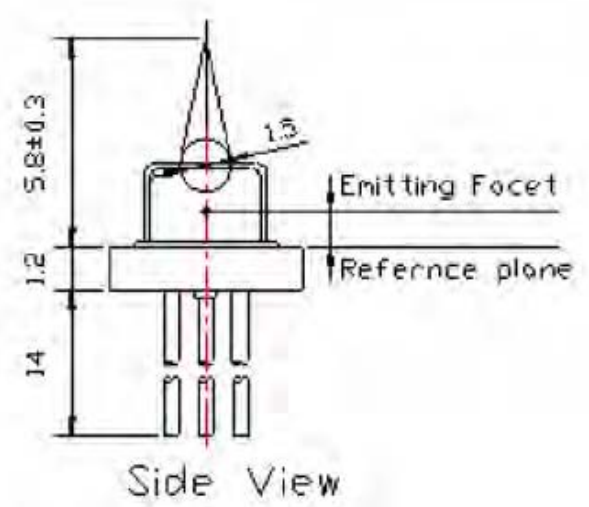
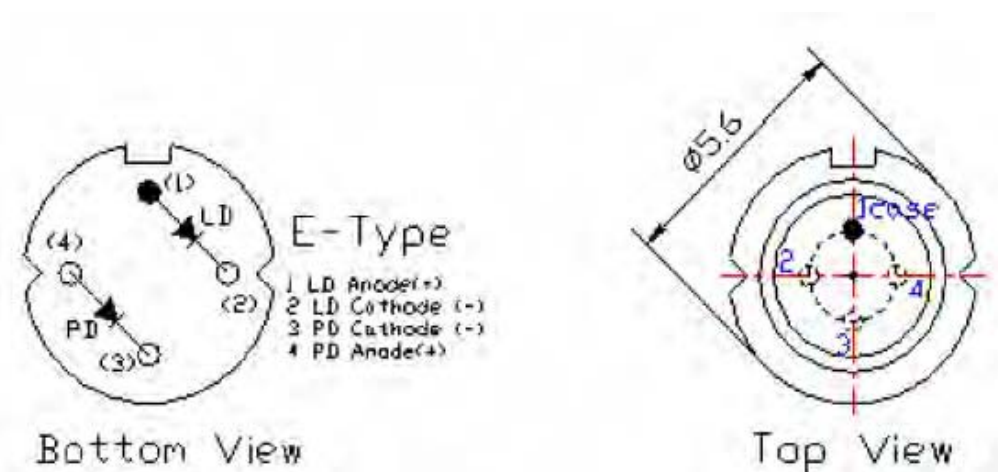




## S1300-5MG-BL/FW

- Features      Un-cooled Laser diode with MQW structure  
Wide operation temperature range  
Dew point below  $-40^{\circ}\text{C}$   
Both ball lens and flat window cap available

- External dimensions (Unit : mm)





## ■ Absolute Maximum Ratings(Tc=25°C)

Characteristic	Symbol	Rating	Unit
Optical Output Power	P <sub>o</sub>	7	mW
LD Reverse Voltage	V <sub>r</sub> (LD)	2	V
PD Reverse Voltage	V <sub>r</sub> (PD)	10	V
Operation Case Temperature	T <sub>op</sub>	-40 ~ +85	°C
Storage Temperature	T <sub>stg</sub>	-40 ~ +125	°C

