

# HL40023MG - 404nm band / 500mW -

## GaN Violet High Power Laser Diode

Rev.5  
14. Feb. 2011

### Applications

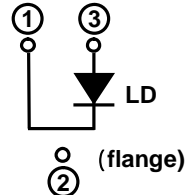
- Direct Imaging for PCB
- Industry

### Features

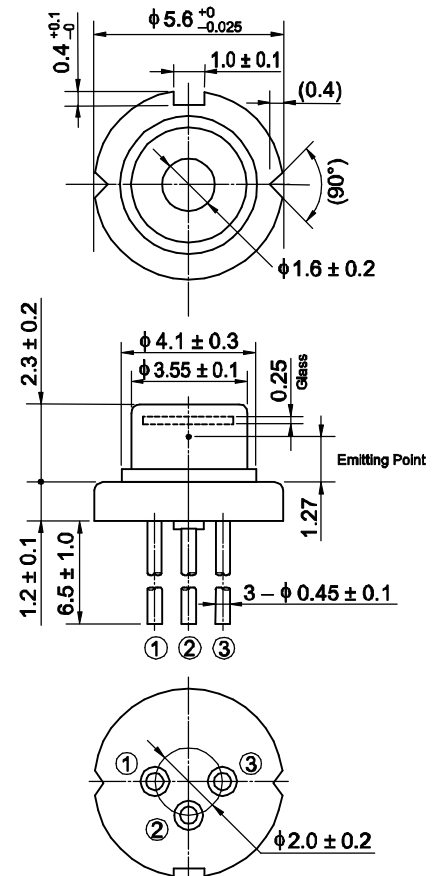
- Optical output powr:  $P_o=400\text{mW(CW)}$
- Violet lasing :  $\lambda_p=398\sim 410\text{nm}$
- Low operating current:  $I_{op}=390\text{mA Typ.}$
- Low operating voltage:  $V_{op}=5.5\text{V Max.}$
- Small package: 5.6mm
- Multi transverse mode oscillation

