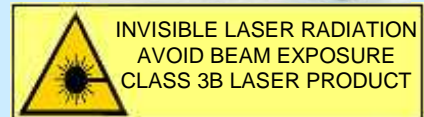


780/795 \pm 1 nm Single Mode VCSEL TO46 & TEC

- ◆ Vertical Cavity Surface-Emitting Laser
- ◆ internal TEC and Thermistor
- ◆ Narrow linewidth
- ◆ 2nm tunability with TEC



ELECTRO-OPTICAL CHARACTERISTICS

Prototype

PARAMETER	SYMBOL	UNITS	MIN	TYP	MAX	TEST CONDITIONS
Emission wavelength	λ_R	nm		780 795		T=20°C, I _{TEC} =0, P _{OP} =0.3mW
Threshold current	I _{TH}	mA		0.5		T=20°C
Output power	P _{opt}	mW	0.25			T=25°C
Threshold voltage	U _{TH}	V		1.8		
Laser current	I _{OP}	mA			2.0	P _{opt} =0.3 mW
Laser voltage	U _{OP}	V		2.3		P _{opt} =0.3 mW
Wallplug efficiency	η_{WP}	%		12		P _{opt} =0.3mW
Slope efficiency	η_S	W/A		0.3		T= 20°C
Differential series resistance	R _S	Ω		250		P _{opt} =0.3 mW
3dB modulation bandwidth	ν_{3dB}	GHz	1			P _{opt} =0.3 mW
Relative intensity noise	RIN	dB/Hz		-130	-120	P _{opt} = 0.3 mW @ 1 GHz
Wavelength tuning over current		nm/mA		0.60		
Wavelength tuning over temperature		nm/K		0.06		
Thermal resistance (VCSEL chip)	R _{thermal}	K/mW	3		5	
Side mode suppression		dB	25			
Beam divergence	θ	°	10		25	P _{opt} =0.3 mW, full width 1/e ²
Spectral bandwidth	$\Delta\lambda$	MHZ		100		P _{opt} =0.3 mW
TEC current		mA			500	
NTC Thermistor Resistance		K Ω	9.5	10	11	T=25°C
NTC Temperature Dependence		K Ω	10/exp[3892*(1/298K-1/T _{op})]			
Wavelength tuning over TEC current		nm/mA		0.008		TEC current < 200 mA

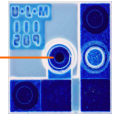
ABSOLUTE MAXIMUM RATINGS

Storage temperature	-40 .. 125°C
Operating temperature	-20 .. 80°C
Electrical power dissipation	5 mW
Continous forward laser current	2 mA
Laser reverse voltage	8V
Soldering temperature*:	270°C
(*TEC temperature must be below 150°C)	

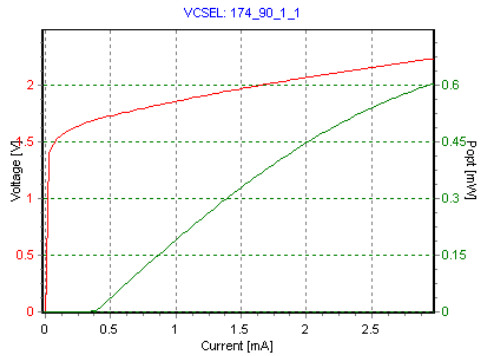
NOTICE: Stresses greater than those listed under „Absolute Maximum Ratings“ may cause permanent damage to the device. These are stress ratings only and functional operation of the device at these or any other condition beyond those indicated for extended periods of time may effect device reliability.



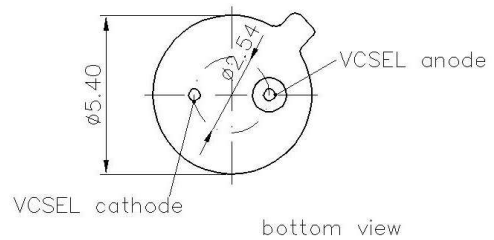
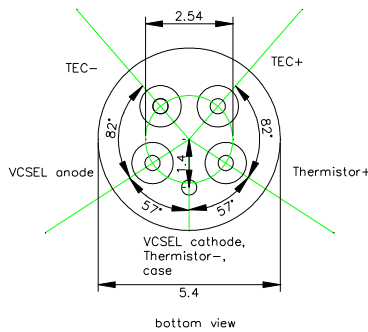
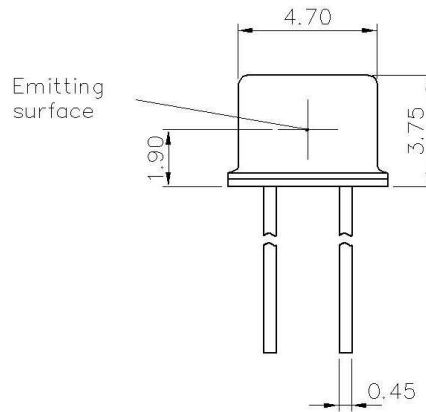
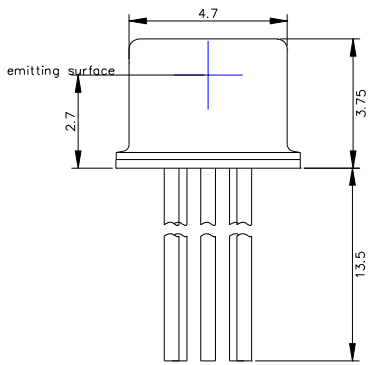
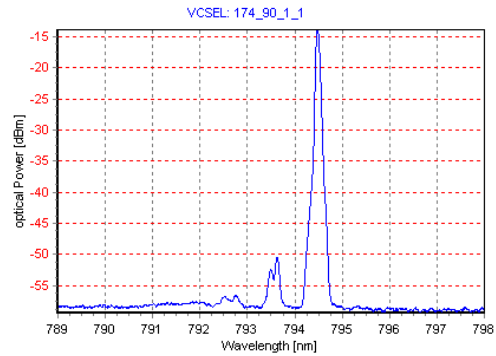
ATTENTION: Electrostatic Sensitive Devices
Observe Precautions for Handling



LIV



Spectral Characteristics



For order please use:

	±1nm	±3nm
with TEC/Thermistor	ULM780-01-TN-S46FTT	ULM780-03-TN-S46FTT
without TEC/Thermistor	ULM780-01-TN-S46FOP	ULM780-03-TN-S46FOP
with TEC/Thermistor	ULM795-01-TN-S46FTT	ULM795-03-TN-S46FTT
without TEC/Thermistor	ULM795-01-TN-S46FOP	ULM795-03-TN-S46FOP

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