

# TSD-8A20-700

## Implant VCSEL Emitter(850nm)

### 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	$\lambda_p$	840	850	865	nm	$I_F=12\text{ mA}$
Forward Voltage	$V_F$	1.8	1.95	2.1	V	$I_F=12\text{ mA}$
Beam Divergence	$\theta$			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.

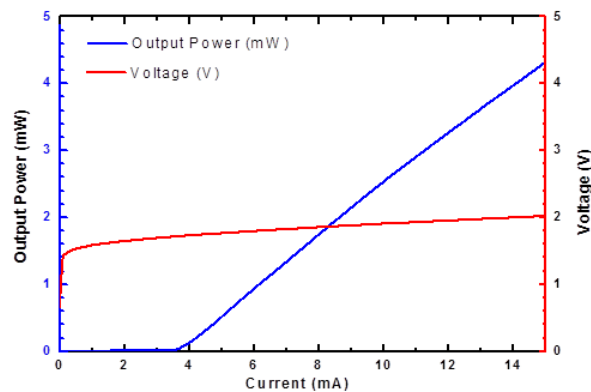
### THERMAL CHARACTERISTICS:

PARAMETERS	MIN	TYP	MAX	UNIT	CONDITIONS
$P_O$ Temperature Coefficient		-1.0		%/°C	$T_a=0\sim 70^\circ\text{C} / I_F=12\text{mA}$
$V_F$ Temperature Coefficient		-2.5		mV/°C	$T_a=0\sim 70^\circ\text{C} / I_F=12\text{mA}$
$\lambda_p$ Temperature Coefficient		0.06		nm/°C	$T_a=0\sim 70^\circ\text{C} / I_F=12\text{mA}$

### 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 CURVES( $T_a=25^\circ\text{C}$ ):



**OUTLINE DIAGRAM:**

- Chip length: 190  $\mu\text{m}$
- Chip width: 190  $\mu\text{m}$
- Chip thickness: 200  $\pm$  15  $\mu\text{m}$

**WARNING:**

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