## ■ Electrical and Optical Characteristics(Tc=25°C)

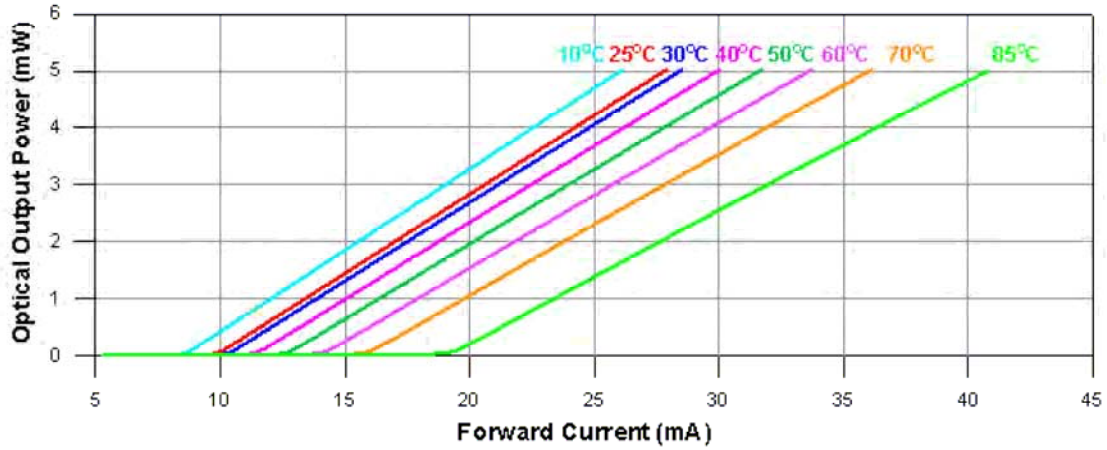
Characteristic	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Threshold Current	I <sub>th</sub>	T <sub>c</sub> = 25 <sup>0</sup> C	-	10	15	mA
Threshold Current	I <sub>th</sub>	T <sub>c</sub> = -40 ~ +85 <sup>0</sup> C	-	-	45	mA
Operation Voltage	V <sub>op</sub>	P <sub>o</sub> = 5mW	-	1.2	1.5	V
Slope Efficiency	SE	P <sub>o</sub> = 1 to 4mW	0.25	0.28	-	mW/mA
Monitor Current (PD)	I <sub>m</sub>	P <sub>o</sub> = 5mW, V <sub>RPD</sub> =2V	0.1	-	-	mA
Dark Current (PD)	I <sub>d</sub>	V <sub>RPD</sub> =10V	-	-	0.1	μA
Capacitance (PD)	C <sub>t</sub>	V <sub>RPD</sub> =10V, f=1MHz	-	10	20	pF
Lasing Wavelength	λ	P <sub>o</sub> = 5mW	1290	1310	1330	nm
Spectral Width	Δλ	P <sub>o</sub> = 5mW	-	3	5	nm
Optical Output Power	P <sub>o</sub>	CW, Kink free	5	-	-	nm
P-I Kink	K <sub>i</sub>	P <sub>o</sub> < 5mW	-	-	20	%
Rise and fall time	t <sub>r</sub> , t <sub>f</sub>	P <sub>o</sub> = 5mW, 10%~90%	-	-	0.7	ns
Tracking Error	TE	P <sub>o</sub> = 5mW, V <sub>RPD</sub> =1V	-0.7	-	0.7	dB
Beam Divergence (FWHM)	Parallel	θ <sub>//</sub>	-	8	-	deg.
	Perpendicular	θ <sub>⊥</sub>	-	10	-	deg.

© θ<sub>//</sub> and θ<sub>⊥</sub> are defined as the angle within which the intensity is 50% of the peak value.

