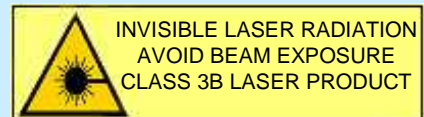
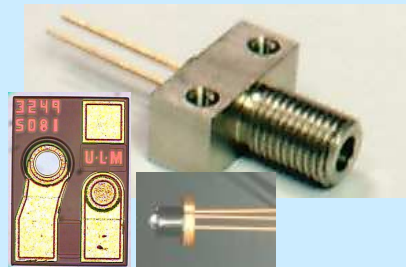


12mW / 20mW / 24mW VCSEL SMA Receptacle / TO56 / Chip

- ◆ Vertical Cavity Surface-Emitting Laser
- ◆ 12mW / 20mW / 24mW peak power
- ◆ >2,5 Gbps speed
- ◆ e.g. for storage, free space, sensing
- ◆ other wavelengths available, e.g. for WDM



ELECTRO-OPTICAL CHARACTERISTICS Receptacle / Chip

PARAMETER	SYMBOL	UNITS	MIN	TYP	MAX	TEST CONDITIONS
Emission wavelength	λ_R	nm	840	850	860	T=20°C
Fiber-coupled mean power (power)	mW		12/24			Fiber 125 μ m, 0.37NA, T=20°C
Threshold current	I_{TH}	mA			10	T=20°C
Variation of I_{TH} over Temp.	$\Delta I_{TH}(T)$	mA		3.0		T=0 .. 70°C
Threshold voltage	U_{TH}	V	1.5	1.8	2.0	T=20°C
Laser current	I_{OP}	mA		40	48	$P_{opt}=12mW^*/24mW$, T=20°C
Laser voltage	U_{OP}	V	2.0	2.2	2.5	$P_{opt}=12mW^*/24mW$, T=20°C
Wallplug efficiency	η_{WP}	%	10/20	15/30	20/35	$P_{opt}=12mW^*/24mW$, T=20°C
Slope Efficiency	η_s	W/A	0.3/0.6	0.4/0.8	0.6/1	T= 20°C
Variation of η_s over Temp.	$\Delta\eta_s(T)$	W/A		0.25/0.4		T= 0 .. 70°C
Differential series resistance	R_s	Ω		20		$P_{opt}=12mW^*/24mW$
3dB modulation bandwidth	V_{3dB}	GHz	3			$P_{opt}=12mW^*/24mW$
Rise and fall time	t_R/t_F	ps			300	20%..80%; $P_{off/on}=0.5/12mW^*$
Relative intensity noise	RIN	dB/Hz		-130	-120	$P_{opt} = 12mW^* @ 1 GHz$
Wavelength tuning over temperature		nm/K		0,07		
Thermal resistance	$R_{thermal}$	K/mW			1	
Spectral bandwidth	$\Delta\lambda$	nm			1	rms

* in optical Fiber 125 μ m, NA 0,37

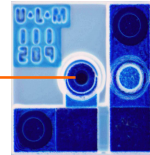
ABSOLUTE MAXIMUM RATINGS

Storage temperature	-55 .. 125°C
Operating temperature	-30 .. 85°C
Electrical power dissipation	150 mW
Continous forward current	50 mA
Reverse voltage	8V
Pin soldering temperature	290°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.

