

# RED LASER DIODE

## DL-3148-235

# SANYO

Ver.2 Jan. 2002

### Features

- Short wavelength : 635 nm (Typ.)
- Output power : 3 mW CW
- Low threshold current :  $I_{th} = 20$  mA (Typ.)
- Low operating voltage :  $V_{op} = 2.2$  V (Typ.)
- Small package :  $\phi 5.6$  mm

### Applications

Laser pointer

### Absolute Maximum Ratings

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

Parameter		Symbol	Ratings	Unit
Light Output	CW	$P_o$	3	mW
Reverse Voltage	Laser	VR	2	V
	PD		30	
Operating Temperature		$T_{opr}$	-10 to +50	$^\circ\text{C}$
Storage Temperature		$T_{stg}$	-40 to +85	$^\circ\text{C}$

### Electrical and Optical Characteristics

1) 2)

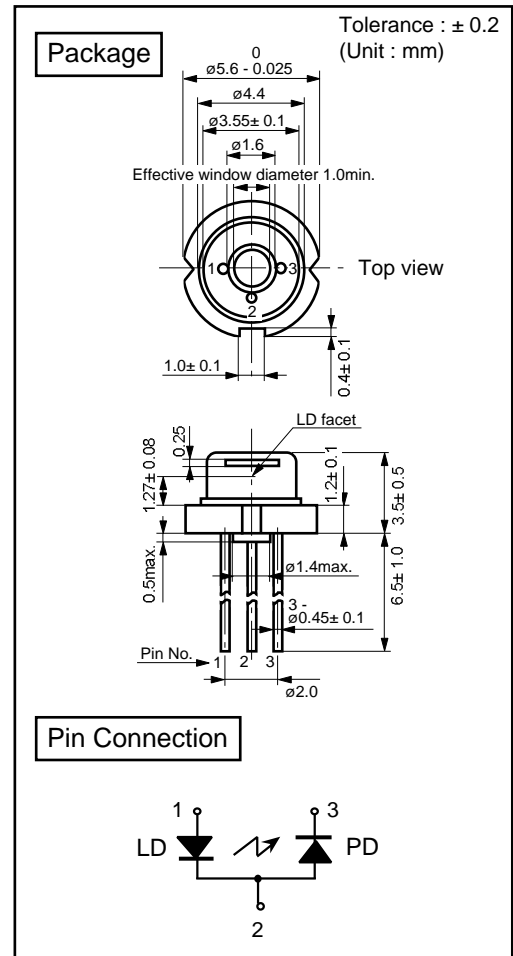
( $T_c=25^\circ\text{C}$ )

Parameter		Symbol	Condition	Min.	Typ.	Max.	Unit
Threshold Current		$I_{th}$	CW	-	20	40	mA
Operating Current		$I_{op}$	$P_o=3\text{mW}$	-	25	45	mA
Operating Voltage		$V_{op}$	$P_o=3\text{mW}$	-	2.2	2.4	V
Lasing Wavelength		$L_p$	$P_o=3\text{mW}$	630	635	640	nm
Beam <sup>3)</sup> Divergence	Perpendicular	$Q_v$	$P_o=3\text{mW}$	25	30	35	$^\circ$
	Parallel	$Q_h$	$P_o=3\text{mW}$	6	8	10	$^\circ$
Off Axis Angle	Perpendicular	$dQ_v$	-	-	-	$\pm 3$	$^\circ$
	Parallel	$dQ_h$	-	-	-	$\pm 3$	$^\circ$
Differential Efficiency		$dP_o/dI_{op}$	-	-	0.5	-	mW/mA
Monitoring Output Current		$I_m$	$P_o=3\text{mW}$	0.08	0.15	0.4	mA
Astigmatism		$A_s$	$P_o=3\text{mW}$	-	8	-	$\mu\text{m}$

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.



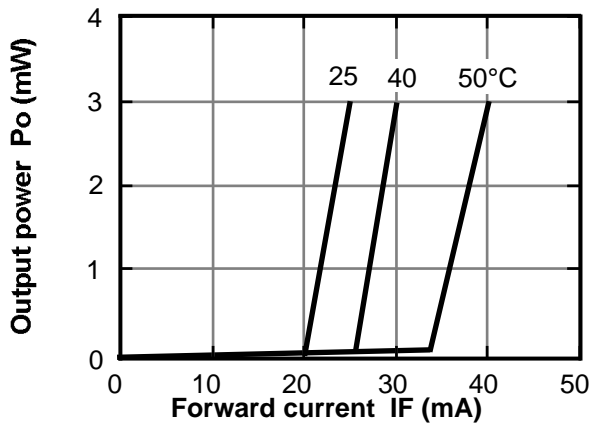
Tottori SANYO Electric Co., Ltd. Electronic Device Business Headquarters

