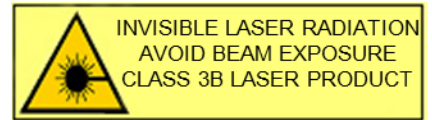


760/763 nm single-mode VCSEL

PHILIPS

TO46

- Vertical Cavity Surface-Emitting Laser
- Narrow linewidth
- ESD protection diode



PRELIMINARY

ELECTRO-OPTICAL CHARACTERISTICS

T = 20°C unless otherwise stated

PARAMETER	SYMBOL	UNITS	MIN	TYP	MAX	TEST CONDITIONS
Emission wavelength	λ_R	different wavelength selections are specified on the next page				
Threshold current	I_{TH}	mA		0.5		
Output power	P_{opt}	mW	0.25			
Threshold voltage	U_{TH}	V		1.8		
Laser current	I_{OP}	mA			2	$P_{opt} = 0.3$ mW
Laser voltage	U_{OP}	V		2		$P_{opt} = 0.3$ mW
Wallplug efficiency	η_{WP}	%		12		$P_{opt} = 0.3$ mW
Slope efficiency	η_S	W/A		0.3		
Differential series resistance	R_S	Ω		250		$P_{opt} = 0.3$ mW
3dB modulation bandwidth	ν_{3dB}	GHz	0.10			$P_{opt} = 0.3$ mW (due to ESD protection diode)
Relative intensity noise	RIN	dB/Hz		-130	-120	$P_{opt} = 0.3$ mW @ 1 GHz
Wavelength tuning over current		nm/mA		0.6		
Wavelength tuning over temperature		nm/K		0.06		
Thermal resistance (VCSEL chip)	$R_{thermal}$	K/mW	3		5	
Side mode suppression		dB	25			I = 2 mA
Beam divergence	θ	°	10		25	$P_{opt} = 0.3$ mW, full width 1/e ²
Spectral bandwidth		MHz		100		$P_{opt} = 0.3$ mW

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 ... 125°C
Operating Temperature	-20 ... 85°C
Electrical power dissipation	5 mW
Continuous laser forward current	2 mA
Continuous reverse current	10 mA
Soldering Temperature*	270°C

WAVELENGTH SELECTION CRITERIA

Emission wavelength λ_R @ T = 20°C, P_{OP} = 0.3 mW

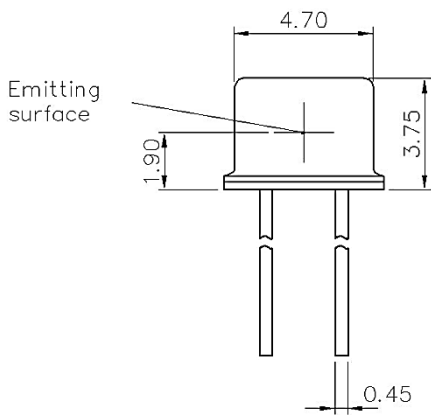
760 nm range

	MIN	MAX	UNITS
± 1 nm	759.0	761.0	nm
± 3 nm	757.0	763.0	nm

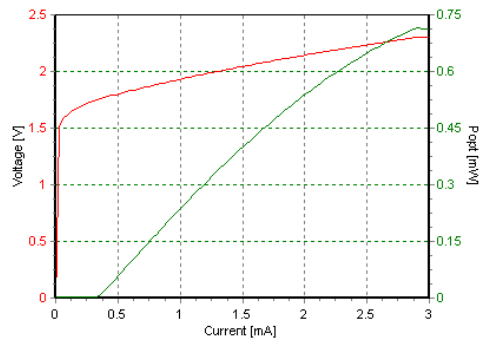
763 nm range

± 1 nm	762.0	764.0	nm
± 3 nm	760.0	766.0	nm

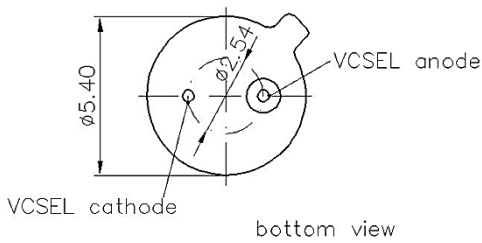
TO dimensions



LIV



Pin configuration



Unit: mm

For order please use:

± 1 nm	± 3 nm
ULM760-01-TN-S46FZP	ULM760-03-TN-S46FZP
ULM763-01-TN-S46FZP	ULM763-03-TN-S46FZP

OPTION:

- Wide range of TO headers & caps (flat, tilted, ball)
- Customer specific wavelength selection on request



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Philips GmbH U-L-M Photonics
Tel +49 731 550194-011
Fax +49 731 550194-026
philips.photonics.ulm@philips.com
www.photonics.philips.com