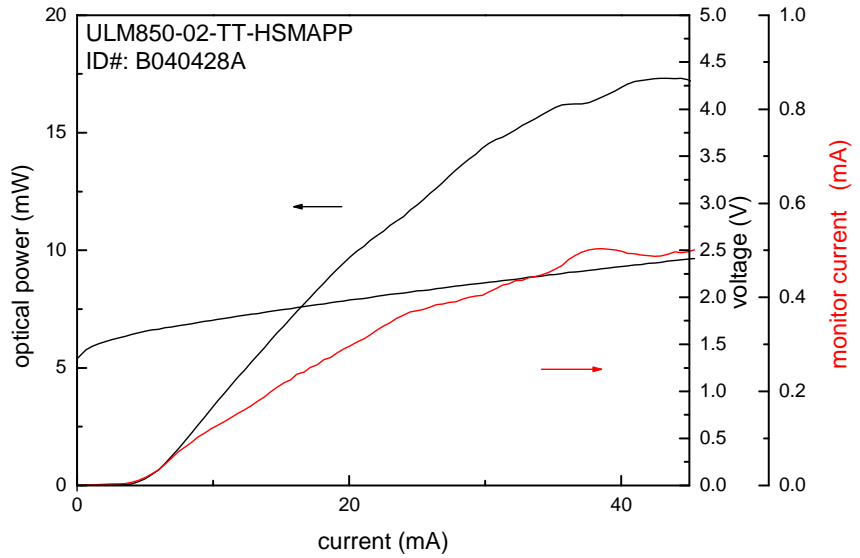


ATTENTION: Electrostatic Sensitive Devices
Observe Precautions for Handling

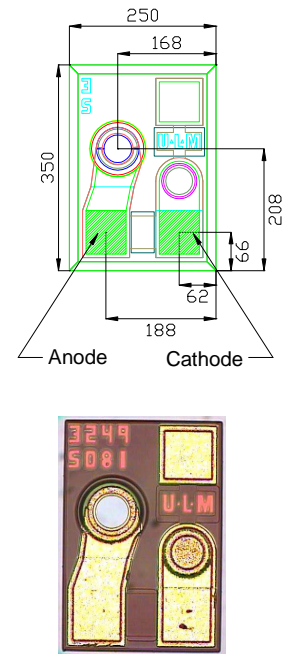
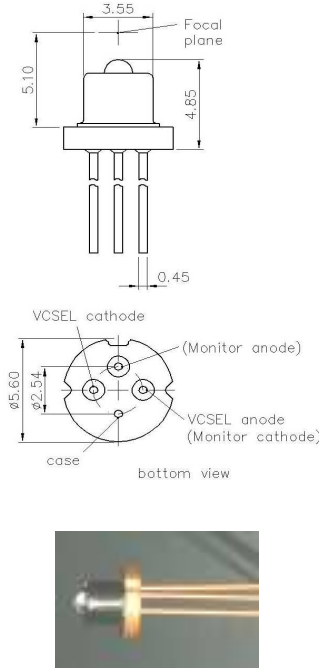
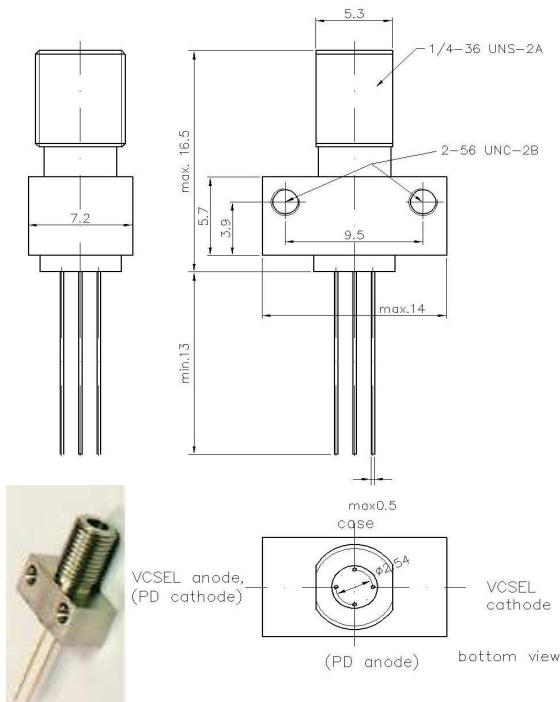


LIV
(optical fiber
125µm, NA 0.37)

Other fiber core
diameters available
upon request



Description	12mW VCSEL SMA Receptacle	20mW VCSEL TO56	24mW VCSEL Chip
Cap	-	Ball lens	-
Common	anode	anode	-
Type			
with Monitor (PD)	ULM850-02-TT-HSMAPP	ULM850-02-TT-H56BPP	-
without Monitor	ULM850-02-TT-HSMAOP	ULM850-02-TT-H56BOP	ULM850-02-TT-H0101U



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Email **sales@ulm-photonics.de**