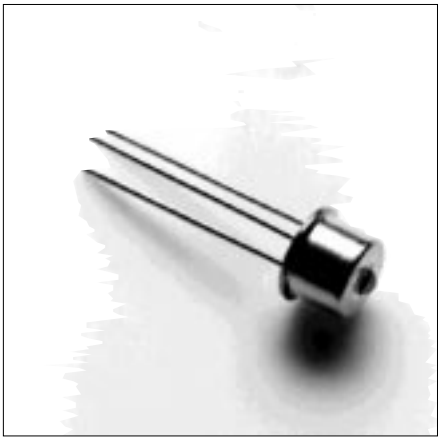
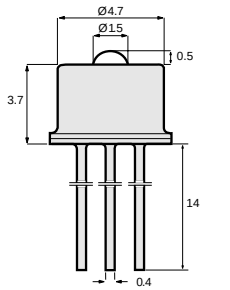
820nm **1A388** **High-Performance LED**

Datacom, Intra-Office Telecom

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. And it matches the 1A354 PIN Photodiode.





The diode chip is isolated from the case.

TO-46 Package With Lens

Optical and Electrical Characteristics (25° C Case Temperature)

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	TEST CONDITION	
Fiber-Coupled Power	P_{fiber}	40	50		µW	I_F=50mA (Note 1)	Fiber: 62.5/125µm Graded Index NA=0.275
Rise and Fall Time (10-90%)	t_r, t_f			2	ns	I_F=50mA (no bias)	
Bandwidth ($3dB_{el}$)	f_c	200	250		MHz	I_F=50 mA	
Peak Wavelength	λ_p	800	820	840	nm	I_F=50 mA	
Spectral Width (FWHM)	$\Delta\lambda$			60	nm	I_F=50 mA	
Forward Voltage	V_F			1.85	V	I_F=50 mA	
Reverse Current	I_R			20	µA	V_R=1V	
Capacitance	C		20		pF	V_R=0V, f=1 MHz	

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	T_{op}	-55 to +125° C
Electrical Power Dissipation	P_{tot}	250 mW
Continuous Forward Current (f≤10 kHz)	I_F	110 mA
Peak Forward Current (duty cycle≤50%, f≥1 MHz)	I_{FRM}	180 mA
Reverse Voltage	V_R	1.5 V
Soldering Temperature (2mm from the case for 10 sec)	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

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MITEL SEMICONDUCTOR

Europe: Tel **(46) 8 58 02 45 00** Fax **(46) 8 58 02 01 10**
Tel **(44) 1291 436180** Fax **(44) 1291 436771**

America: Tel **1-800-96MITEL** Fax **(613) 592-6909**
Asia: Tel **(65) 293 5312** Fax **(65) 293 8527**