

N x 10 Gbps Multi-Mode VCSEL Array



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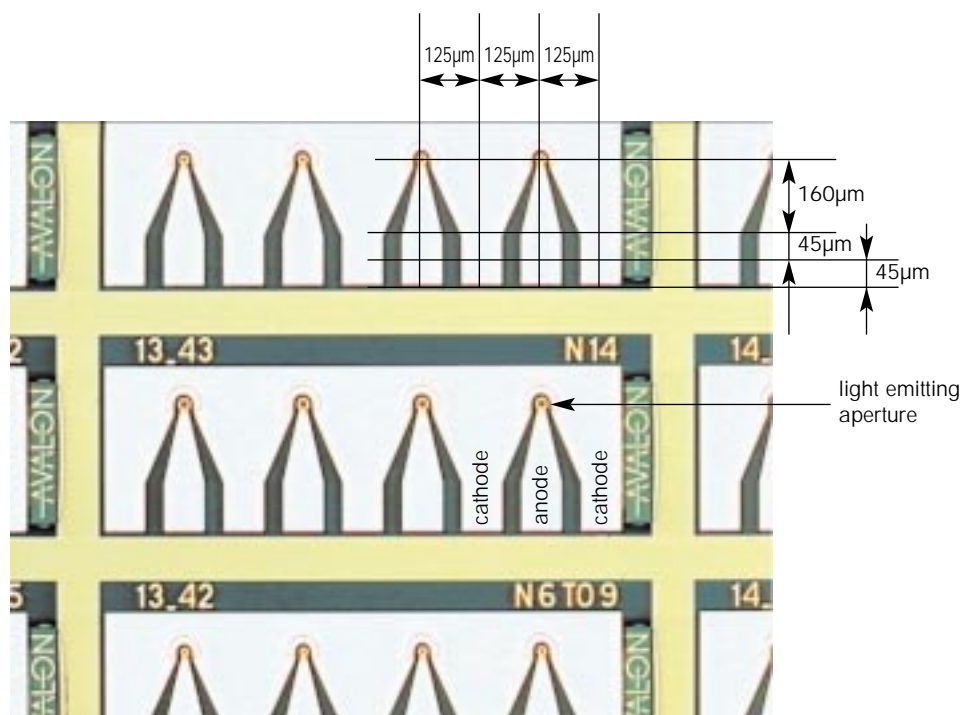
Preliminary Datasheet

Features

- 850nm wavelength range
- High wavelength uniformity
- 1x4 and 1x12 arrays
- Low threshold current
- Data rates up to 12.5 Gbps
- Common cathode and common anode configurations

Ordering information

Part Number	Description
APA4901040000	1x4 array common cathode
APA4901120000	1x12 array common cathode
APA4601040000	1x4 array common anode
APA4601120000	1x12 array common anode



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Electro-optical characteristics (for individual lasers)

Parameter*	Symbol	Conditions	Ratings			Units
			Min	Typ	Max	
Threshold current	I_{th}		0.5	1	1.5	mA
Optical output power	P_{out}	$I_{op} = 8 \text{ mA}$		2.5		mW
Operating voltage	V_{op}	$I_{op} = 8 \text{ mA}$		1.9		V
Emission wavelength	λ		840	850	860	nm
Spectral bandwidth, RMS	$\Delta\lambda$	$I_{op} = 8 \text{ mA}$			0.45	nm
Slope efficiency	η			0.35		mW/mA
Beam divergence	θ	Full width $1/e^2$, $I_{op} = 8 \text{ mA}$		28	32	°
Differential resistance	R_{Diff}	$I_{op} = 8 \text{ mA}$		50	70	Ω
Relative intensity noise	$RIN_{12} \text{ (OMA)}$	$I_{op} = 8 \text{ mA}$			-128	dB/Hz
Bandwidth	f_{3dB}	$I_{op} = 8 \text{ mA}$	10			GHz

Thermal characteristics

Parameter	Symbol	Ratings			Units
		Min	Typ	Max	
Temperature tuning coefficient	$\delta\lambda/\delta T$		0.06		nm/K
Threshold current variation 0 to +70°C	ΔI_{th}		1		mA

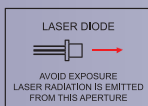
Absolute maximum ratings

Parameter*	Rating	Units
Optical output power	8	mW
Peak forward current	15	mA
Electrical power dissipation	30	mW/laser
Reverse voltage	5	V
Operating temperature	0 to +85	°C
Storage temperature	-40 to +100	°C

*(T=25°C unless otherwise noted)

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The above specifications are subject to change without notice



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