

# INFRARED LASER DIODE



## DL-7140-201S

Ver.2 Nov. 2002

### Features

- Wavelength : 785 nm (Typ.)
- Low threshold current : I<sub>th</sub> = 30 mA (Typ.)
- High operating temperature : 60°C at 70mW(CW)

### Applications

Optical disc system (CD-R)

### Absolute Maximum Ratings

(T<sub>c</sub>=25°C)

Parameter		Symbol	Ratings	Unit
Light Output	CW	P <sub>o</sub> (CW)	80	mW
	Pulse <sup>1)</sup>	P <sub>o</sub> (pulse)	85	
Reverse Voltage	Laser	VR	2	V
	PD		30	
Operating Temperature	Topr	-10 to +60	°C	
Storage Temperature	Tstg	-40 to +85	°C	

1) Pulse Width 1.0μs, Duty 50%

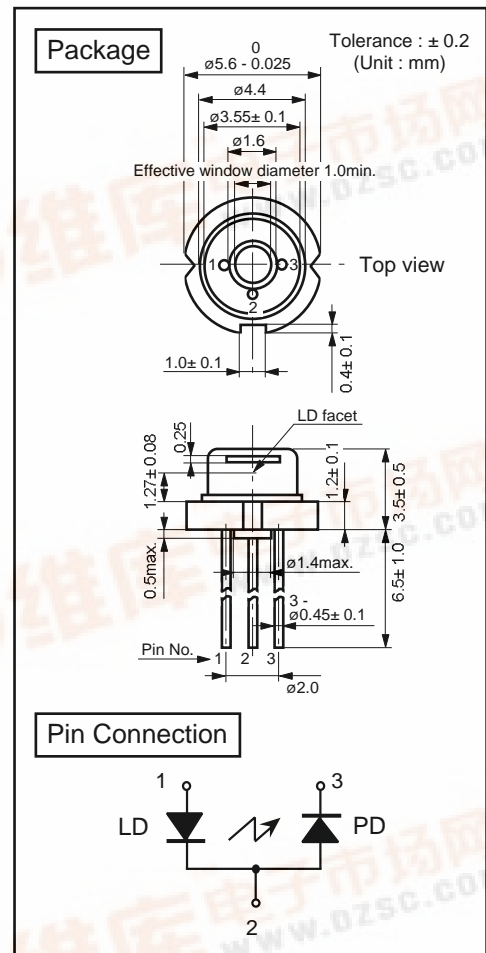
### Electrical and Optical Characteristics

(T<sub>c</sub>=25°C)

Parameter		Symbol	Condition	Min.	Typ.	Max.	Unit
Threshold Current		I <sub>th</sub>	CW	-	30	50	mA
Operating Current		I <sub>op</sub>	P <sub>o</sub> =70mW	-	100	140	mA
Operating Voltage		V <sub>op</sub>	P <sub>o</sub> =70mW	-	2.0	2.8	V
Lasing Wavelength		L <sub>p</sub>	P <sub>o</sub> =70mW	775	785	800	nm
Beam <sup>2)</sup> Divergence	Perpendicular	Q <sub>v</sub>	P <sub>o</sub> =70mW	14	17	20	°
	Parallel	Q <sub>h</sub>	P <sub>o</sub> =70mW	6	8	10	°
Off Axis Angle	Perpendicular	dQ <sub>v</sub>	-	-	-	± 3	°
	Parallel	dQ <sub>h</sub>	-	-	-	± 2	°
Differential Efficiency		dP <sub>o</sub> /dI <sub>op</sub>	-	0.6	1.0	1.4	mW/mA
Monitoring Output Current		I <sub>m</sub>	P <sub>o</sub> =70mW	0.10	0.25	0.6	mA
Astigmatism		A <sub>s</sub>	P <sub>o</sub> =70mW	-	-	10	μm

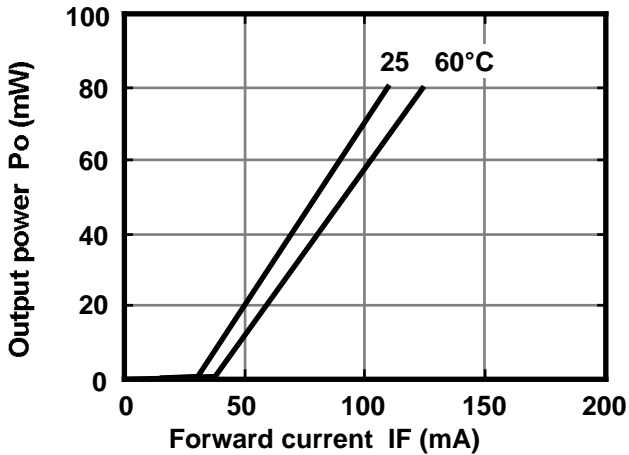
2) Full angle at half maximum

Note : The above product specification are subject to change without notice.

