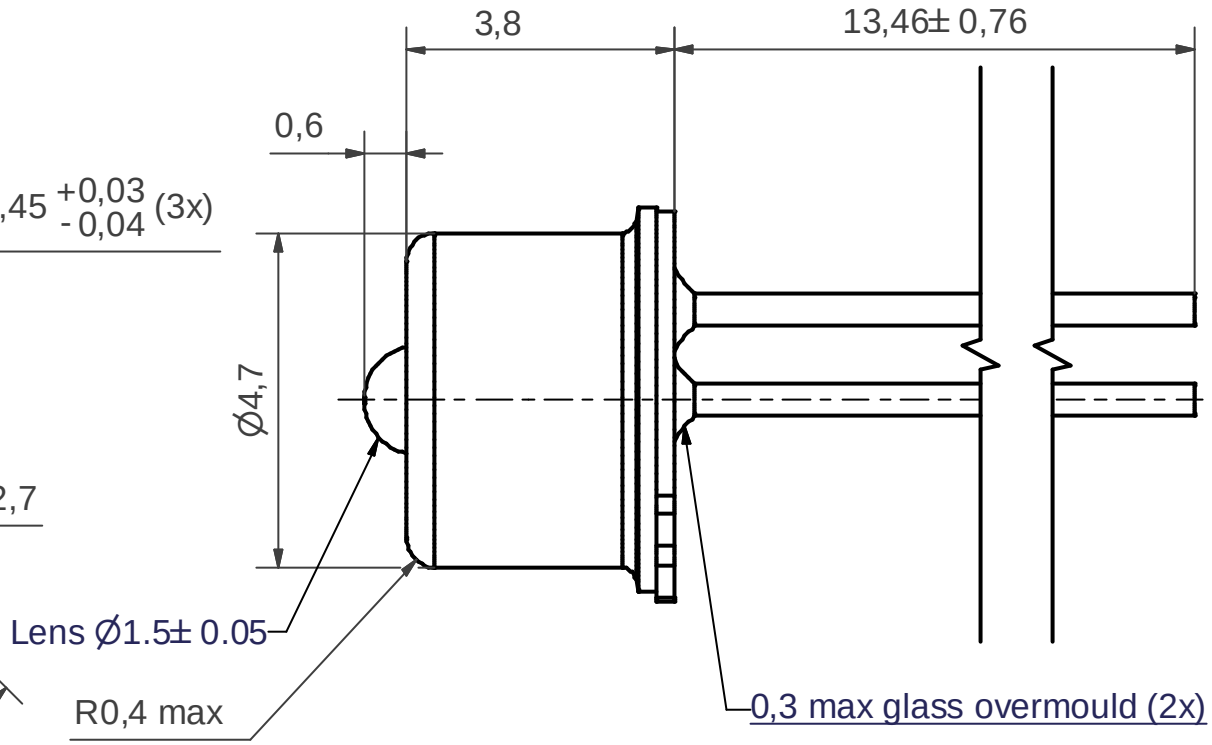


Figure 5

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

ISSUE	1			
ACN	JS004076R1A			
DATE	22-MAR-03			
APPRD.	TD/BE			

ZARLINK SEMICONDUCTOR

Previous package codes

Package code TB

Drawing type
Package drawing, TO-46 with lens

Title JS004076

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