

TSD-9B30-703

Oxide VCSEL Emitter(940nm)

ELECTRO-OPTICAL CHARACTERISTICS :

PARAMETERS	SYMBOL	MIN	TYP	MAX	UNIT	CONDITIONS
Threshold Current	I_{th}		3		mA	
Output Power	P_o	10	12	14	mW	$I_F=15mA$
Slope Efficiency	η		0.9		mW/mA	
Forward Voltage	V_F	1.85	2	2.15	V	$I_F=15mA$
Conversion efficiency	PCE		40		%	$I_F=15mA$
Wavelength	λ_P	930	940	950	nm	$I_F=15mA$
Spectral width	$\Delta\lambda$		0.6		nm	$I_F=15mA$
Beam Divergence	θ		24		degree	$I_F=15mA(1/e^2)$

Notes:

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

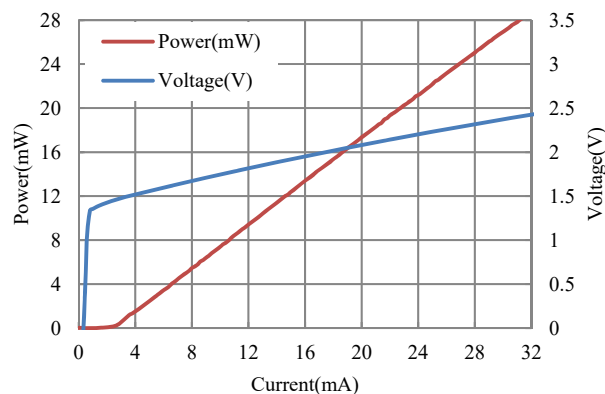
THERMAL CHARACTERISTICS:

PARAMETERS	MIN	TYP	MAX	UNIT	CONDITIONS
P_O Temperature Coefficient		-0.45		%/°C	$T_a=0\sim65^\circ C / I_F=15mA$
V_F Temperature Coefficient		-3.0		mV/°C	$T_a=0\sim65^\circ C / I_F=15mA$
λ_P Temperature Coefficient		0.065		nm/°C	$T_a=0\sim65^\circ C / I_F=15mA$

ABSOLUTE MAXIMUM RATINGS :

PARAMETERS	MIN	MAX	UNIT	CONDITIONS
Storage Temperature	-40	125	°C	
Operating Temperature	-40	85	°C	
Continuous Forward Current		30	mA	
Reverse Voltage		5	V	
Solder Reflow Temperature		260	°C	max 10 seconds

ELECTRO-OPTICAL CHARACTERIZATION :



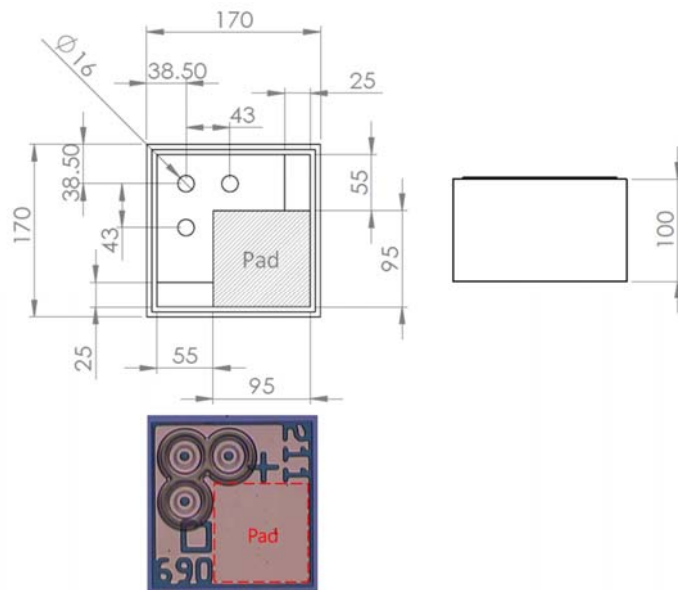
Typical electro / optical characteristics curves measured at 25°C, CW operation

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OUTLINE DIAGRAM :

- Chip length : $170\ \mu\text{m} \pm 10\ \mu\text{m}$
- Chip width : $170\ \mu\text{m} \pm 10\ \mu\text{m}$
- Chip thickness : $100 \pm 15\ \mu\text{m}$
- Anode bond pad : $\Phi 95\mu\text{m} \pm 2\ \mu\text{m}$



Note :

The VCSEL chip is a class 1 laser in the safety standard IEC60825-1:2014.

