

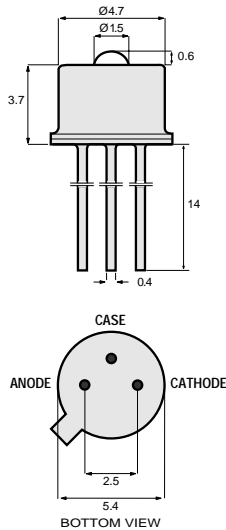
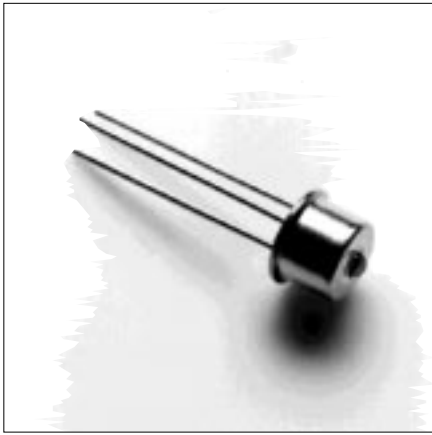
PRODUCT INFORMATION

1320nm

1A439
High-Performance LED

Datacom

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.



All dimensions in mm

TO-46 Package With Lens

Optical and Electrical Characteristics (Case Temperature -25 to +70°C)

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	TEST CONDITION
Fiber-Coupled Power (Fig. 1, 2, & 3)	P_{fiber}	-18.5			dBm	$I_{\text{Peak}}=60\text{mA}$ (Note 1) Fiber: 62.5/125 μm
Rise and Fall Time (10-90%, no bias)	t_r, t_f		2.5		ns	$I_F=60\text{mA}$ (Note 2) Graded Index NA=0.275
Bandwidth (3dB $_{e1}$)	f_c		125		MHz	$I_F=60\text{mA}$
Center Wavelength	λ_c		1320		nm	$I_F=60\text{mA}$ (Note 2)
Spectral Width (FWHM)	$\Delta\lambda$		135		nm	$I_F=60\text{mA}$ (Note 2)
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: Average power at 10 MHz/50% duty cycle. Measured at the exit of 100 meters of fiber.

Note 2: Meets the FDDI ANSI X3T9.5 specification.

Absolute Maximum Ratings

PARAMETER	SYMBOL	LIMIT
Storage Temperature	T_{stg}	-55 to +125°C
Operating Temperature (derating: Fig. 4)	T_{op}	-55 to +125°C
Electrical Power Dissipation (derating: Fig. 4)	P_{tot}	160 mW
Continuous Forward Current ($f \leq 10\text{kHz}$)	I_F	80 mA
Peak Forward Current (duty cycle $\leq 50\%$, $f \geq 1\text{MHz}$)	I_{FRM}	130 mA
Reverse Voltage	V_R	0.5 V
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	$d\lambda/dT_j$		0.45		nm/°C

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