

N x 10 Gbps Multi-Mode VCSEL Array

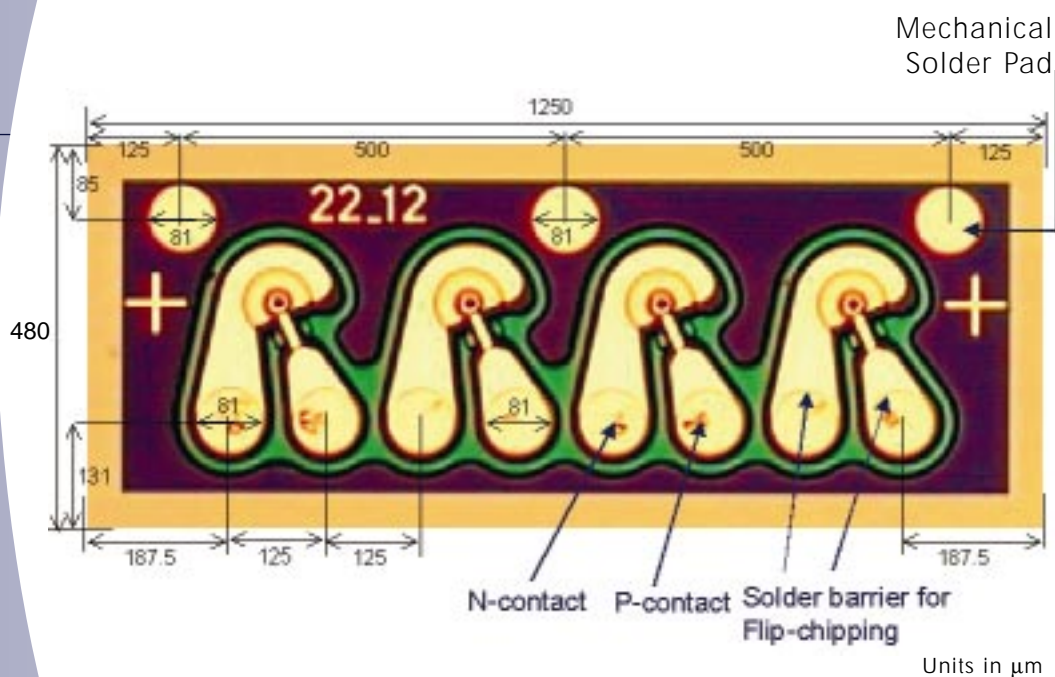


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Preliminary Datasheet

Features

- 850nm wavelength range
- High wavelength uniformity
- 1x4, 1x8 and 1x12 arrays
- Low threshold current
- Data rates up to 12.5 Gbps
- Flip-chip bondable, isolated electrodes



Ordering information

Part Number	Description
APA4101040000	1x4 array isolated contacts
APA4101080000	1x8 array isolated contacts
APA4101120000	1x12 array isolated contacts



N x 10 Gbps Multi-Mode VCSEL Array

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

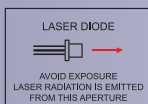
Absolute maximum ratings

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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