

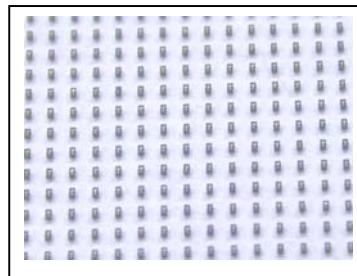
YL-VC850-050

High Performance 10 Gbps Oxide-Confining VCSEL Chip

Preliminary

FEATURES:

- Capable to run 10 Gbps
- Low device capacitance to operate at high speed.
- Low divergence angle to ensure high optical coupling efficiency.
- Wide operation temperature range 0°C ~ 85°C



ELECTRO-OPTICAL CHARACTERISTICS:

PARAMETERS	SYMBOL	MIN	TYP	MAX	UNIT	TEST CONDITIONS
Threshold Current	I_{th}		1.2	2	mA	
Output Power	P_o		1.5		mW	$I_F=6$ mA
Slope Efficiency	η	0.25	0.35	0.6	mW/mA	$I_F=6$ mA
Wavelength	λ_p	830	850	860	nm	$I_F=6$ mA
Forward Voltage	V_F		1.9	2.4	V	$I_F=6$ mA
Series Resistance	R_S		55	75	Ω	$I_F=6$ mA
Beam Divergence	θ		16		degree	$I_F=6$ mA (FWHM)
Spectral width (RMS)	$\Delta \lambda$			0.65	nm	$I_F=6$ mA
Rise Times (20%~80%)	T_r		40		ps	$I_F=6$ mA
Fall Times (20%~80%)	T_f		40		Ps	$I_F=6$ mA
3dB Bandwidth	BW	8			GHz	$I_F=6$ mA

Notes:

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

ABSOLUTE MAXIMUM RATINGS:

PARAMETERS	MIN	MAX	UNIT	CONDITIONS
Storage Temperature	-40	125	°C	
Operating Temperature	0	85	°C	
Continuous Forward Current		10	mA	
Continuous Reverse Voltage		5	V	10 μ A

Fig. 1 Typical Optical Characteristics

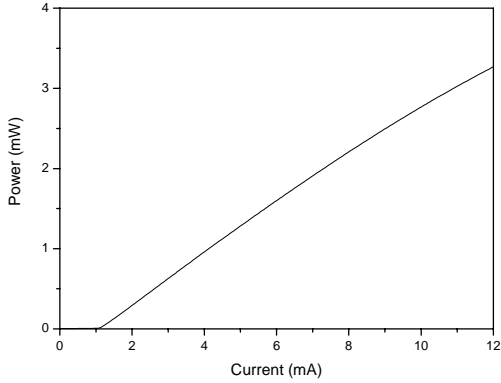
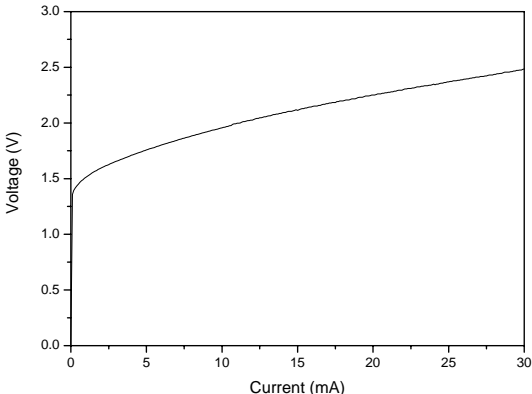
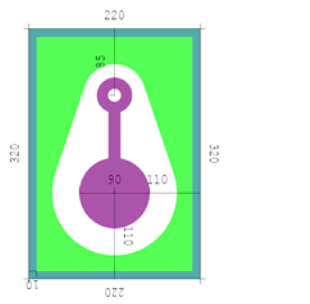


Fig. 2 Typical Electrical Characteristics



OUTLINE DIAGRAM:

- Chip size is typical 220 μm x 320 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.