### Internal circuit

#### HL40023MG



### Outline



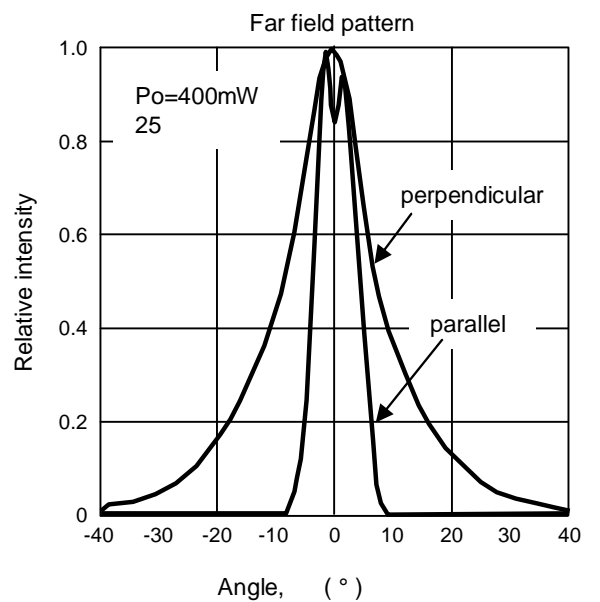
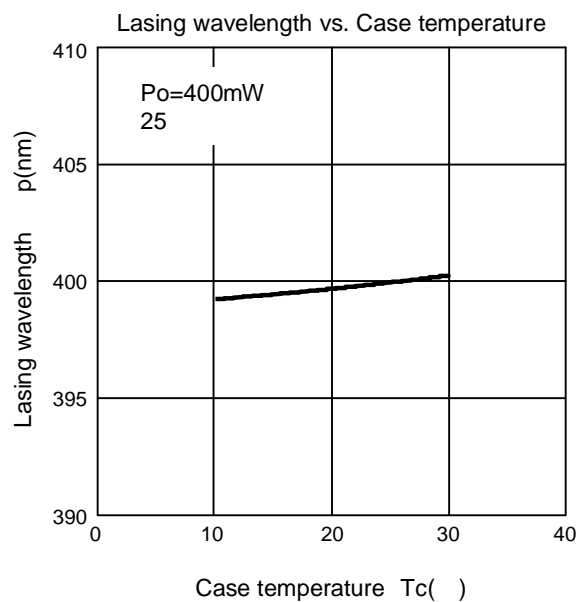
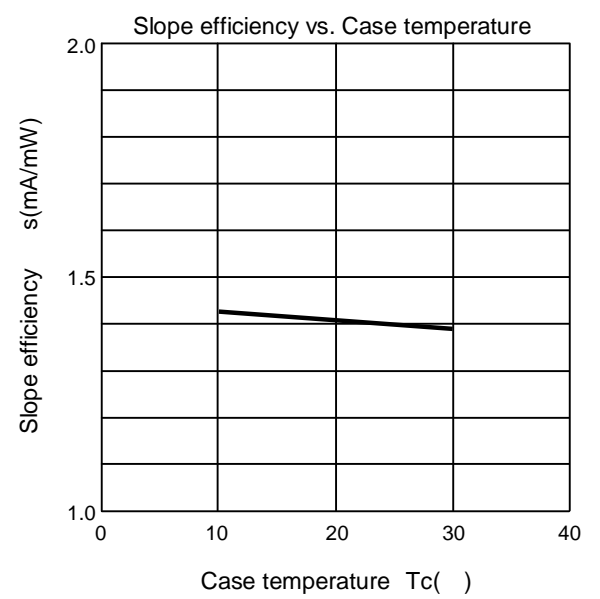
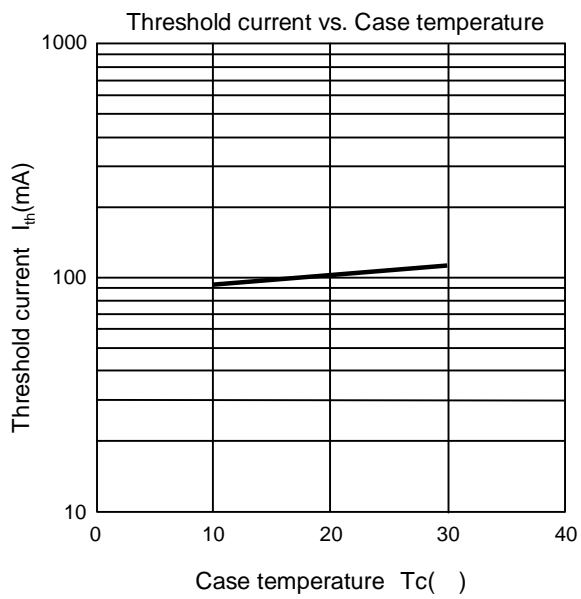
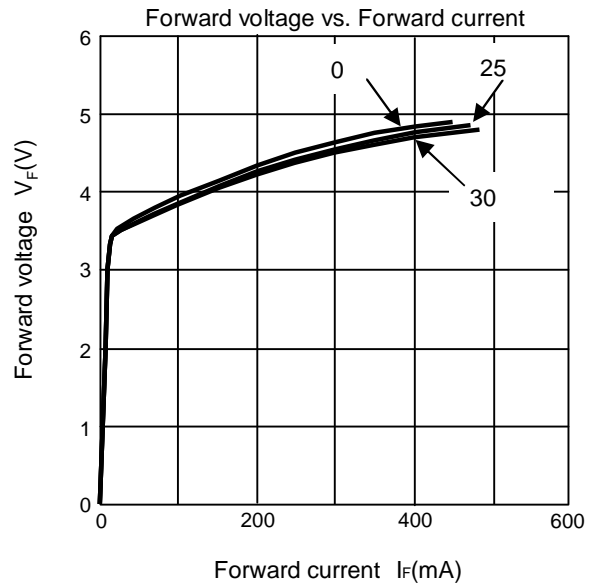
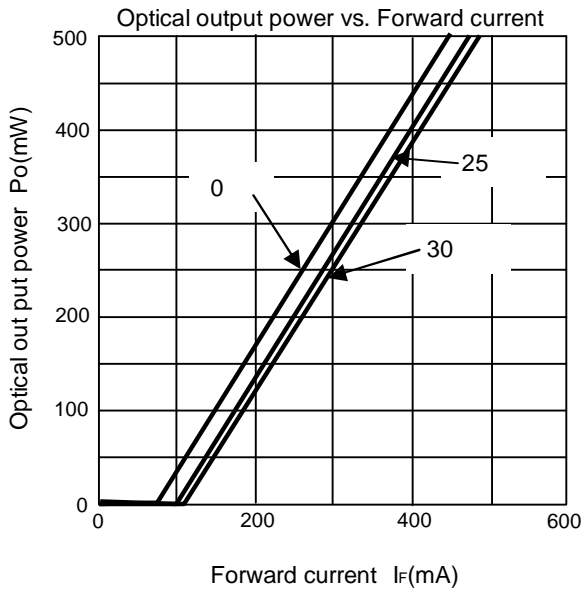
### Absolute Maximum Ratings( $T_c=25^\circ\text{C}$ )

Item	Symbol	Ratings	Unit
Optical output power	$P_o$	500	mW
LD Reverse Voltage	$V_{R(LD)}$	2	V
Operating Temperature	$T_{opr}$	0 ~ +30	$^\circ\text{C}$
Storage Temperature	$T_{stg}$	-40 ~ +85	$^\circ\text{C}$

### Optical and Electrical Characteristics( $T_c=25^\circ\text{C}$ )

Item	Symbol	Min.	Typ.	Max.	Unit	Test condition
Threshold current	$I_{th}$	-	-	160	mA	-
Operating current	$I_{op}$	-	390	420	mA	$P_o=400\text{mW}$
Operating voltage	$V_{op}$	-	-	5.5	V	$P_o=400\text{mW}$
Lasing Wavelength	$\lambda_p$	398	404	410	nm	$P_o=400\text{mW}$
Beam divergence Parallel to the junction	$\theta_{//}$	5	10	25	$^\circ$	$P_o=400\text{mW}$ , Full angle $1/e^2$
Beam divergence Perpendicular to the junction	$\theta_{\perp}$	30	45	60	$^\circ$	$P_o=400\text{mW}$ , Full angle $1/e^2$

# HL40023MG Typical Characteristic Curves



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