

# RED LASER DIODE

## DL-5038-021

# SANYO

Ver.1 May. 2002

### Features

- Short wavelength : 635 nm (Typ.)
- High output power : 30 mW at 40°C
- Low threshold current :  $I_{th} = 50$  mA (Typ.)
- TE mode (Conventional 635nm : TM mode)

### Applications

- Bar-code scanner
- Line marker

### Absolute Maximum Ratings

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

Parameter		Symbol	Rated	Unit
Light Output	CW	$P_o$	35	mW
Reverse Voltage	Laser	$V_R$	2	V
	PD		30	
Operating Temperature		$T_{opr}$	-10 to +40	$^\circ\text{C}$
Storage Temperature		$T_{stg}$	-40 to +85	$^\circ\text{C}$

### Electrical and Optical Characteristics <sup>1) 2)</sup>

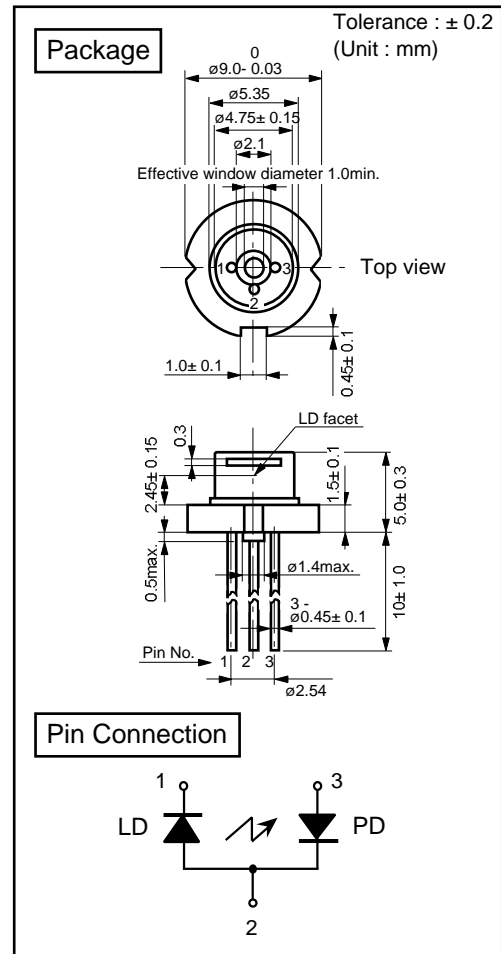
( $T_c=25^\circ\text{C}$ )

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Threshold Current	$I_{th}$	CW	-	50	70	mA
Operating Current	$I_{op}$	$P_o=30\text{mW}$	-	90	110	mA
Operating Voltage	$V_{op}$	$P_o=30\text{mW}$	-	2.4	2.7	V
Lasing Wavelength	$L_p$	$P_o=30\text{mW}$	-	635	645	nm
Beam <sup>3)</sup> Divergence	Perpendicular	$Q_v$	25	30	35	$^\circ$
	Parallel	$Q_h$	6	7	9	$^\circ$
Off Axis Angle	Perpendicular	$dQ_v$	-	-	$\pm 3$	$^\circ$
	Parallel	$dQ_h$	-	-	$\pm 3$	$^\circ$
Differential Efficiency	$dP_o/dI_{op}$	-	-	0.7	-	mW/mA
Monitoring Output Current	$I_m$	$P_o=30\text{mW}$	0.1	0.3	0.6	mA
Astigmatism	$A_s$	$P_o=30\text{mW}$	-	10	-	$\mu\text{m}$

1) Initial values 2) All the above values are evaluated with Tottori Sanyo's measuring apparatus

