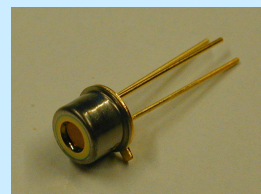
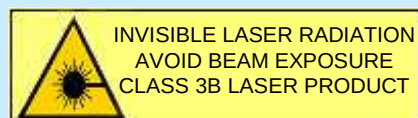


2.5 Gbps VCSEL

850nm TO46 flat window



- ◆ Vertical cavity surface-emitting laser
- ◆ High speed up to 2.5 Gbps
- ◆ High performance and reliability



ELECTRO-OPTICAL CHARACTERISTICS

TO46 package with monitor PD and flat window cap

T= 20°C unless otherwise stated

PARAMETER	SYMBOL	UNITS	MIN	TYP	MAX	TEST CONDITIONS
Emission wavelength	λ	nm	840	850	860	$I_F=5\text{mA}$
Threshold current	I_{TH}	mA	0.6	1.0	1.4	
Variation of I_{TH} over temp.	$\Delta I_{TH}(T)$	mA			1.0	T= -15 .. 85°C
Threshold voltage	U_{TH}	V	1.4	1.5	1.7	
Optical output power	P_{opt}	mW	0.50	0.75	1.00	$I_F=5\text{mA}$
Slope efficiency	η_s	W/A	0.15	0.20	0.25	
Variation of η_s over temp.	$\Delta \eta_s / \eta_s / \Delta T$	%/K		0.50	0.70	T= -15 .. 85°C
Differential series resistance	R_S	Ω	30	50	65	$I_F=5\text{mA}$
3dB modulation bandwidth	ν_{3dB}	GHz	3			$I_F=5\text{mA}$
Rise and fall time	t_R/t_F	ps		70	80	20%..80%; ER=10dB
Relative intensity noise	RIN	dB/Hz		-130	-120	$I_F=5\text{mA}$
Wavelength tuning over current		nm/mA		0.2		
Wavelength tuning over temperature		nm/K		0.07		
Spectral bandwidth	$\Delta \lambda$	nm		0.3	0.65	$I_F=5\text{mA}$, RMS
Beam divergence	θ	°		25	30	$I_F=5\text{mA}$, full width $1/e^2$
Monitor current	I_{PD}	mA		0.40		$I_F=5\text{mA}$
Monitor dark current	I_D	nA			20	$P_{opt}=0\text{mW}$
Monitor reverse breakdown voltage	U_{RBR}	V	30			$P_{opt}=0\text{mW}$
Monitor capacitance	C_{PD}	pF			100	$U_{RPD}=0\text{V}$

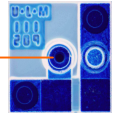
ABSOLUTE MAXIMUM RATINGS

Storage temperature	-40...125 °C
Operating temperature	-20...85 °C
Electrical power dissipation	30 mW
Continuous forward current	12 mA
Reverse voltage	8 V
Soldering temperature	330 °C

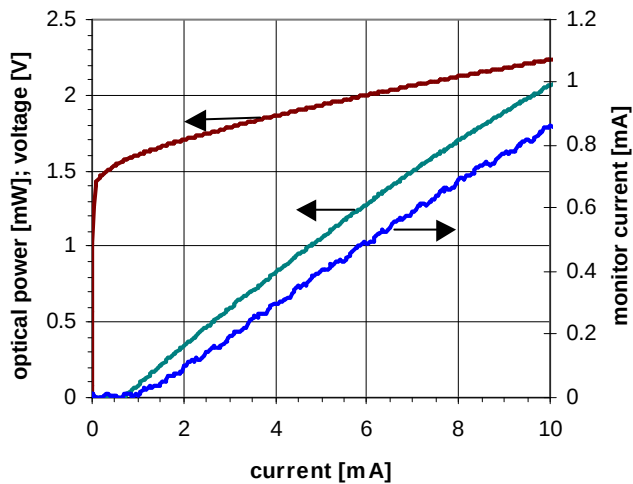
NOTICE: Stresses greater than those listed under „Absolute Maximum Ratings“ may cause permanent damage to the device. These are stress ratings only and functional operation of the device at these or any other condition beyond those indicated for extended periods of time may effect device reliability.



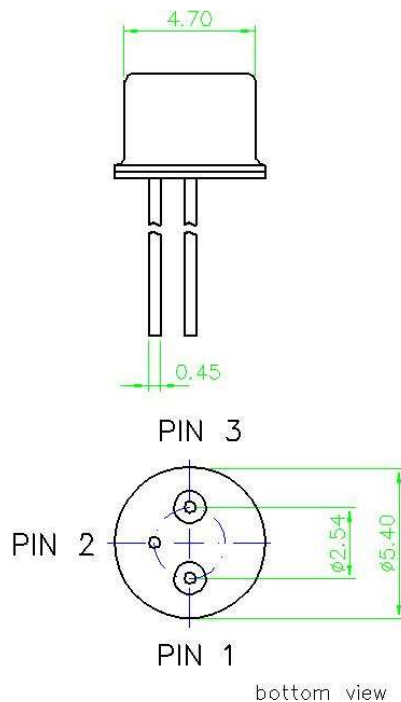
ATTENTION: Electrostatic Sensitive Devices
Observe Precautions for Handling



LIV @ RT



Type	ULM850-02-TT-C46FPP	ULM850-02-TT-C46FPN
Descriptn.	2.5 Gbps VCSEL TO46	2.5 Gbps VCSEL TO46
Common	Anode	Cathode
Pin 1	VCSEL Cathode	VCSEL Anode
Pin 2	VCSEL Anode, Monitor PD Cathode, case	VCSEL Cathode, Monitor PD Anode, case
Pin 3	Monitor PD Anode	Monitor PD Cathode



Other PIN configurations and TO-cans with integrated lens are available upon request.