

TSD-9A20-700

Implant VCSEL Emitter(940nm)

ELECTRO-OPTICAL CHARACTERISTICS:

PARAMETERS	SYMBOL	MIN	TYP	MAX	UNIT	TEST CONDITIONS
Threshold Current	I_{th}	2	3.5	5	mA	
Output Power	P_o	2.5	3	3.6	mW	$I_F=12\text{ mA}$
Wavelength	λ_p	930	940	955	nm	$I_F=12\text{ mA}$
Forward Voltage	V_F	1.8	1.95	2.1	V	$I_F=12\text{ mA}$
Beam Divergence	θ			15	degree	$I_F=6\text{ mA}$ ($1/e^2$)
ESD	V_{ESD}		600		V	Human body mode

Notes:

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

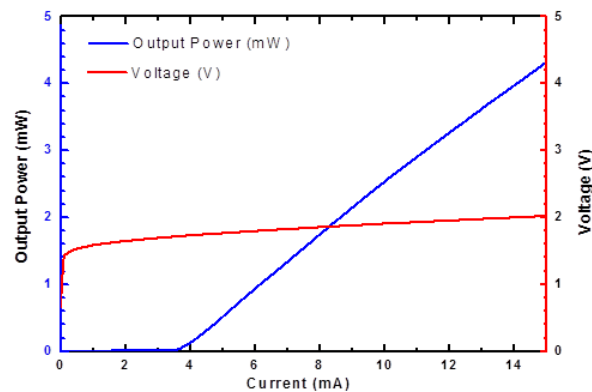
THERMAL CHARACTERISTICS:

PARAMETERS	MIN	TYP	MAX	UNIT	CONDITIONS
P_O Temperature Coefficient		-1.0		%/°C	$T_a=0\sim70^\circ\text{C} / I_F=12\text{mA}$
V_F Temperature Coefficient		-2.5		mV/°C	$T_a=0\sim70^\circ\text{C} / I_F=12\text{mA}$
λ_p Temperature Coefficient		0.06		nm/°C	$T_a=0\sim70^\circ\text{C} / I_F=12\text{mA}$

ABSOLUTE MAXIMUM RATINGS:

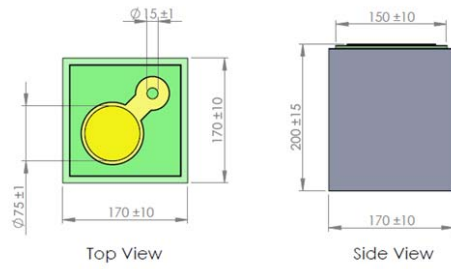
PARAMETERS	MIN	MAX	UNIT	CONDITIONS
Storage Temperature	-40	125	°C	
Operating Temperature	-20	70	°C	
Continuous Forward Current		12	mA	
Continuous Reverse Voltage		5	V	10μA

TYPICAL ELECTRO-OPTICAL CHARACTERISTICS CUVERS($T_a=25^\circ\text{C}$):



OUTLINE DIAGRAM:

- Chip length: 170 μm
- Chip width: 170 μm
- Chip thickness: $200 \pm 15 \mu\text{m}$

**WARNING:**

The VCSEL is a class IIb laser in the safety standard ANSI Z136.1 and should be treated as a potential eye hazard.

