

TSD-9B30-029

940nm Oxide VCSEL Emitter

ELECTRO-OPTICAL CHARACTERISTICS :

PARAMETERS	SYMBOL	MIN	TYP	MAX	UNIT	CONDITIONS
Threshold Current	I_{th}		25		mA	
Output Power	P_o	100	120	140	mW	$I_F = 150\text{mA}$
Slope Efficiency	η		1.0		W/A	
Forward Voltage	V_F		2.0	2.3	V	$I_F = 150\text{mA}$
Conversion efficiency	PCE		40		%	$I_F = 150\text{mA}$
Wavelength	λ_P	930	940	950	nm	$I_F = 150\text{mA}$
Wavelength Shift			0.07		nm/°C	
Beam Divergence	θ		27		degree	$I_F = 150\text{mA}$ ($1/e^2$)

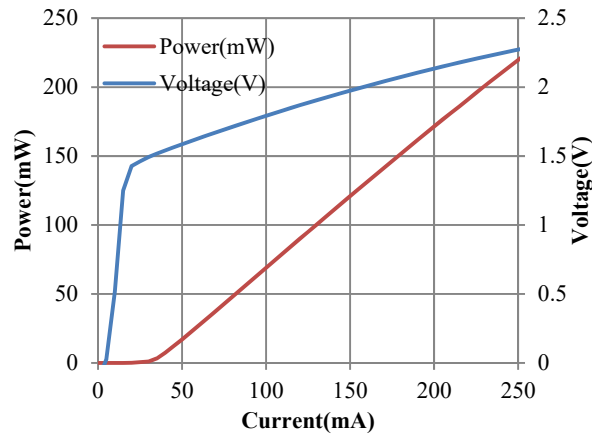
Notes:

All parameters except mentioned are measured at 25°C, CW operation.

ABSOLUTE MAXIMUM RATINGS :

PARAMETERS	MIN	MAX	UNIT	CONDITIONS
Storage Temperature	-40	125	°C	
Operating Temperature	-20	85	°C	
Continuous Forward Current		200	mA	
Solder Reflow Temperature		260	°C	max 10 seconds

ELECTRO-OPTICAL CHARACTERIZATION :



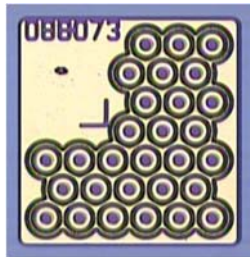
Typical electro / optical characteristics curves measured at 25°C, CW operation

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OUTLINE DIAGRAM :

- Chip length : $290\text{ }\mu\text{m} \pm 10\text{ }\mu\text{m}$
- Chip width : $280\text{ }\mu\text{m} \pm 10\text{ }\mu\text{m}$
- Chip thickness : $150 \pm 15\text{ }\mu\text{m}$
- Anode bond pad : $110 \times 110\text{ }\mu\text{m}$
- Number of apertures : 29



WARNING :

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

