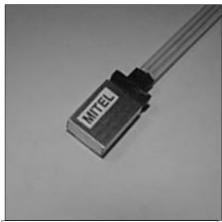
# **PRODUCT INFORMATION**

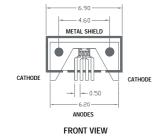
840nm	4D469 VCSEL Array
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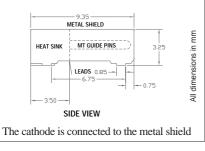
## **Parallel Datacom, Telecom**



This device consists of a 4-channel VCSEL array in a miniature surfacemountable 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.







## **VCSEL Array in MT Package**

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

13627.11 1999-01-13



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<b>Optical and Electrical Characteristics</b> (25°C Case Temperature)										
PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	TEST CONDITION				
Fiber-Coupled Power	P <sub>fiber</sub>		1.0		mW					
Optical Power	P <sub>0</sub>		1.1		mW					
Slope Efficiency $(dP_0/dI_F)$	η		250		mW/A					
Beam Divergence	Θ		15		deg	Full Width at 1/e <sup>2</sup>				
Bandwidth (3dB <sub>el</sub> )	fc		2		GHz					
Peak Wavelength	λ <sub>p</sub>	830	840	860	nm					
Spectral Width (FWHM)	Δλ		0.5	1	nm					
Forward Voltage	V <sub>F</sub>		1.8		V					
Threshold Current	I <sub>th</sub>		5.5		mA					
Relative Intensity Noise	RIN		-130		dB/Hz	f=1 GHz				
Crosstalk	X		-25		dB <sub>el</sub>	(Note 1)				

Test Condition: I<sub>f</sub>=10mA. 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 <sub>stg</sub>	$-40 \text{ to } +85^{\circ}\text{C}$				
Operating Temperature	Тор	$0 \text{ to } +70^{\circ}\text{C}$				
Electrical Power Dissipation	P <sub>tot</sub>	20 mW/Channel				
Continuous Forward Current (f≤10 kHz)	$I_{\rm F}$	11 mA/Channel				
Peak Forward Current (duty cycle≤50%, f≥1 MHz)	I <sub>FRM</sub>	18 mA/Channel				
Reverse Voltage	V <sub>R</sub>	1.5 V				
Soldering Temperature (2mm from the case for 10 sec)	T <sub>sld</sub>	260°C				

Thermal Characteristics								
PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT			
Thermal Resistance	<i>R</i> <sub>th</sub>		TBD		°C/W			
Temp. Coefficient - Wavelength	$d\lambda/dT_{j}$		0.06		nm/°C			
Optical Power - Variation 0 to 70°C	$\Delta P$		±0.7		dB			
Threshold Current - Variation 0 to 70°C	$\Delta I_{th}$		±0.6		mA			



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