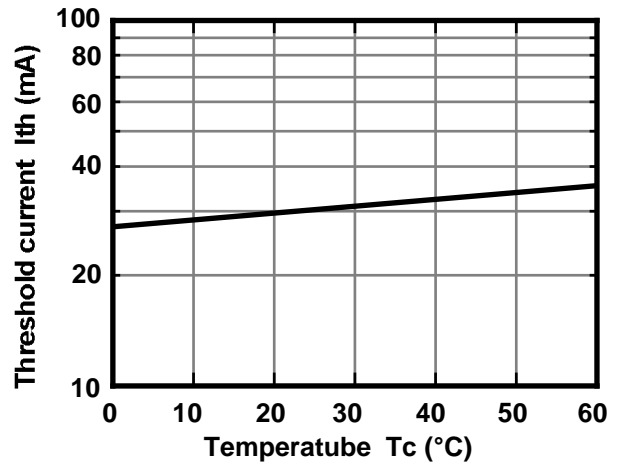


## Characteristics

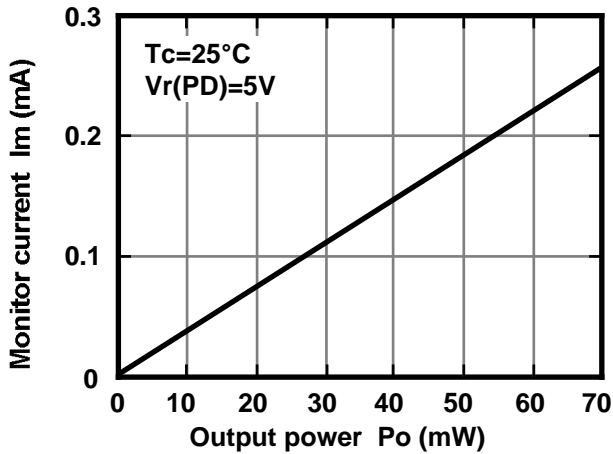
Output power vs. Forward current



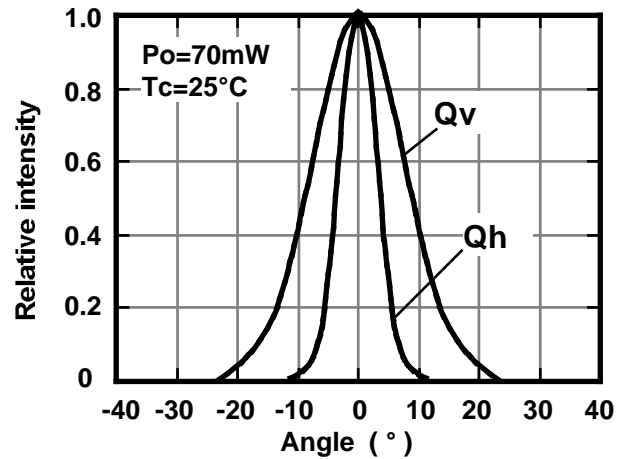
Threshold current vs. Temperature



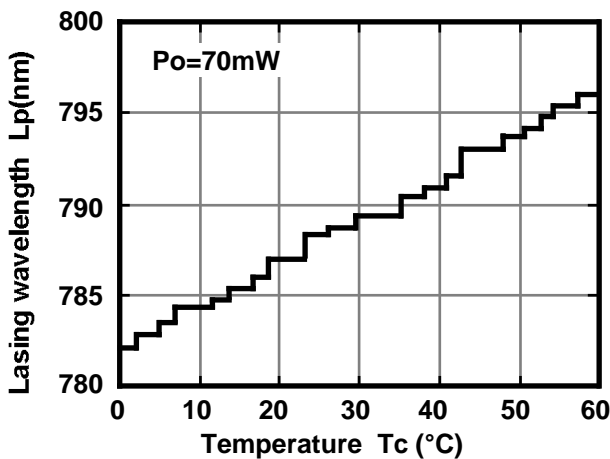
Monitor current vs. Output power



Beam divergence



Lasing wavelength vs. Temperature



Output power vs. Lasing wavelength

