

INFRARED LASER DIODE



DL-7140-201M

Ver.1.2 May. 2003

Features

- Wavelength : 783 nm (Typ.)
- Low threshold current : $I_{th} = 30$ mA (Typ.)
- High operating temperature : 180mW(Pulse)
- Small package : $\phi 5.6$ mm

Applications

- Optical disc system (CD-R)

Usage condition

CW:<70mW Pulse:<180mW(peak power)

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)	180	
Reverse Voltage (LD)		VR	2	V
Operating Temperature	CW ²⁾	T_{opr}	-10 to +60	$^\circ\text{C}$
	Pulse ^{1) 2)}	T_{opr}	-10 to +70	
Storage Temperature		T_{stg}	-40 to +85	$^\circ\text{C}$

1) Pulse Width 0.2 μs , Duty 50%, Peak power

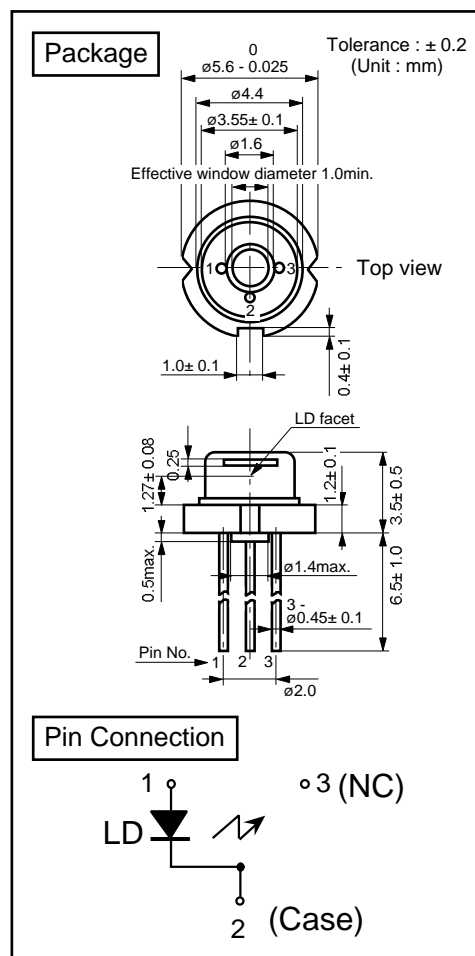
2) Case temperature

Electrical and Optical Characteristics 3) 4) 5) 7)

Parameter		Symbol	Condition	Min.	Typ.	Max.	Unit
Threshold Current		I_{th}	CW	15	30	50	mA
Operating Current	$T_c=25^\circ\text{C}$	I_{op}	$P_o=70\text{mW}$	60	100	130	mA
Lasing Wavelength		L_p	$P_o=70\text{mW}$	778	783	788	nm
Beam Divergence ⁶⁾	Perpendicular	Qv	$P_o=70\text{mW}$	14	17	18	$^\circ$
	Parallel	Qh	$P_o=70\text{mW}$	7.5	8.5	9.0	$^\circ$
Off Axis Angle	Perpendicular	dQv	$P_o=70\text{mW}$	-	-	± 2.0	$^\circ$
	Parallel	dQh	$P_o=70\text{mW}$	-	-	± 1.5	$^\circ$
Differential Efficiency		dP_o/dI_{op}	$P_o=70\text{mW}$	0.8	1.1	1.3	mW/mA
Astigmatism		As	$P_o=70\text{mW}$	-	-	5	μm

3) Initial values. 4) All the above values are evaluated with Tottori sanyo's measuring apparatus.

5) Reference values. 6) Full angle at half maximum. 7) Measured at CW.

