

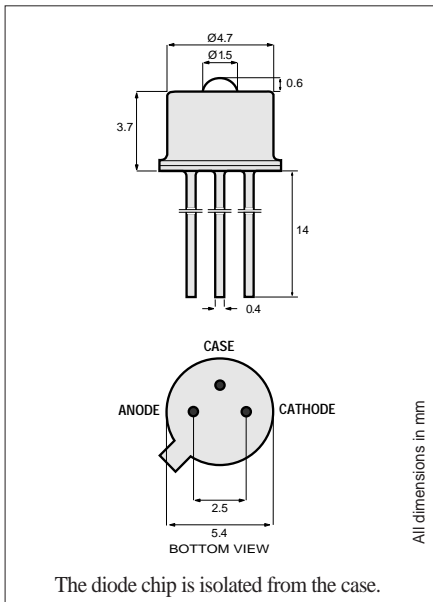
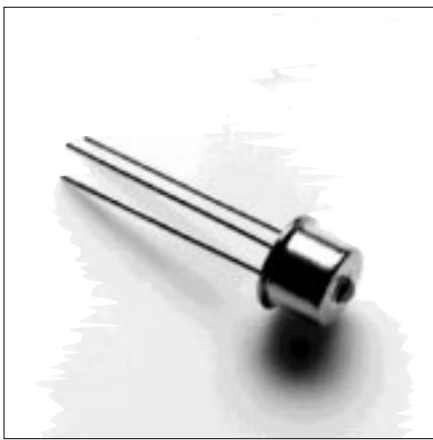
PRODUCT INFORMATION

1300nm

1A436
High-Performance LED

Sensors, Signal Transmission

This device generates very high power which makes it ideal for many sensors and signal transmission applications. It operates in a wide range of temperatures, and can satisfy virtually any environmental specification. The double-lens optical system results in optimum coupling of power into the fiber.



Optical and Electrical Characteristics (25° C Case Temperature)

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	TEST CONDITION
Fiber-Coupled Power	P_{fiber}	20	27		μW	$I_F=80\text{ mA}$, Note 1 Fiber: 50/125 μm , NA=0.20
		70	80		μW	$I_F=80\text{ mA}$, Note 1 Fiber: 62.5/125 μm , NA=0.275
Rise and Fall Time (10-90%)	t_r, t_f		7	10	ns	$I_F=80\text{ mA}$ (no bias)
Bandwidth (3dB _{el})	f_c		50		MHz	$I_F=80\text{ mA}$
Peak Wavelength	λ_p	1270	1300	1350	nm	$I_F=80\text{ mA}$
Spectral Width (FWHM)	$\Delta\lambda$		145	165	nm	$I_F=80\text{ mA}$
Forward Voltage	V_F		1.5	2	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: 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	90 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 10 sec)	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}			450	°C/W
Temperature Coefficient - Optical Power	dP/dT_j		-0.6		%/°C
Temperature Coefficient - Wavelength	$d\lambda/dT_j$		0.45		nm/°C
Temperature Coefficient - Spectral Width	$d\Delta\lambda/dT_j$		0.25		nm/°C

13393.11 1996-12-10



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