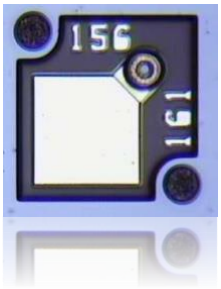
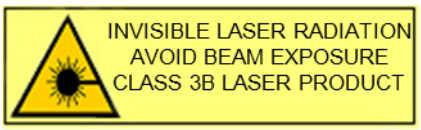
Single-mode & Polarization-stable VCSEL

850 nm



- Single-mode & stable polarization at high output power up to 1.4 mW
- Ultra low current requirement and power consumption
- Ideal for wireless laser mouse and trackball application in mobile phone



ELECTRO-OPTICAL CHARACTERISTICS

T=25°C unless otherwise stated

PARAMETER	SYMBOL	UNITS	MIN	TYP	MAX	TEST CONDITIONS
Emission wavelength	λ_R	nm	845		865	
Threshold current	I_{TH}	mA			1.50	
Laser current	I_{op}	mA			3.50	Output power = 1.4 mW
Laser voltage	U_{OP}	V			2.50	
Slope efficiency	η_S	W/A	0.40			
Differential series resistance	R_S	Ω	150		250	
Beam divergence	θ	°			22	$1/e^2$; Output power = 1.4 mW
Side mode suppression ratio	SMSR	dB	10			Output power = 1.4 mW
ESD damage threshold		V	40			Machine model
Dynamic polarization flips					0	

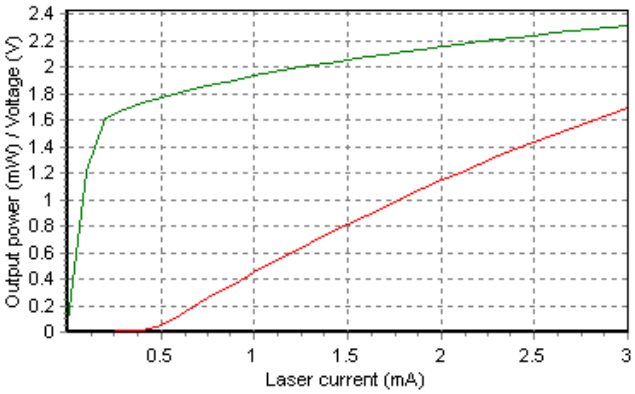
NOTICE: Stresses greater than those listed under „Absolute Maximum Ratings" may cause permanent damage to the device. These are stress ratings only and functional operation of the device at these or any other condition beyond those indicated for extended periods of time may effect device reliability.

ATTENTION: Electrostatic Sensitive Devices
Observe Precautions for Handling

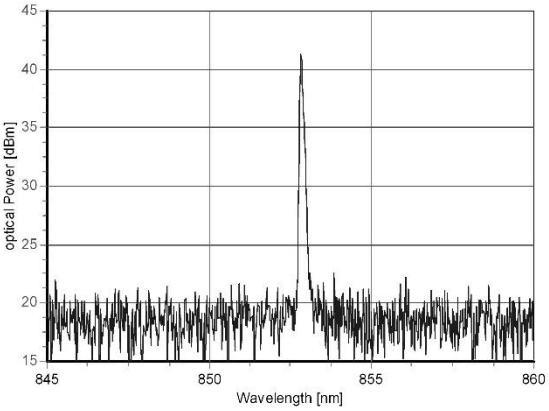
Absolute Maximum Ratings

Storage temperature	-40 .. 140°C
Operating temperature	-20 .. 85°C
Output power	4 mW
Continuous forward laser current	4 mA
Continuous reverse current	10 mA
Soldering temperature	330°C

Electro-optical characteristics

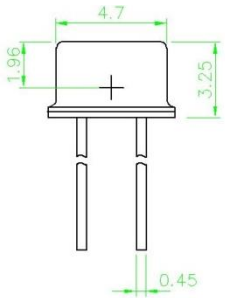


Spectral characteristics

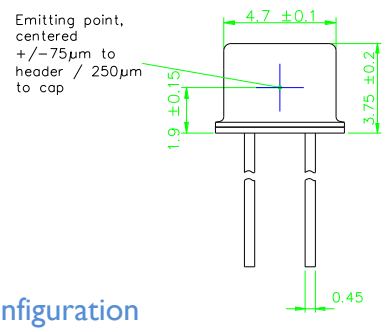


TO dimensions

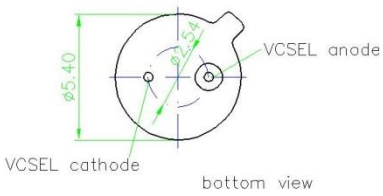
without glass window

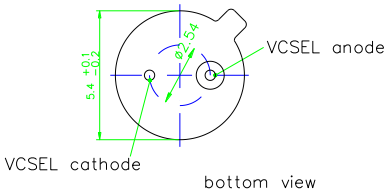


flat glass window



Pin configuration

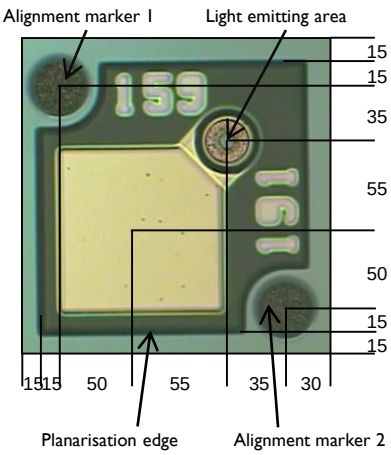




Unit: mm

Die dimensions

Single mode with polarization locking, backside cathode contact
Size 200 µm x200 µm x150 µm



Unit: µm

For order please use:

Type	Description
ULM850-A4-PL-S0101U	850nm SM bare die
ULM850-A4-PL-S46XZP	850nm SM TO46 no glass
ULM850-A4-PL-S46FZP	850nm SM TO46 flat glass

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