

TSD-8B40-100

850nm Oxide VCSEL Emitter

ELECTRO-OPTICAL CHARACTERISTICS :

PARAMETERS	SYMBOL	MIN	TYP	MAX	UNIT	CONDITIONS
Threshold Current	I_{th}		0.2		A	
Output Power	P_o	0.85	1	1.15	W	$I_F = 1.2A$
Slope Efficiency	η		0.9		W/A	
Forward Voltage	V_F		2.1	2.3	V	$I_F = 1.2A$
Conversion efficiency	PCE		38		%	$I_F = 1.2A$
Wavelength	λ_P	840	850	860	nm	$I_F = 1.2A$
Wavelength Shift			0.07		nm/°C	
Beam Divergence	θ		25		degree	$I_F = 1.2A$ (1/e ²)

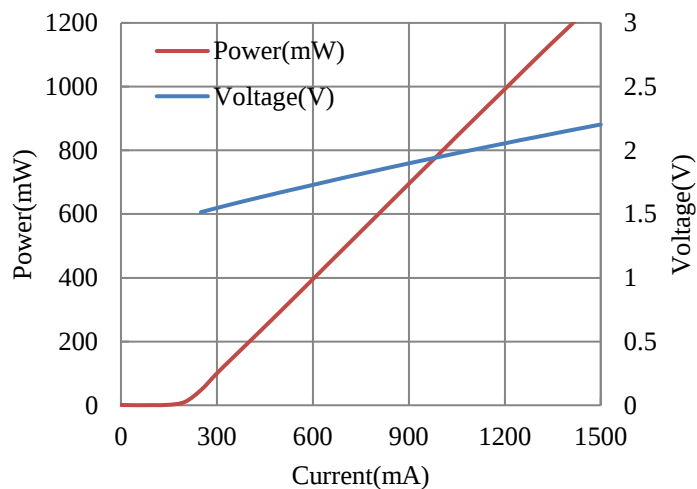
Notes:

All parameters except mentioned are measured at 25°C, Pulse operation(pulse width = 0.3ms / duty cycle = 1%).

ABSOLUTE MAXIMUM RATINGS :

PARAMETERS	MIN	MAX	UNIT	CONDITIONS
Storage Temperature	-40	100	°C	
Operating Temperature	0	65	°C	
Peak Operation Current		2	A	pulse width = 0.3ms / duty cycle = 1%
Solder Reflow Temperature		260	°C	max 10 seconds

ELECTRO-OPTICAL CHARACTERIZATION :



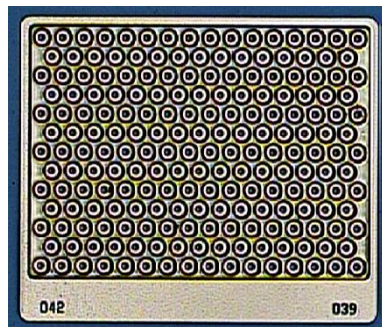
Typical electro / optical characteristics curves measured at 25°C, pulse width = 0.3ms / duty cycle = 1%

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OUTLINE DIAGRAM :

- Chip length : $798\ \mu\text{m} \pm 10\ \mu\text{m}$
- Chip width : $668\ \mu\text{m} \pm 10\ \mu\text{m}$
- Chip thickness : $120 \pm 15\ \mu\text{m}$
- Anode bond pad : $560 \times 90\ \mu\text{m}$
- Emission area : $480\ \mu\text{m} \times 690\ \mu\text{m}$
- Number of apertures : 202



WARNING :

The VCSEL is a class 3B laser in the safety standard IEC60825-1:2014 and should be treated to avoid exposure to beam.

