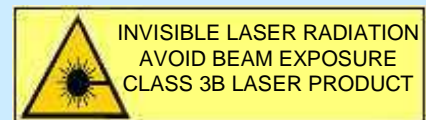
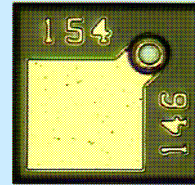


5 Gbps 850 nm VCSEL chip

- ◆ Vertical Cavity Surface-Emitting Laser
- ◆ High speed up to 5 Gbps
- ◆ Unsealed 85% r.H. / 85°C certified
- ◆ Top side emission



ELECTRO-OPTICAL CHARACTERISTICS

T = 25°C unless otherwise stated

PARAMETER	SYMBOL	UNITS	MIN	TYP	MAX	TEST CONDITIONS
Emission wavelength	λ	nm	830	850	860	$I_F=6\text{mA}$
Threshold current	I_{TH}	mA	0.4	0.9	1.4	
		mA	0.4		2.5	$T= -40 \dots 90^\circ\text{C}$
Optical output power	P_{opt}	mW		2.0		$I_F=6\text{mA}$
Slope efficiency	η_s	W/A	0.27		0.55	
Variation of η_s over temp.	$\Delta\eta_s/\eta_s/\Delta T$	%/K		0.45	0.60	$T= -40 \dots 25^\circ\text{C}$ & $T=25^\circ\text{C} \dots 90^\circ\text{C}$
Differential series resistance	R_S	Ω	25	50	65	$I_F=6\text{mA}$
3dB modulation bandwidth	ν_{3dB}	GHz	3			$I_F=6\text{mA}$
Rise and fall time	t_R/t_F	ps		70	80	20%..80%; ER=10dB; $I_F=6\text{mA}$
Relative intensity noise	RIN	dB/Hz		-130	-120	$I_F=6\text{mA}$
Spectral bandwidth	$\Delta\lambda$	nm		0.3	0.65	$I_F=6\text{mA}$, RMS
Beam divergence	θ	$^\circ$		25	30	$I_F=6\text{mA}$, full width $1/e^2$

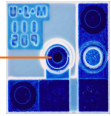
ABSOLUTE MAXIMUM RATINGS

Storage temperature	-40...125 °C
Operating temperature	-40...90 °C
Electrical power dissipation	30 mW
Continuous forward current	12 mA
Reverse voltage	8 V
Soldering temperature	330 °C

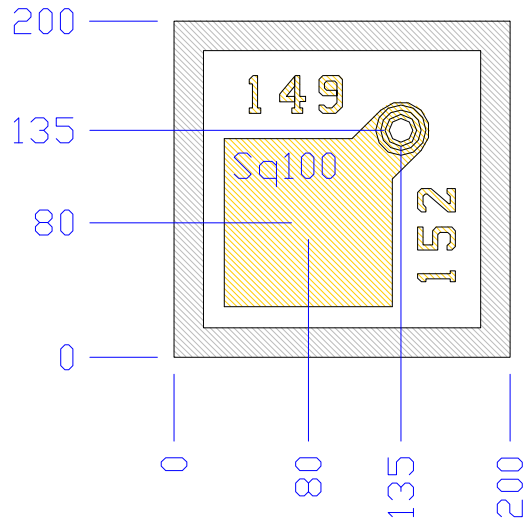
NOTICE: Stresses greater than those listed under „Absolute Maximum Ratings“ may cause permanent damage to the device. These are stress ratings only and functional operation of the device at these or any other condition beyond those indicated for extended periods of time may effect device reliability.



ATTENTION: Electrostatic Sensitive Devices
Observe Precautions for Handling



ULM850-05-TN-N0101L



Chip dimension	200 x 200 x 150 μm
Anode	Sq 100 μm bond pad
Cathode	Backside metallization