

PRODUCT INFORMATION

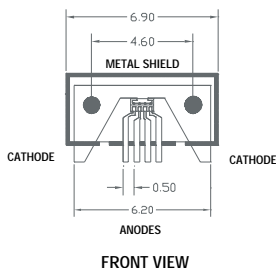
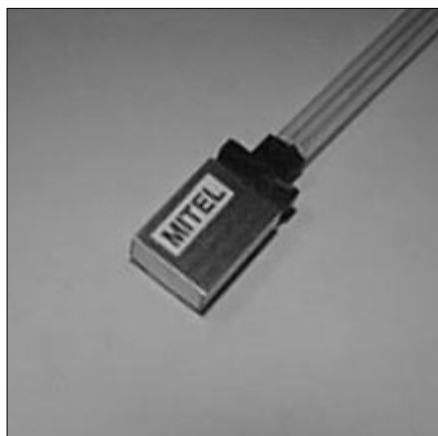
840nm

4D469
VCSEL Array

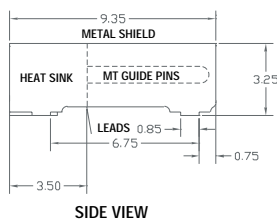
Parallel Datacom, Telecom

PRELIMINARY/β

This device consists of a 4-channel VCSEL array in a miniature surface-mountable MT package. It is based on a unique combination of self-alignment technology and direct optical coupling to fiber, resulting in pure beam shapes and optimum coupling efficiency without need for active alignment. Applications include parallel Fibre Channel and optical interconnect inter/intra-board. And it matches the 4D470 PIN Photodiode Array.



FRONT VIEW



SIDE VIEW

All dimensions in mm

The cathode is connected to the metal shield

VCSEL Array in MT Package

WARNING: Laser Radiation, avoid exposure to beam. Class 3B laser product, potential eye hazard. Warning labels in each box.

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Optical and Electrical Characteristics (25° C Case Temperature)

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	TEST CONDITION
Fiber-Coupled Power	P_{fiber}		1.0		mW	
Optical Power	P_o		1.1		mW	
Slope Efficiency (dP_o/dI_F)	η		250		mW/A	
Beam Divergence	θ		15		deg	Full Width at 1/e ²
Bandwidth (3dB _{e1})	f_c		2		GHz	
Peak Wavelength	λ_p	830	840	860	nm	
Spectral Width (FWHM)	$\Delta\lambda$		0.5	1	nm	
Forward Voltage	V_F		1.8		V	
Threshold Current	I_{th}		5.5		mA	
Relative Intensity Noise	RIN		-130		dB/Hz	f=1 GHz
Crosstalk	X		-25		dB _{e1}	(Note 1)

Test Condition: $I_f=10\text{mA}$. Fiber Ribbon: 50/125 GI, NA=0.2 or 62.5/125 GI, NA=0.275.

Note 1: Crosstalk between adjacent channels operating at 2GHz.

Absolute Maximum Ratings

PARAMETER	SYMBOL	LIMIT
Storage Temperature	T_{stg}	-40 to +85°C
Operating Temperature	T_{op}	0 to +70°C
Electrical Power Dissipation	P_{tot}	20 mW/Channel
Continuous Forward Current ($f \leq 10$ kHz)	I_F	11 mA/Channel
Peak Forward Current (duty cycle $\leq 50\%$, $f \geq 1$ MHz)	I_{FRM}	18 mA/Channel
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	R_{th}		TBD		°C/W
Temp. Coefficient - Wavelength	$d\lambda/dT_j$		0.06		nm/°C
Optical Power - Variation 0 to 70°C	ΔP		± 0.7		dB
Threshold Current - Variation 0 to 70°C	ΔI_{th}		± 0.6		mA



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