

# RED LASER DIODE

## DL-3038-034



Ver.2 Apr. 1999

### Features

- Short wavelength : 635 nm (Typ.)
- Low threshold current :  $I_{th} = 30$  mA (Typ.)
- High operating temperature : 5 mW at 50°C
- Low operating voltage :  $V_{op} = 2.2$  V (Typ.)

### Applications

- Bar-code scanner
- Laser marker

### Absolute Maximum Ratings

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

Parameter		Symbol	Ratings	Unit
Light Output	CW	$P_o$	5	mW
Reverse Voltage	Laser	VR	2	V
	PD		30	
Operating Temperature		$T_{opr}$	-10 ~ +50	$^\circ\text{C}$
Storage Temperature		$T_{stg}$	-40 ~ +85	$^\circ\text{C}$

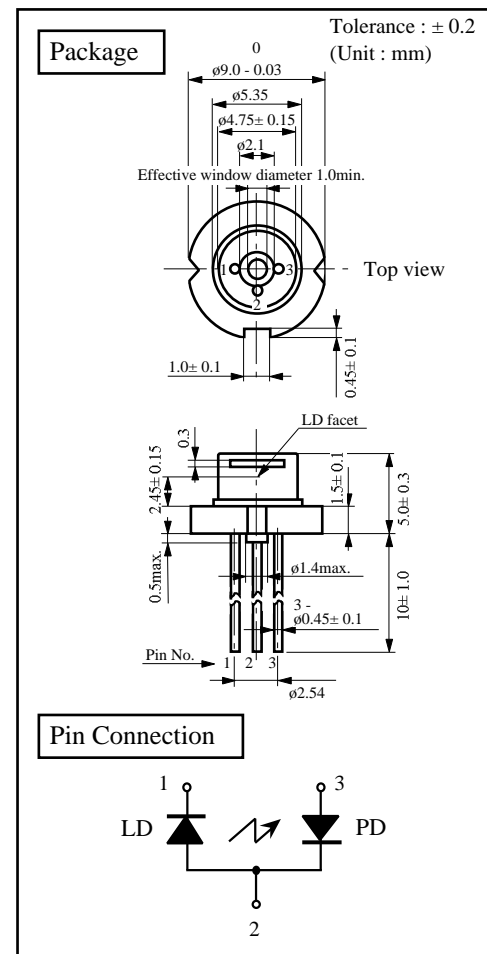
### Electrical and Optical Characteristics <sup>1) 2)</sup>

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

Parameter		Symbol	Condition	Min.	Typ.	Max.	Unit
Threshold Current		$I_{th}$	CW	-	30	50	mA
Operating Current		$I_{op}$	$P_o=5\text{mW}$	-	40	60	mA
Operating Voltage		$V_{op}$	$P_o=5\text{mW}$	-	2.3	2.5	V
Lasing Wavelength		$\lambda_p$	$P_o=5\text{mW}$	-	635	645	nm
Beam <sup>3)</sup> Divergence	Perpendicular	$Q_v$	$P_o=5\text{mW}$	25	30	35	$^\circ$
	Parallel	$Q_h$	$P_o=5\text{mW}$	6	8	10	$^\circ$
Off Axis Angle	Perpendicular	$dQ_v$	-	-	-	$\pm 3$	$^\circ$
	Parallel	$dQ_h$	-	-	-	$\pm 3$	$^\circ$
Differential Efficiency		$dP_o/dI_{op}$	-	-	0.4	-	mW/mA
Monitoring Output Current		$I_m$	$P_o=5\text{mW}$	0.05	0.2	0.5	mA
Astigmatism		$A_s$	$P_o=5\text{mW}$	-	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.



