

# INFRARED LASER DIODE

## DL-7140-201S

**SANYO**

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 <sup>1)</sup>	$P_o$ (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%

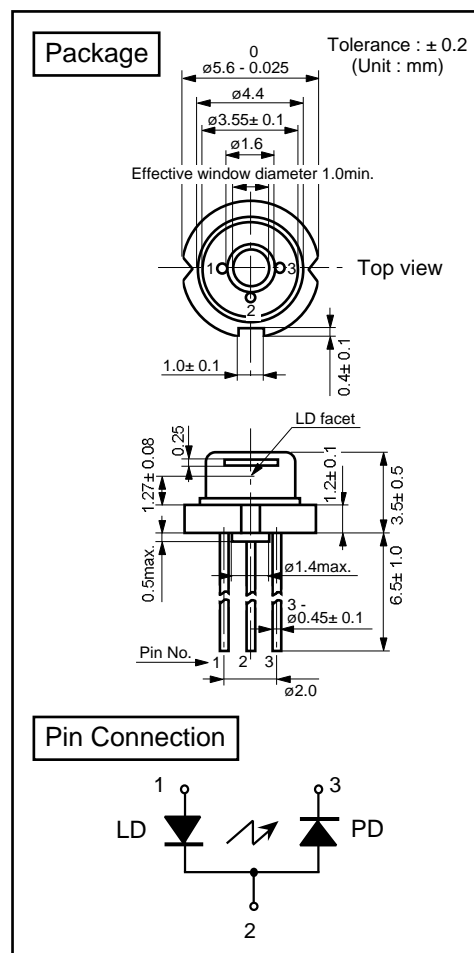
### Electrical and Optical Characteristics

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

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 <sup>2)</sup> 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

