

# RED LASER DIODE

## DL-5147-042

# SANYO

Ver.1 July. 2002

### Features

- Short wavelength : 655 nm (Typ.)
- High output power : 30 mW at 60°C (CW)
- Low threshold current :  $I_{th} = 40$  mA (Typ.)
- Small package :  $\phi 5.6$  mm
- TE mode

### Applications

Bar-code scanner

### Absolute Maximum Ratings

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

Parameter		Symbol	Ratings	Unit
Light Output	CW	$P_o$ (CW)	30	mW
	Pulse <sup>1)</sup>	$P_o$ (pulse)	50	
Reverse Voltage	Laser	VR	2	V
	PD		30	
Operating Temperature		$T_{opr}$	-10 to +60	$^\circ\text{C}$
Storage Temperature		$T_{stg}$	-40 to +85	$^\circ\text{C}$

1) Pulse Width 0.5 $\mu\text{s}$ , Duty 50%

### Electrical and Optical Characteristics

2) 3)

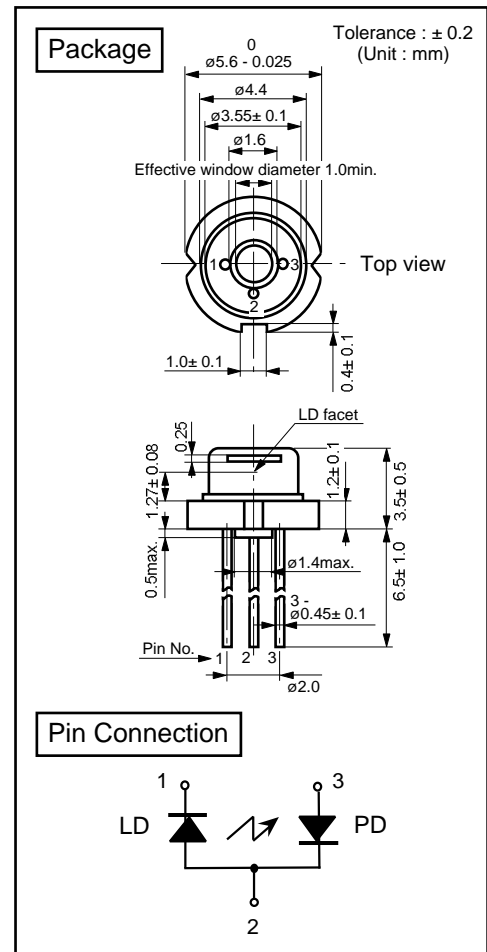
( $T_c=25^\circ\text{C}$ )

Parameter		Symbol	Condition	Min.	Typ.	Max.	Unit
Threshold Current		$I_{th}$	CW	-	40	50	mA
Operating Current		$I_{op}$	$P_o=30\text{mW}$	-	80	110	mA
Operating Voltage		$V_{op}$	$P_o=30\text{mW}$	-	2.4	2.8	V
Lasing Wavelength		$L_p$	$P_o=30\text{mW}$	-	655	665	nm
Beam <sup>4)</sup> Divergence	Perpendicular	$Q_v$	$P_o=30\text{mW}$	15	23	28	$^\circ$
	Parallel	$Q_h$	$P_o=30\text{mW}$	6	7	10	$^\circ$
Off Axis Angle	Perpendicular	$dQ_v$	-	-	-	$\pm 3$	$^\circ$
	Parallel	$dQ_h$	-	-	-	$\pm 3$	$^\circ$
Differential Efficiency		$dP_o/dI_{op}$	-	-	0.75	-	mW/mA
Monitoring Output Current		$I_m$ <sup>5)</sup>	$P_o=30\text{mW}$	0,1	0.3	-	mA
Astigmatism		$A_s$	$P_o=30\text{mW}$	-	10	-	$\mu\text{m}$

2) Initial values 3) All the above values are evaluated with Tottori Sanyo's measuring apparatus

