Preliminary

TSA-8B04-000

High Performance 850nm Oxide-Confined VCSEL Array

FEATURES:

• Capable to run speed of 2.5/3.125 Gbps per channel in Datacom application.

• 1x4 VCSEL array.

• Symmetrical beam.

ELECTRO-OPTICAL CHARACTERISTICS:

PARAMETERS	SYMBOL	MIN	TYP	MAX	UNIT	TEST CONDITIONS[1][2]
Threshold Current	I_{th}		1.5	2	mA	
Threshold current uniformity	ΔI_{th}		0.1	0.5	mA	
Output Power	P_o	1	1.5		mW	I_F =6 mA[3]
Slope Efficiency	η		0.35		mW/mA	I_F=6 mA
Wavelength	λ_P	830	850	860	nm	I_F=6 mA
Forward Voltage	V_F	1.7	2.0	2.2	V	I_F=6 mA
Breakdown voltage	V_{BD}	10	15		V	I_R=10 μA
Series Resistance	R_S		45	60	Ω	I_F =6 mA
Beam Divergence(FWHM)	θ		16		degree	I_F=6 mA[4],[5]
Capacitance	C		0.6	0.8	pF	V=0V

Notes:

1.Parameters is measured with chip die-bonded to a metal header.

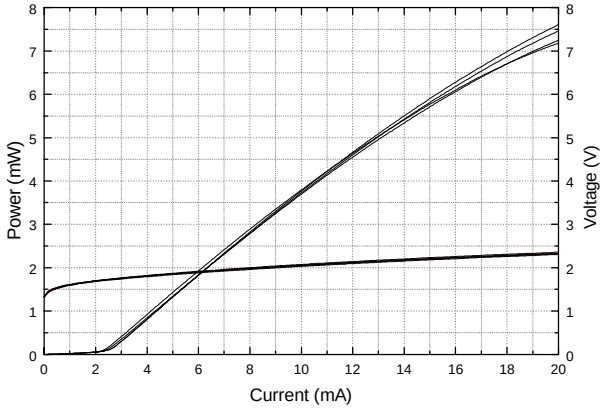
2.All parameters except mentioned are measured at I_F=6 mA, 25°C, CW operation.

3.Higher power can be provided under request.

4.Beam divergence is defined as the angle of light intensity at Full Width Half Maximum (FWHM).

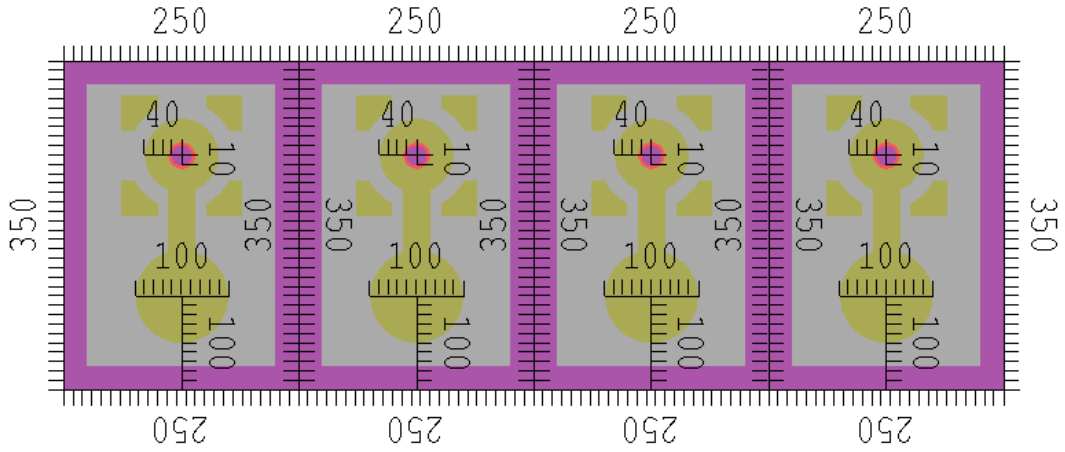
5. Single mode or single lobe operation is upon request for 10Gbps Datacom approach as well as encorder, printing, storage applications.

Typical Optical Characteristics



OUTLINE DIAGRAM:

• Chip size is typical 350 x 1000 μm.



WARNING:
The VCSEL is a class IIIb laser in the safety standard ANSI Z136.1 and should be treated as a potential eye hazard.