

INFRARED LASER DIODE



DL-7140-201S

Ver.2 Nov. 2002

Features

- Wavelength : 785 nm (Typ.)
- Low threshold current : $I_{th} = 30$ mA (Typ.)
- High operating temperature : 60°C at 70mW(CW)

Applications

Optical disc system (CD-R)

Absolute Maximum Ratings

($T_c=25^\circ\text{C}$)

Parameter		Symbol	Ratings	Unit
Light Output	CW	P_o (CW)	80	mW
	Pulse ¹⁾	P_o (pulse)	85	
Reverse Voltage	Laser	VR	2	V
	PD		30	
Operating Temperature		T_{opr}	-10 to +60	°C
Storage Temperature		T_{stg}	-40 to +85	°C

1) Pulse Width 1.0μs, Duty 50%

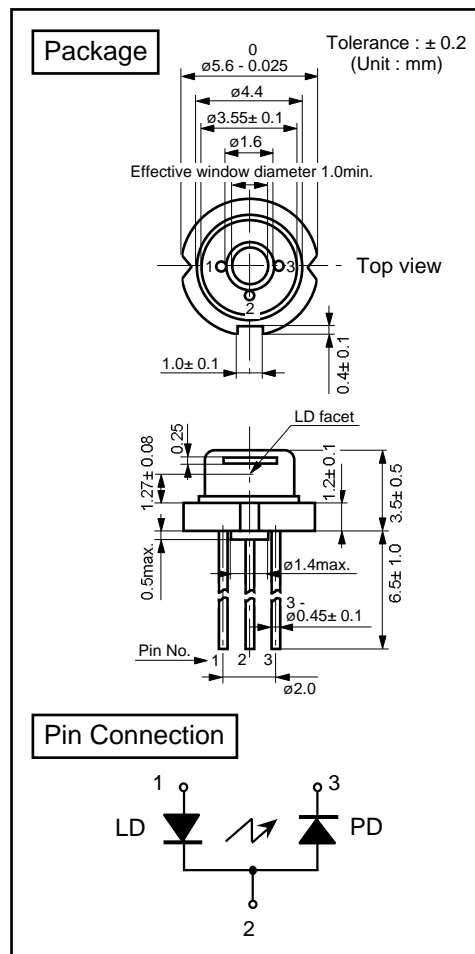
Electrical and Optical Characteristics

($T_c=25^\circ\text{C}$)

Parameter		Symbol	Condition	Min.	Typ.	Max.	Unit
Threshold Current		I_{th}	CW	-	30	50	mA
Operating Current		I_{op}	$P_o=70\text{mW}$	-	100	140	mA
Operating Voltage		V_{op}	$P_o=70\text{mW}$	-	2.0	2.8	V
Lasing Wavelength		L_p	$P_o=70\text{mW}$	775	785	800	nm
Beam ²⁾ Divergence	Perpendicular	Q_v	$P_o=70\text{mW}$	14	17	20	°
	Parallel	Q_h	$P_o=70\text{mW}$	6	8	10	°
Off Axis Angle	Perpendicular	dQ_v	-	-	-	± 3	°
	Parallel	dQ_h	-	-	-	± 2	°
Differential Efficiency		dP_o/dI_{op}	-	0.6	1.0	1.4	mW/mA
Monitoring Output Current		I_m	$P_o=70\text{mW}$	0.10	0.25	0.6	mA
Astigmatism		A_s	$P_o=70\text{mW}$	-	-	10	μm

