

N x 3.125 Gbps Multi-Mode VCSEL Array

March 2003



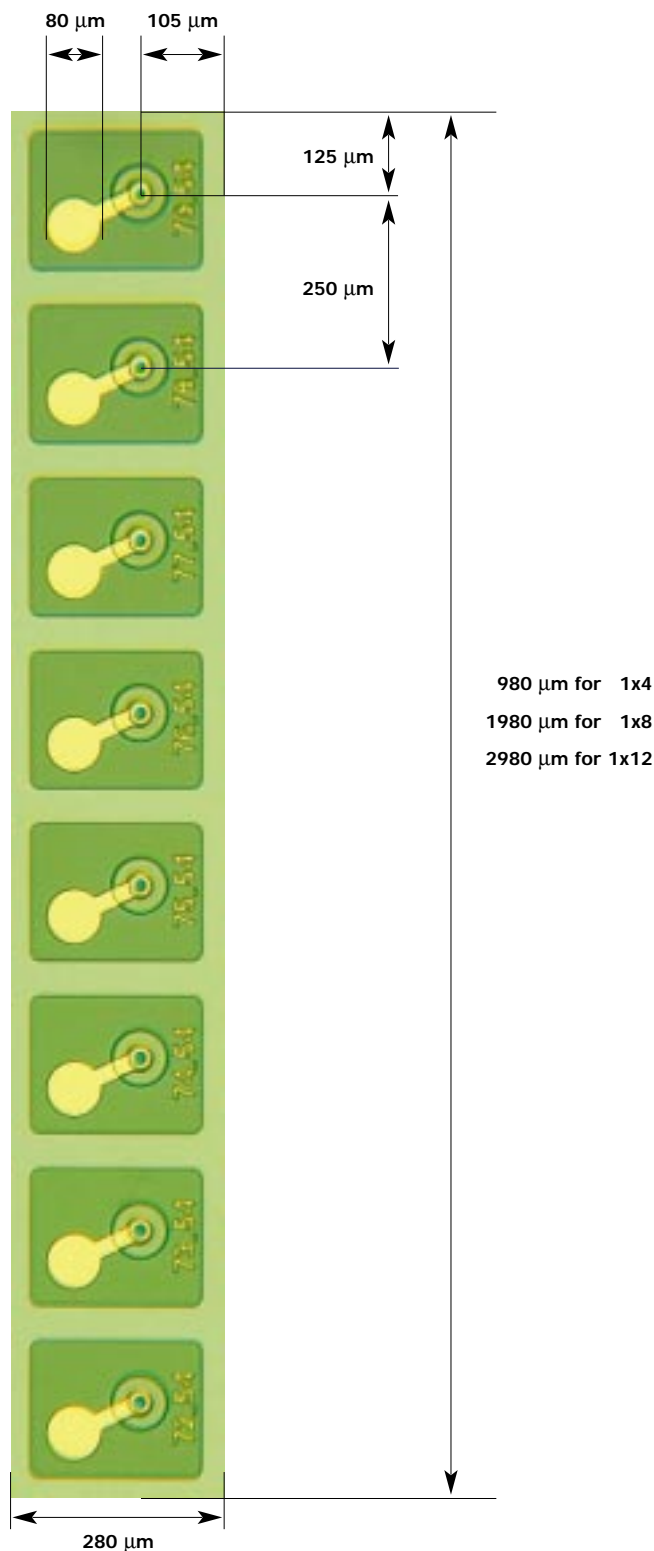
Features

- 850nm wavelength range
- High wavelength uniformity
- Data rates up to 3.5 Gbps
- Low threshold current

Ordering information

Part Number	Description
APA7201020000	850nm multi-mode array 1x2
APA7201040000	850nm multi-mode array 1x4
APA7201080000	850nm multi-mode array 1x8
APA7201120000	850nm multi-mode array 1x12

Other configurations available on request



N x 3.125 Gbps Multi-Mode VCSEL Array

Electro-optical characteristics (for individual lasers)

Parameter*	Symbol	Conditions	Ratings			Units
			Min	Typ	Max	
Optical output power	P_{out}	$I_{op} = 6 \text{ mA}$		2.1		mW
Threshold current	I_{th}		1.0	1.8	2.5	mA
Operating voltage	V_{op}	$I_{op} = 6 \text{ mA}$		1.9		V
Emission wavelength	λ	$I_{op} = 6 \text{ mA}$	840	850	860	nm
Spectral bandwidth, RMS	$\Delta\lambda$	$I_{op} = 6 \text{ mA}$			0.85	nm
Slope efficiency	η	$I_{op} = 6 \text{ mA}$		0.5		mW/mA
Beam divergence	θ	Full width, $1/e^2$, $I_{op} = 6 \text{ mA}$		27	30	°
Differential resistance	R_{Diff}	$I_{op} = 6 \text{ mA}$	25	40	50	Ω
Capacitance	C	$I_{op} = 6 \text{ mA}$		0.6	0.9	pF
Bandwidth	f_{3dB}	$I_{op} = 6 \text{ mA}$	3.5	5		GHz
Threshold uniformity**	ΔI_{th}				0.3	mA
Slope efficiency uniformity**	$\Delta\eta$				0.1	mW/mA

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

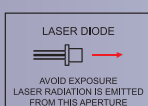
Parameter*	Rating	Units
Optical output power	6	mW
Peak forward current	10	mA
Reverse voltage	5	V
Operating temperature	-20 to +85	°C
Storage temperature	-40 to +100	°C

*(T=25°C unless otherwise noted)

** tighter uniformity specification available on request

AVALON
PHOTONICS

The above specifications are subject to change without notice



Avalon Photonics Ltd, Badenerstrasse 569
8048 Zurich, Switzerland
Tel: +41 1 498 1411 Fax: +41 1 498 1412
Email: vcsel@avap.ch
Internet: www.avalon-photonics.com