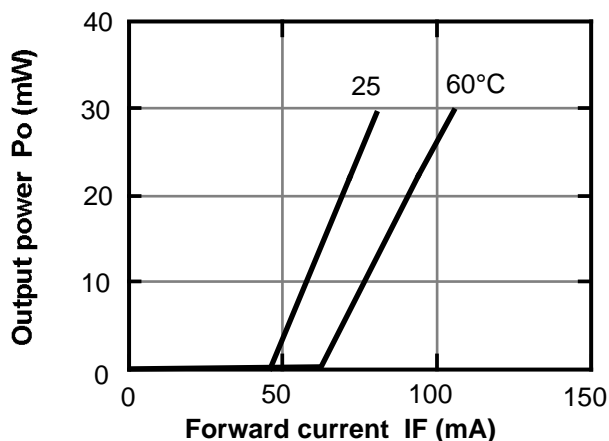
4) Full angle at half maximum

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

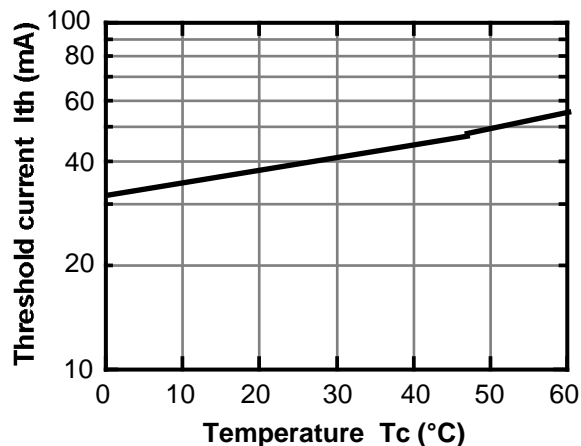


## Characteristics

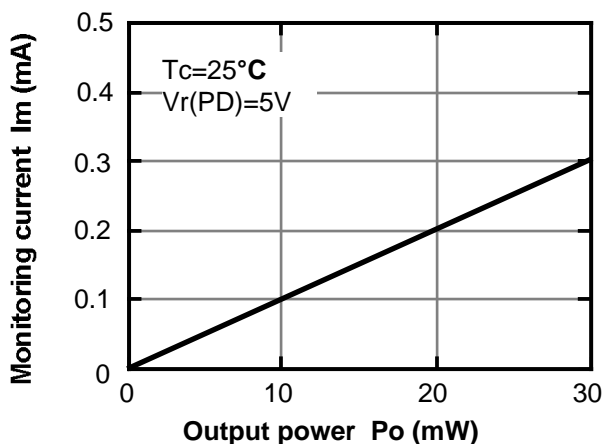
### Output power vs. Forward current



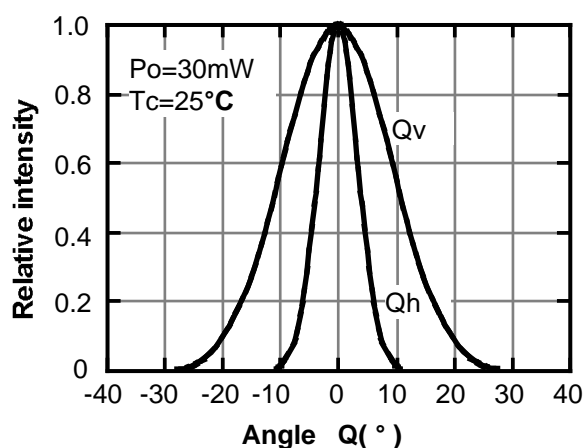
### Threshold current vs. Temperature



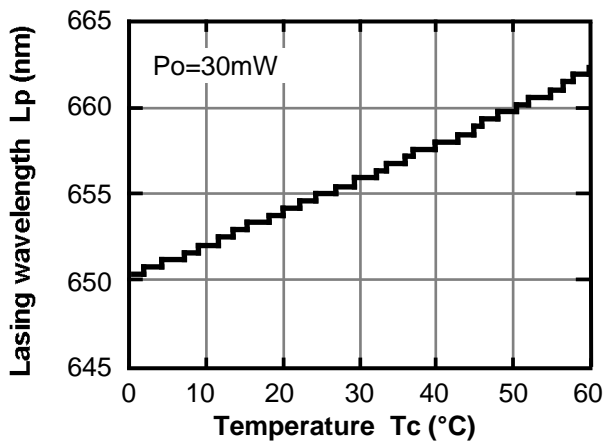
### Monitoring current vs. Output power



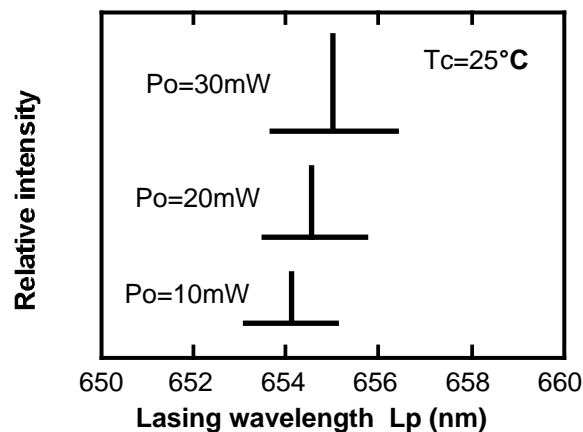
### Beam divergence



### Lasing wavelength vs. Temperature



### Lasing wavelength vs. Output power



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