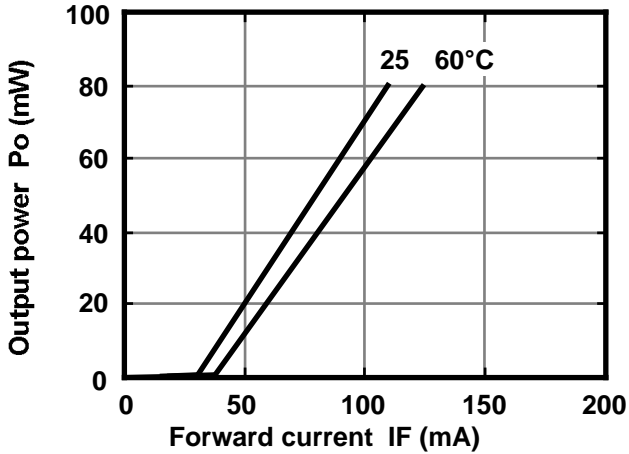
2) Full angle at half maximum

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

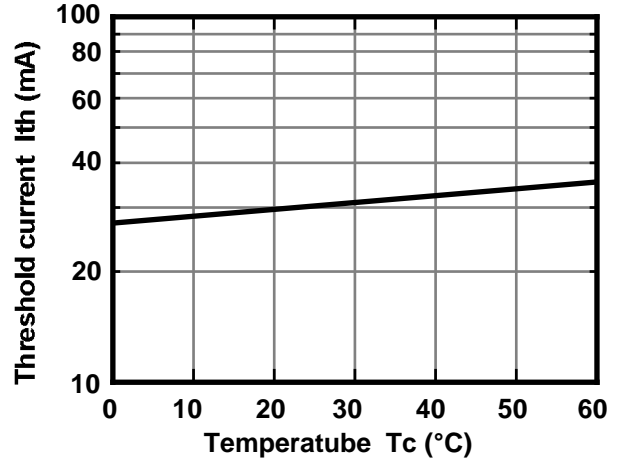


Characteristics

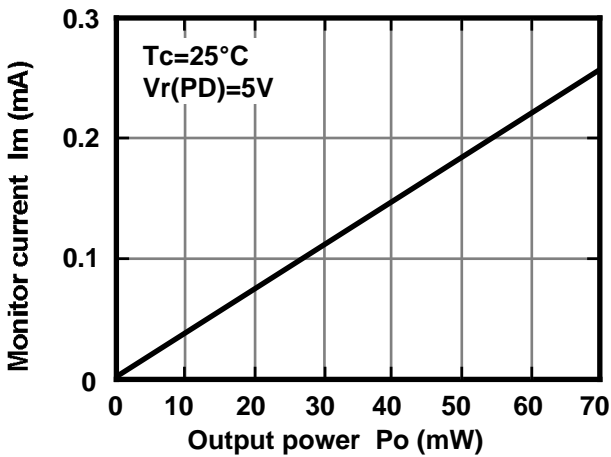
Output power vs. Forward current



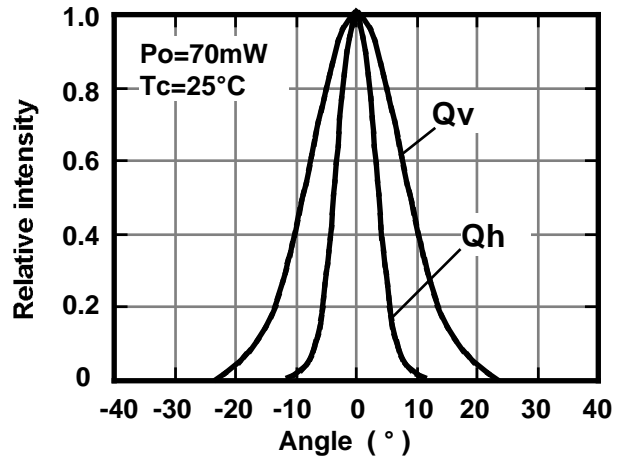
Threshold current vs. Temperature



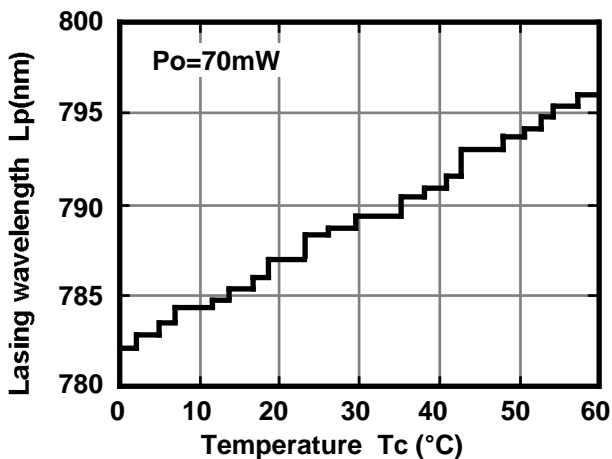
Monitor current vs. Output power



Beam divergence



Lasing wavelength vs. Temperature



Output power vs. Lasing wavelength

