

PRODUCT INFORMATION

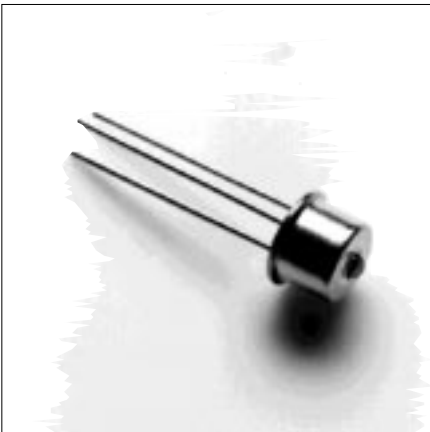
1320nm

1A427
High-Performance LED

Datacom

PRELIMINARY/β

This is the ultimate in high speed for 1300 nm LEDs. It is designed for ATM 622 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.



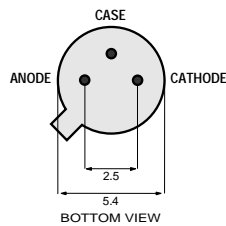
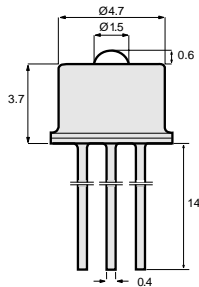
Optical and Electrical Characteristics (Case Temperature -25 to +70°C)

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	TEST CONDITION
Fiber-Coupled Power	P_{fiber}	-20			dBm	$I_{\text{Peak}}=80\text{mA}$ (Note 1) Fiber: 62.5/125 μm
Rise and Fall Time (10-90%)	t_r, t_f		0.9	1.3	ns	$I_F=80\text{mA}$ (no bias) Graded Index NA=0.275
Bandwidth (3dB $_{\text{el}}$)	f_c		450		MHz	$I_F=80\text{mA}$
Center Wavelength	λ_c	1270	1320	1380	nm	$I_F=80\text{mA}$
Spectral Width (FWHM)	$\Delta\lambda$		130	200	nm	$I_F=80\text{mA}$
Forward Voltage	V_F		1.3	1.65	V	$I_F=80\text{mA}$
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.

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}	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



All dimensions in mm

The diode chip is isolated from the case.

TO-46 Package With Lens

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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