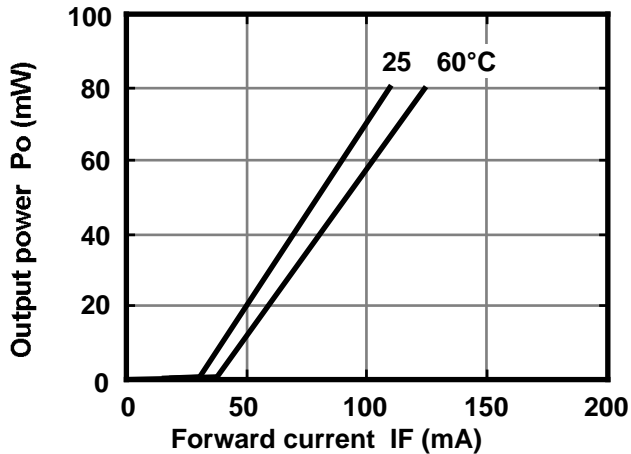
2) Full angle at half maximum

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

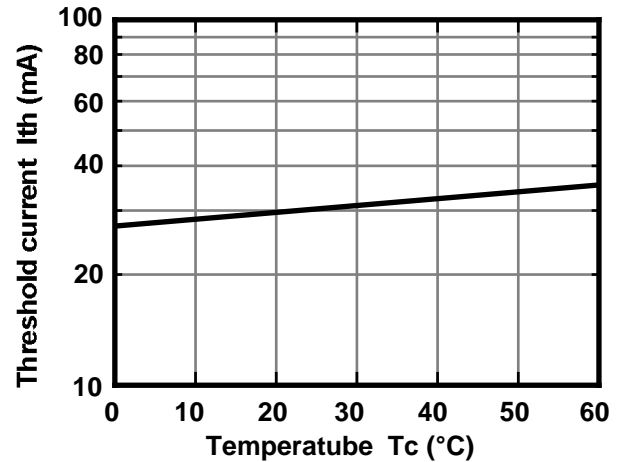


## Characteristics

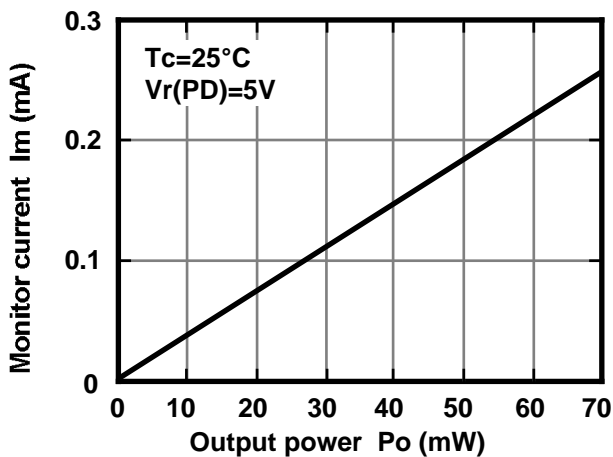
Output power vs. Forward current



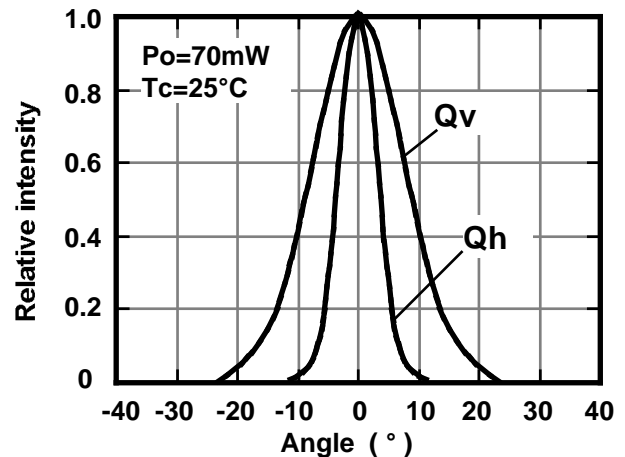
Threshold current vs. Temperature



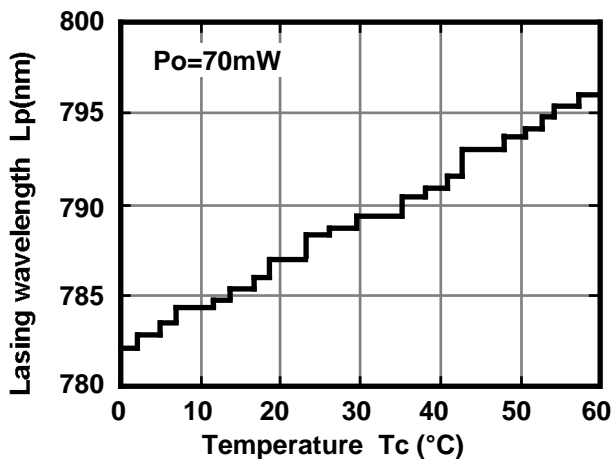
Monitor current vs. Output power



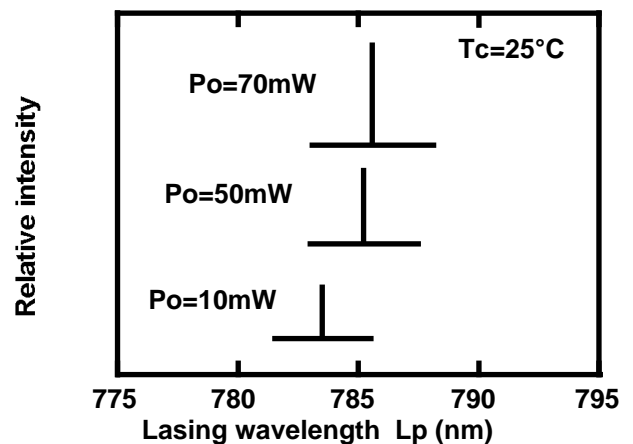
Beam divergence



Lasing wavelength vs. Temperature



Output power vs. Lasing wavelength



This is typical data and it may not represent all products.