

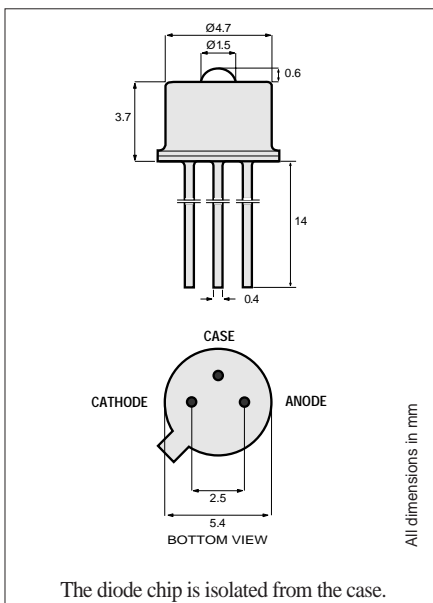
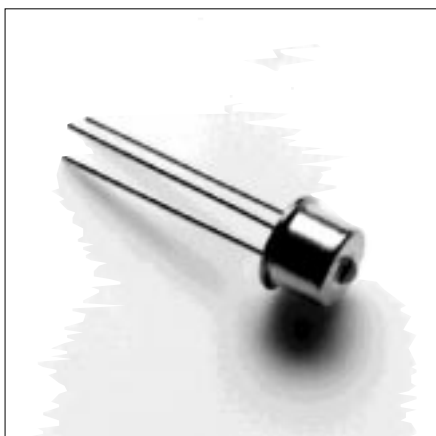
PRODUCT INFORMATION

880nm

1A225
High-Performance LED

Single-Mode Datacom

Compared with lasers and ELEDs, this device can reduce device costs in single-mode Ethernet networks. And since it's packaged in a hermetically sealed can, it achieves high reliability even in harsh operating environments.



TO-46 Package With Lens

Optical and Electrical Characteristics (25°C Case Temperature)

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	TEST CONDITION
Fiber-Coupled Power (Fig. 1, 2, & 3) (Table 1)	P_{fiber}	2.0	2.5		μW	$I_F=50\text{ mA}$ (Note 1) Fiber:
Rise and Fall Time (10-90%)	t_r, t_f		7	10	ns	$I_F=50\text{ mA}$ (no bias) 10/125 μm
Bandwidth (3dB _{el})	f_c		50		MHz	$I_F=50\text{ mA}$ Single Mode
Peak Wavelength	λ_p	860	880	900	nm	$I_F=50\text{ mA}$ NA=0.11
Spectral Width (FWHM)	$\Delta\lambda$		50		nm	$I_F=50\text{ mA}$
Forward Voltage (Fig.5)	V_F		2.0	2.2	V	$I_F=50\text{ mA}$
Reverse Current	I_R			20	μA	$V_R=1\text{ V}$
Capacitance	C		250		pF	$V_R=0\text{ V}$, $f=1\text{ MHz}$

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 (derating: Fig.4)	T_{op}	-55 to +125°C
Electrical Power Dissipation (derating: Fig.4)	P_{tot}	130 mW
Continuous Forward Current ($f \leq 10\text{ kHz}$)	I_F	60 mA
Peak Forward Current (duty cycle $\leq 50\%$, $f \geq 1\text{ MHz}$)	I_{FRM}	100 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}			300	°C/W
Thermal Resistance - No Heat Sink	R_{thja}			600	°C/W
Temperature Coefficient - Optical Power	dP/dT_j		-0.4		%/°C
Temperature Coefficient - Wavelength	$d\lambda/dT_j$		0.3		nm/°C

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Typical Fiber-Coupled Power			
Core Diameter/Cladding Diameter Numerical Aperture			
10/125 μm 0.11	50/125 μm 0.20	62/125 μm 0.275	100/140 μm 0.29
2.5 μW	90 μW	150 μW	250 μW

Table 1