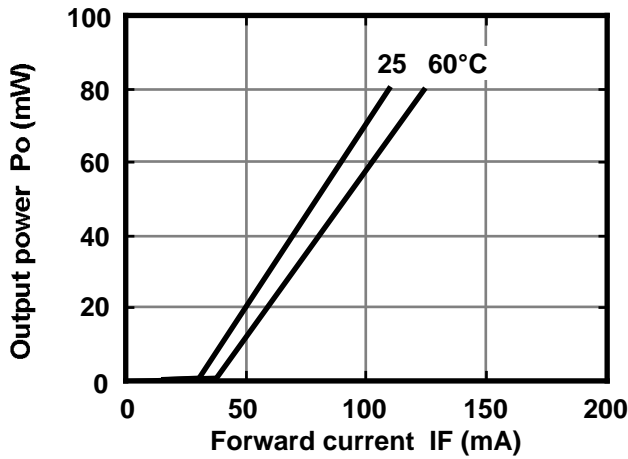


($T_c=25^\circ\text{C}$)

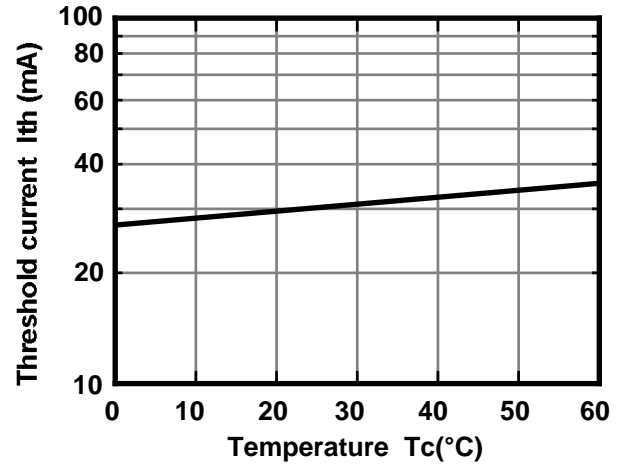
Note : The above product specification are subject to change without notice.

Characteristics

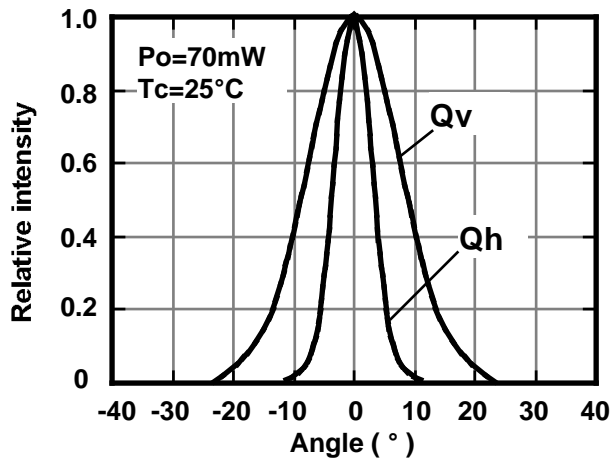
Output power vs. Forward current



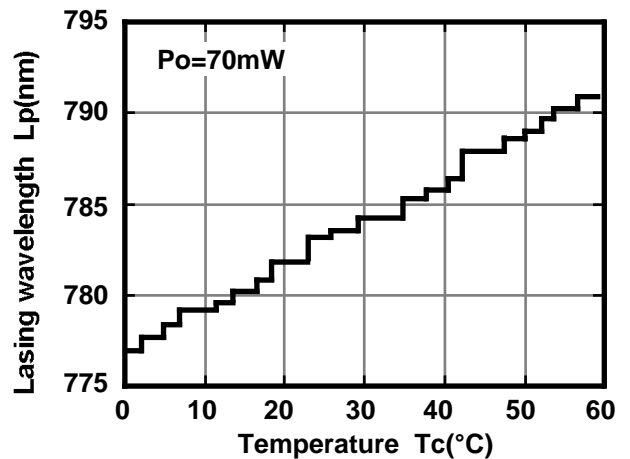
Threshold current vs. Temperature



Beam divergence



Lasing wavelength vs. Temperature



Output power vs. Lasing wavelength