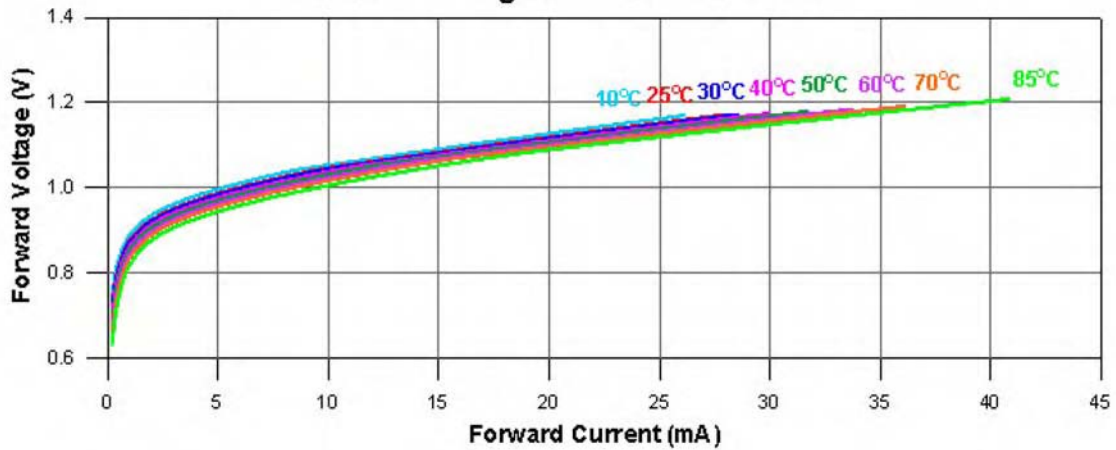


## ■ Typical characteristic curves

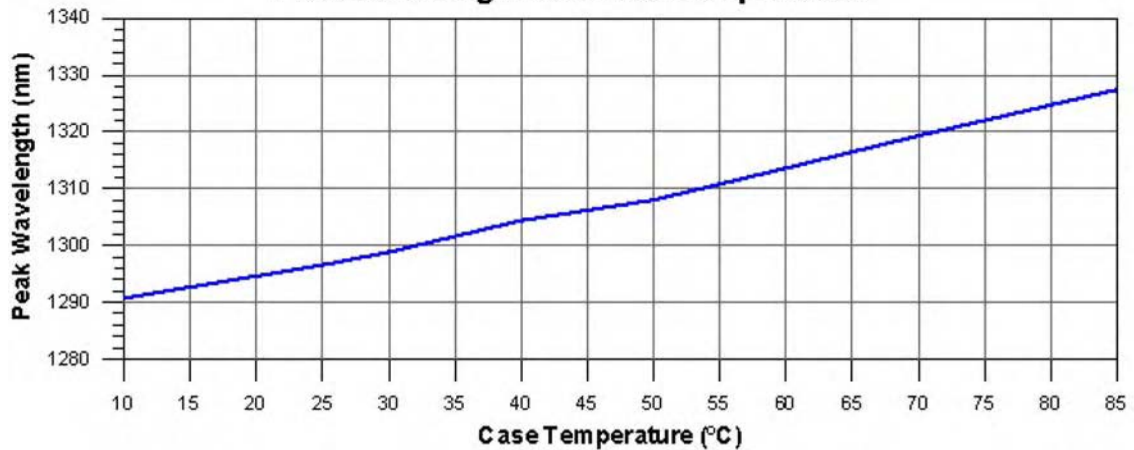
### Optical Output Power v.s. Forward Current



### Forward Voltage v.s. Forward Current

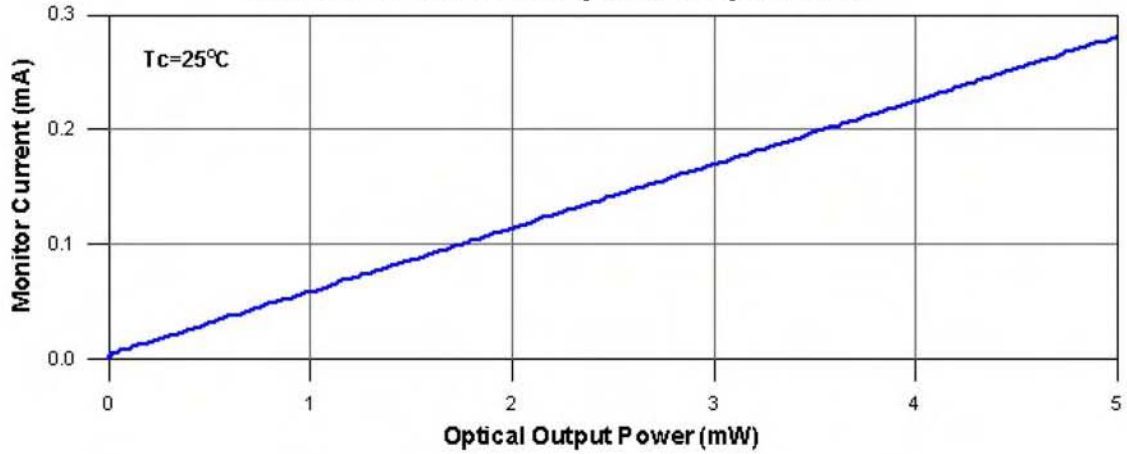


### Peak Wavelength v.s. Case Temperature

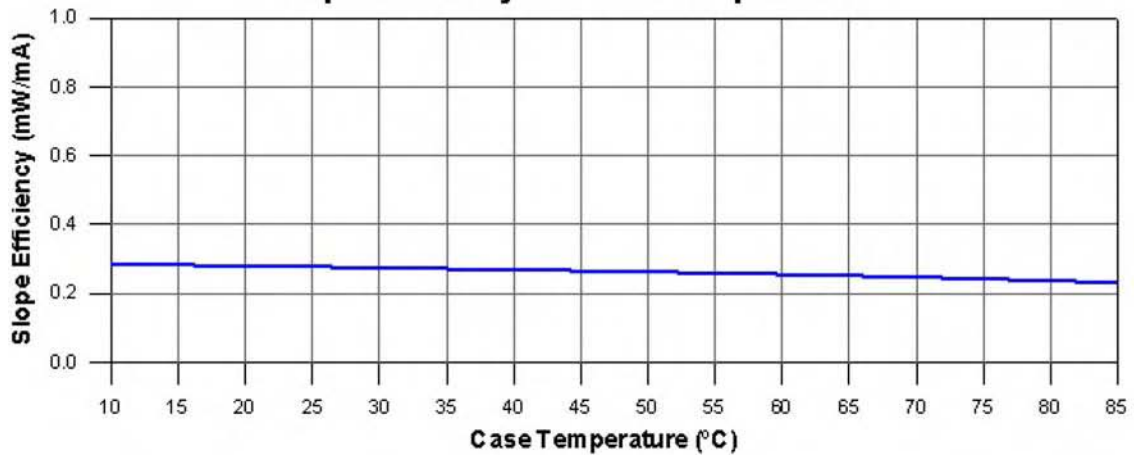




### Monitor Current v.s. Optical Output Power



### Slope Efficiency v.s. Case Temperature



### Threshold Current v.s. Case Temperature

