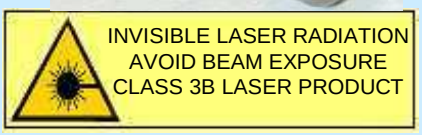
U·L·M PHOTONICS

Single mode & polarization VCSEL

850nm,TO46, 0.7mW

- Single-mode & single-polarization
- Ideal circular gaussian beam
- Stable Polarization
- Built-in ESD protection structure
- High reliability, 10 years @ 85℃



Preliminary

ELECTRO-OPTICAL CHARACTERISTICS

T=20℃ unless otherwise stated

PARAMETER	SYMBOL	UNITS	MIN	TYP	MAX	TEST CONDITIONS
Emission wavelength	λ_R	nm	845	855	860	P_{OP}=0.7 mW
Threshold current	I_{TH}	mA	0.2		1.0	
Laser current	I_{OP}	mA	1.2		3.0	P_{opt}=0.7 mW
Laser voltage	U_{OP}	V			2.6	P_{opt}=0.7 mW
Slope efficiency	η_S	W/A	0.4		0.9	
Output power	P_{opt}	mW	0.7			I_{OP}=3.0mA
Differential series resistance	R_S	Ω	150		350	P_{opt}=0.7 mW
Thermal resistance (VCSEL chip)	$R_{thermal}$	K/mW	3		5	
Beam divergence	θ	°	10		20	P_{opt}=0.7 mW, FWHM
Side mode suppression ratio	SMSR	dB	10			P_{opt}=0.7 mW
ESD damage threshold		V	2000			human body model
Wavelength tuning over temperature		nm/K		0.06		

NOTE: Polarization control by optical design

ABSOLUTE MAXIMUM RATINGS

Storage temperature	-40 .. 125℃
Operating temperature	-40 .. 85℃
Electrical power dissipation	7.5 mW
Continous forward laser current	3.1 mA
Laser reverse voltage	8V
Soldering temperature	330℃

NOTICE: Stresses greater than those listed under „Absolute Maximum Ratings“ may cause permanent damage to the device. These are stress ratings only and functional operation of the device at these or any other condition beyond those indicated for extended periods of time may effect device reliability.

ATTENTION: Electrostatic Sensitive Devices
Observe Precautions for Handling

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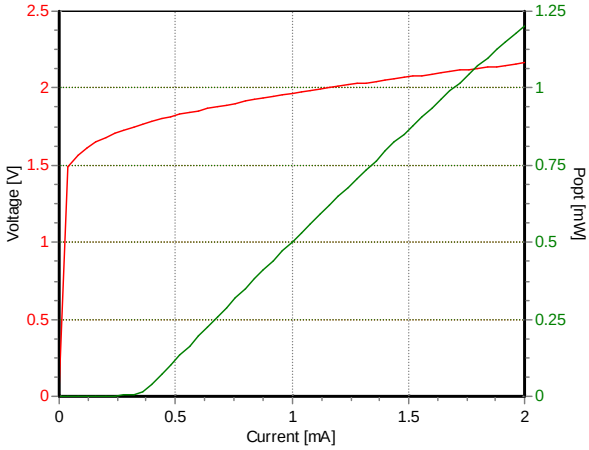
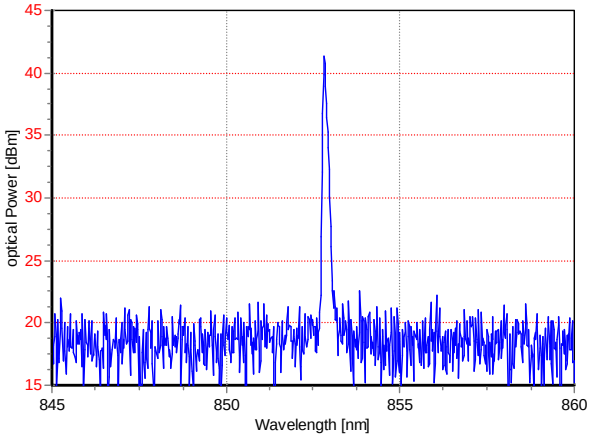
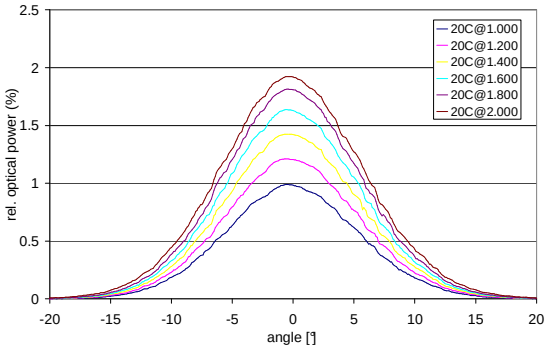
Electro-optical characteristics



Spectral Characteristics



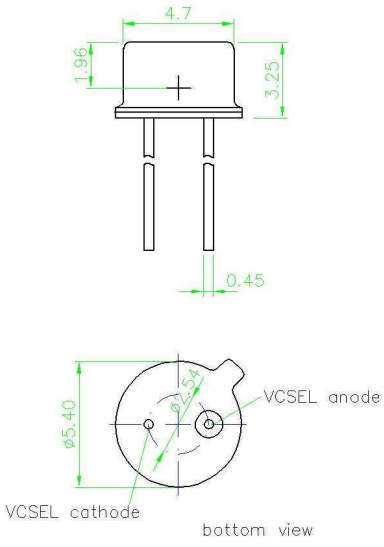
Farfield



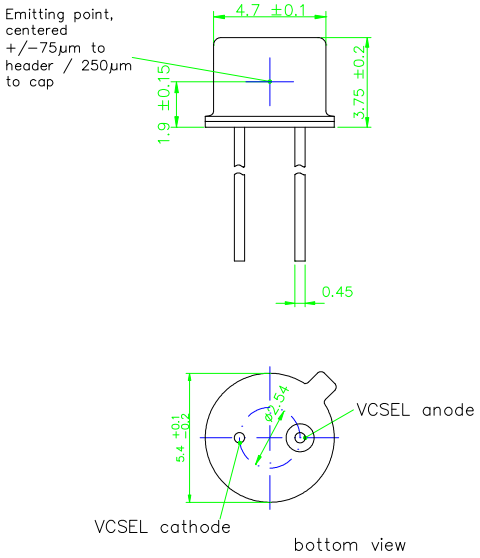
Typ	**ULM850-PM-PL-S46XZP**
Descriptn.	850nm SM VCSEL TO46
Cap	Cap without glass window
Typ	**ULM850-PM-PL-S46FZP**
Cap	Flat window cap

Package / pin layout

without glass window



flat glass window



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