LED Division

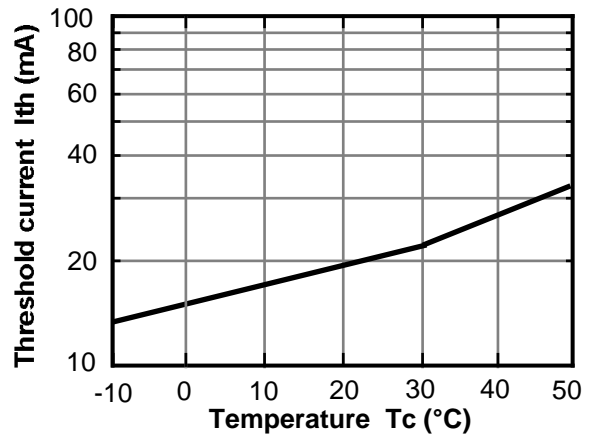
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## Characteristics

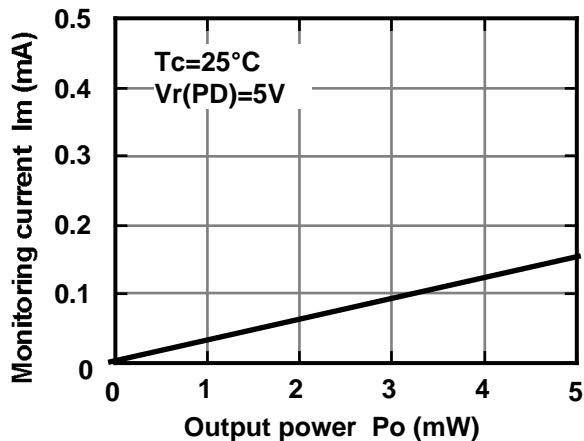
**Output power vs. Forward current**



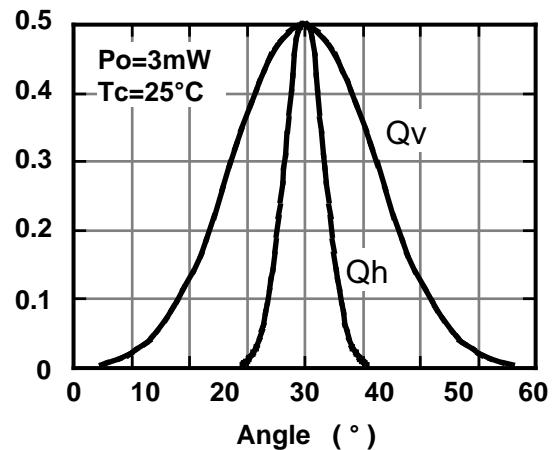
**Threshold current vs. Temperature**



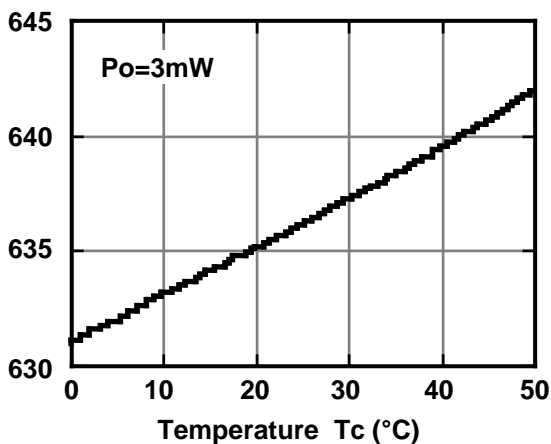
**Monitoring current vs. Output power**



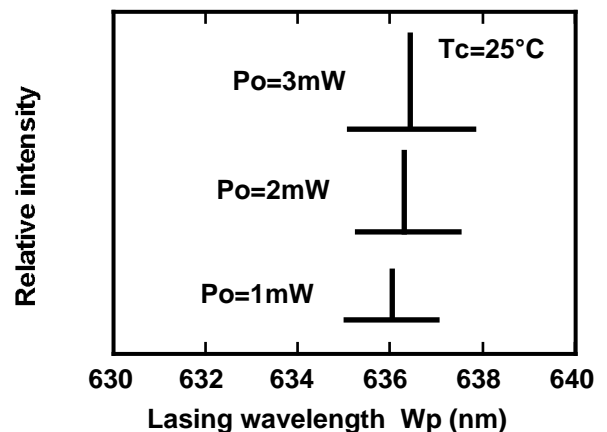
**Beam divergence**



**Lasing wavelength vs. Temperature**



**Lasing wavelength vs. Output power**



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