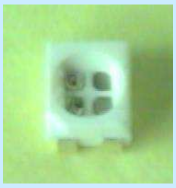
U·L·M
PHOTONICS

Single Mode VCSEL 850nm



- ◆ **SMD package**
- ◆ **without encapsulation**
- ◆ **ESD protection**

INVISIBLE LASER RADIATION
AVOID BEAM EXPOSURE
CLASS 3B LASER PRODUCT

ELECTRO-OPTICAL CHARACTERISTICS

T=20℃ unless otherwise stated

PARAMETER	SYMBOL	UNITS	MIN	TYP	MAX	TEST CONDITIONS
Emission wavelength	λ_R	nm	850	855	860	P_{OP}=0.53 mW
Threshold current	I_{TH}	mA	0.2		1.0	
Laser current	I_{OP}	mA	1.0		1.8	P_{opt}=0.53 mW
Laser voltage	U_{OP}	V			2.2	P_{opt}=0.53 mW
Slope efficiency	η_S	W/A	0.3		0.7	
Output power	P_{opt}	µW	273	530	780	
Differential series resistance	R_S	Ω	30		350	P_{opt}=0.53 mW
Thermal resistance (VCSEL chip)	$R_{thermal}$	K/mW	3		5	
Beam divergence	θ	°	10		15	P_{opt}=0.53 mW, FWHM
Side mode suppression ratio	SMSR	dB	10			P_{opt}=0.53 mW
ESD damage threshold		V		2000		human body model

Binning table:
(Laser current for 0.53mW output power)

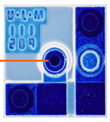
bin1	1.1 mA
bin2	1.3 mA
bin3	1.48 mA
bin4	1.65 mA
according to 5% driver current tolerance and 68% AEL (530µW)	

ABSOLUTE MAXIMUM RATINGS

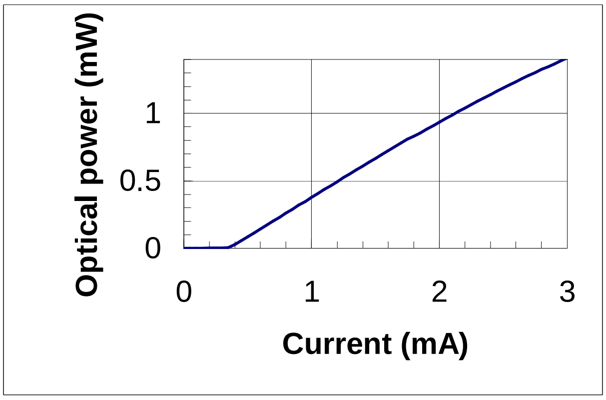
Storage temperature	-40 .. 125℃
Operating temperature	-40 .. 85℃
Electrical power dissipation	7.5 mW
Continous forward laser current	3 mA
Laser reverse voltage	8V
Soldering temperature	260℃

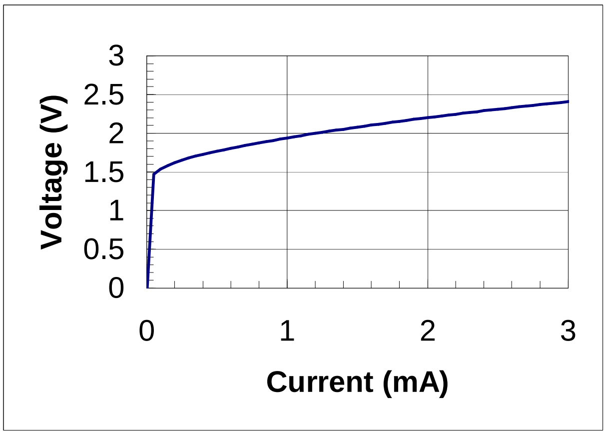
NOTICE: Stresses greater than those listed under „Absolute Maximum Ratings" may cause permanent damage to the device. These are stress ratings only and functional operation of the device at these or any other condition beyond those indicated for extended periods of time may effect device reliability.

ATTENTION: Electrostatic Sensitive Devices
Observe Precautions for Handling

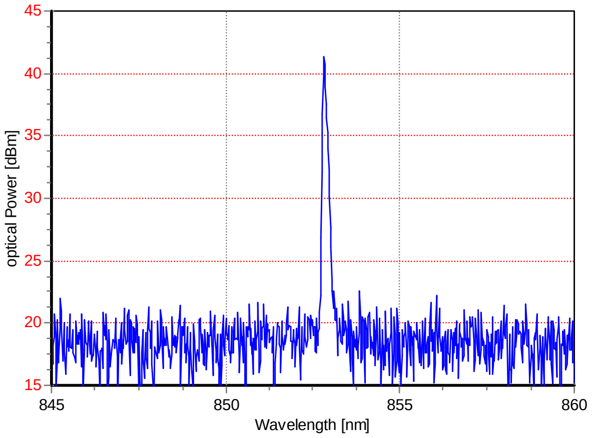


Electro-optical characteristics

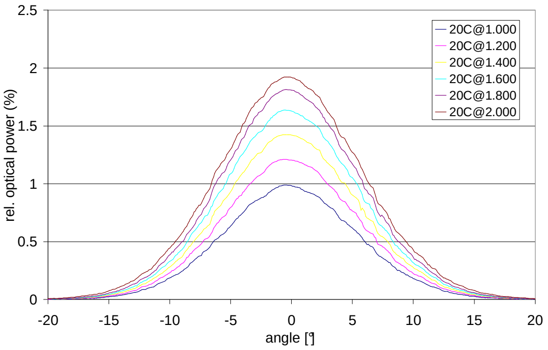




Spectral Characteristics



Farfield



Typ	ULM855-G2-TN-SSMDTL
Descriptn.	**855nm SM VCSEL** SMD package

Package / pin layout:

PIN 1: VCSEL cathode
PIN 2: VCSEL anode
(all units in mm)