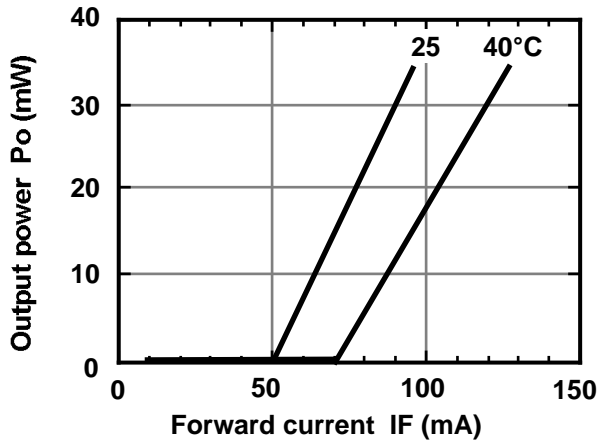
3) Full angle at half maximum

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

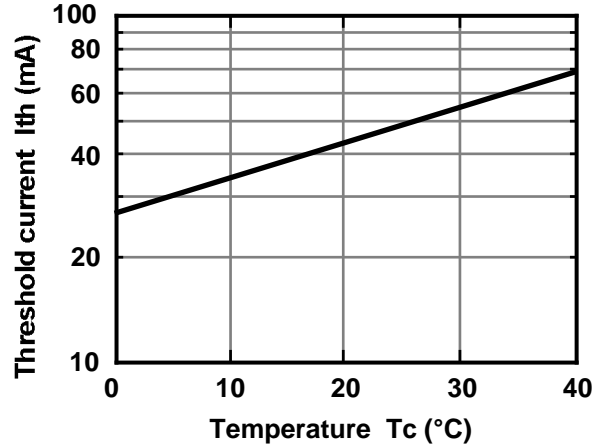


## Characteristics

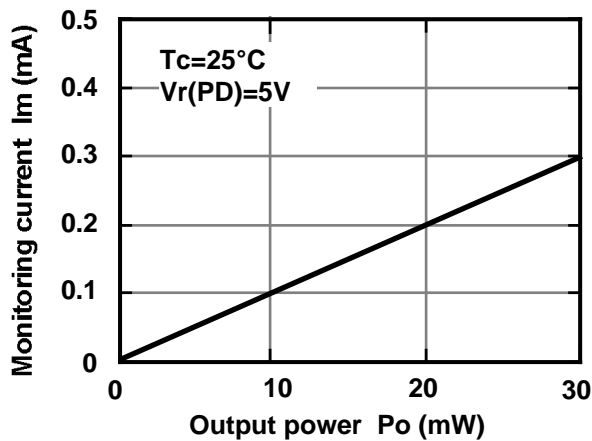
Output power vs. Forward current



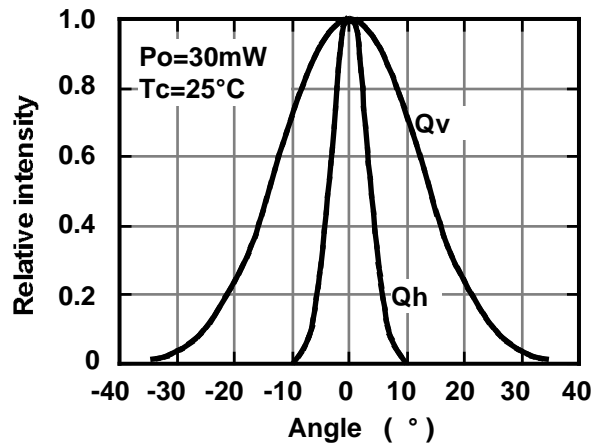
Threshold current vs. Temperature



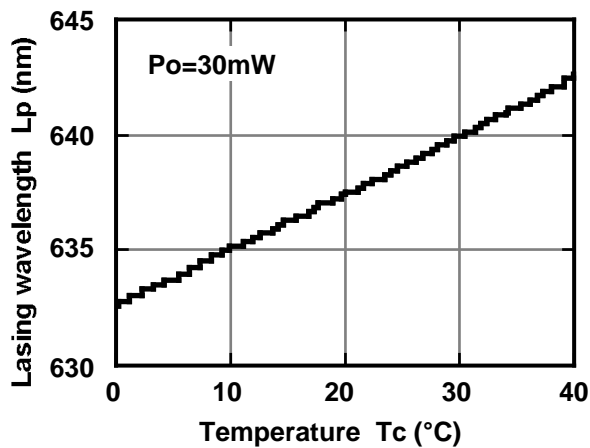
Monitoring current vs. Output power



Beam divergence



Lasing wavelength vs. Temperature



Lasing wavelength vs. Output power