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

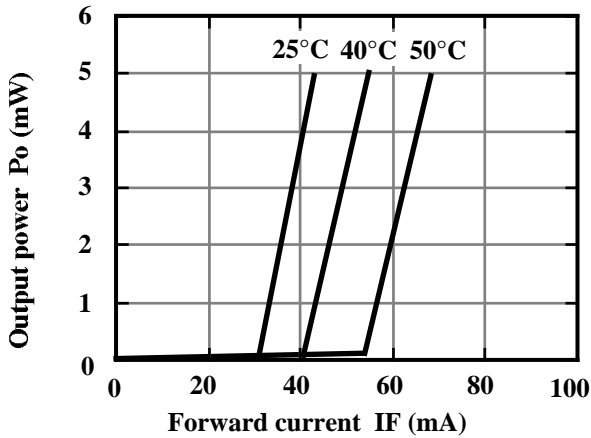
LED Division

5-318, Tachikawa, Tottori 680-8634 Japan

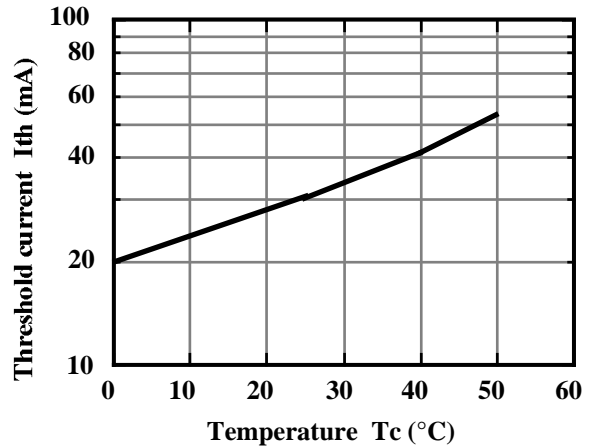
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## Characteristics

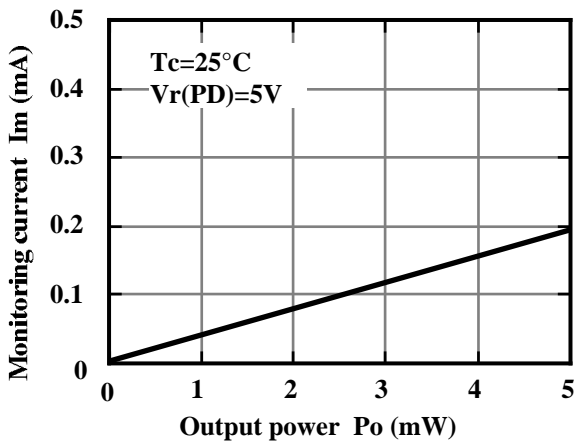
Output power vs. Forward current



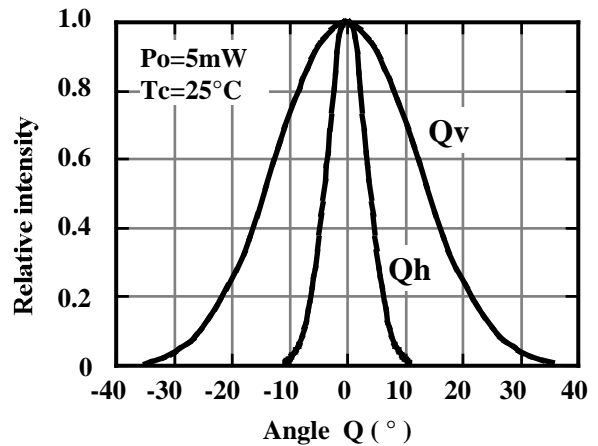
Threshold current vs. Temperature



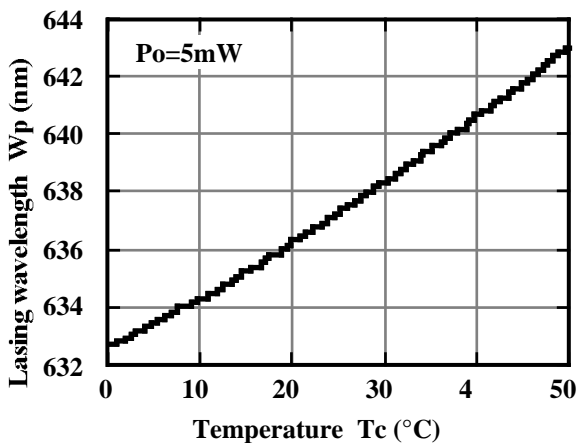
Monitoring current vs. Output power



Beam divergence



Lasing wavelength vs. Temperature



Lasing wavelength vs. Output power

