

# HL7301MG/02MG

## InGaAsP Laser Diode

ODE2004-01 (M)

Rev.1

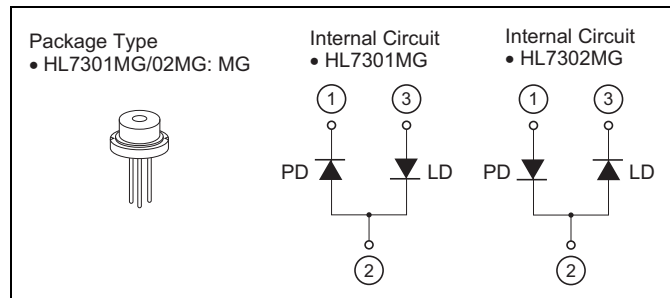
Jan. 13, 2009

### Description

The HL7301MG/02MG are 0.73  $\mu\text{m}$  band InGaAsP laser diode with a multi-quantum well(MQW) structure. It is suitable as a light source for medical sensor applications and various other types of optical equipment.

### Features

- Infrared light output:  $\lambda_p = 730\text{nm}$  Typ ( $P_o=40\text{mW}$ )
- Optical output power: 40mW
- Low operating current: 75mA Typ ( $P_o=40\text{mW}$ )
- Built-in monitor photodiode
- Single longitudinal mode



### Absolute Maximum Ratings

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

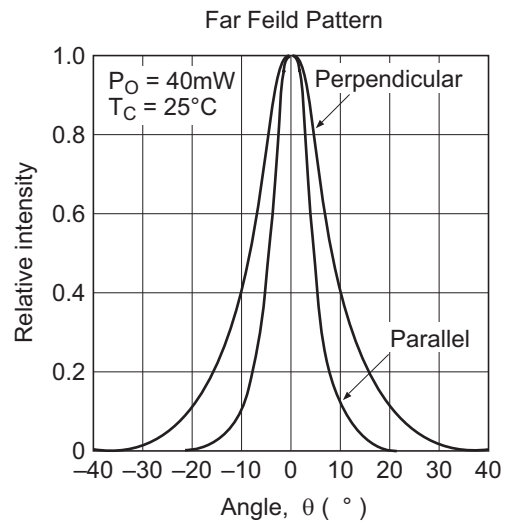
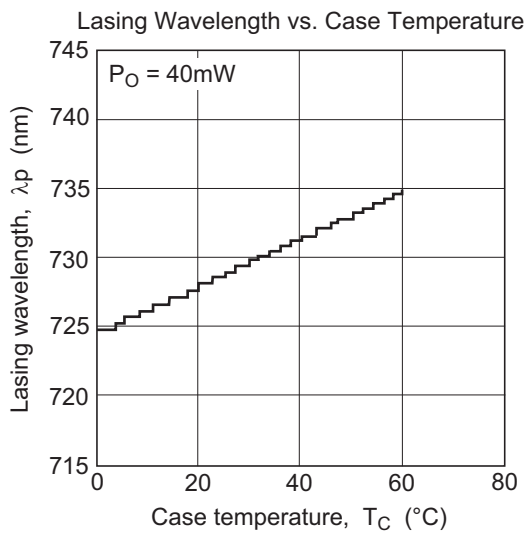
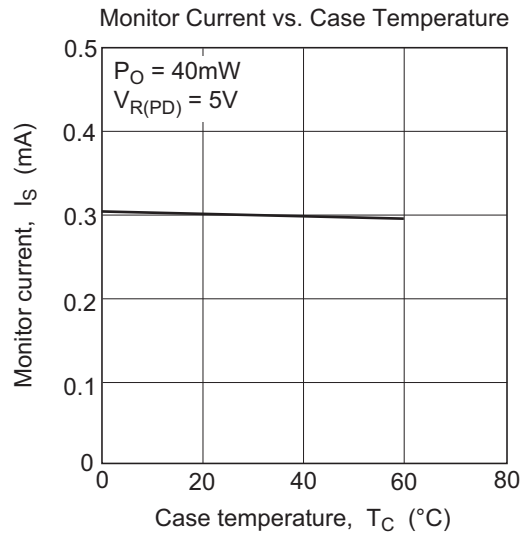
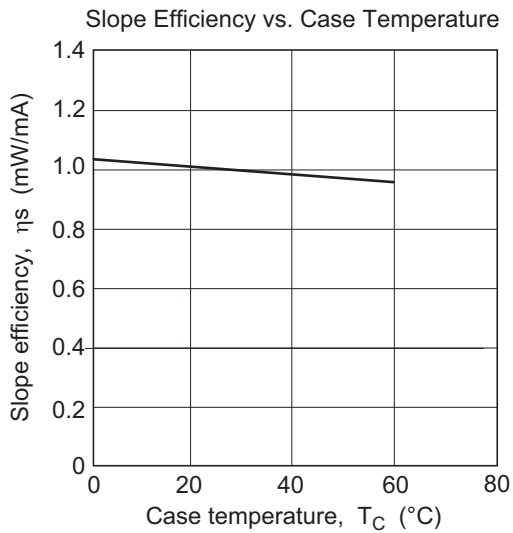
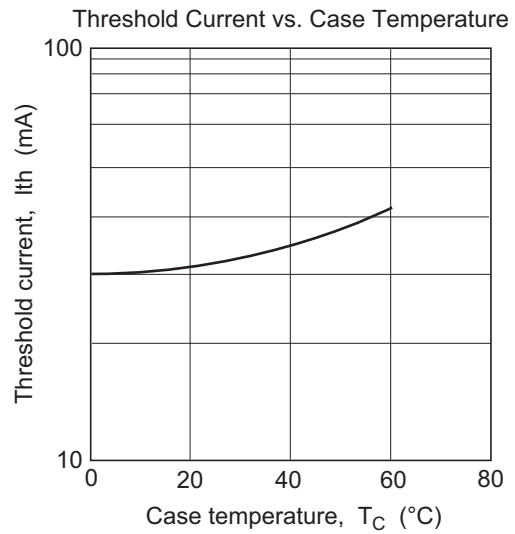
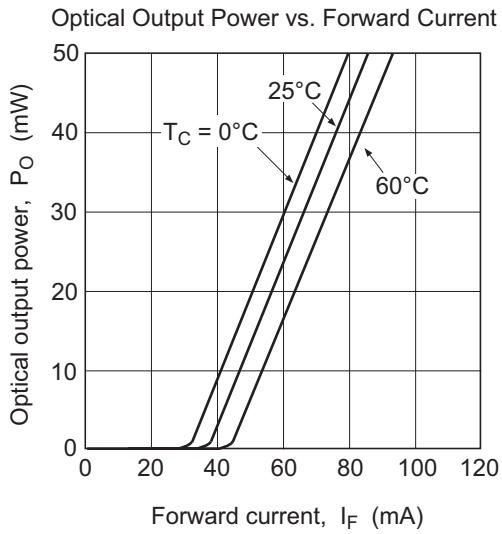
Item	Symbol	Ratings	Unit
Optical output power	$P_O$	50	mW
LD reverse voltage	$V_{R(LD)}$	2	V
PD reverse voltage	$V_{R(PD)}$	30	V
Operating temperature	$T_{opr}$	-10 to +60	$^\circ\text{C}$
Storage temperature	$T_{stg}$	-40 to +85	$^\circ\text{C}$

### Optical and Electrical Characteristics

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

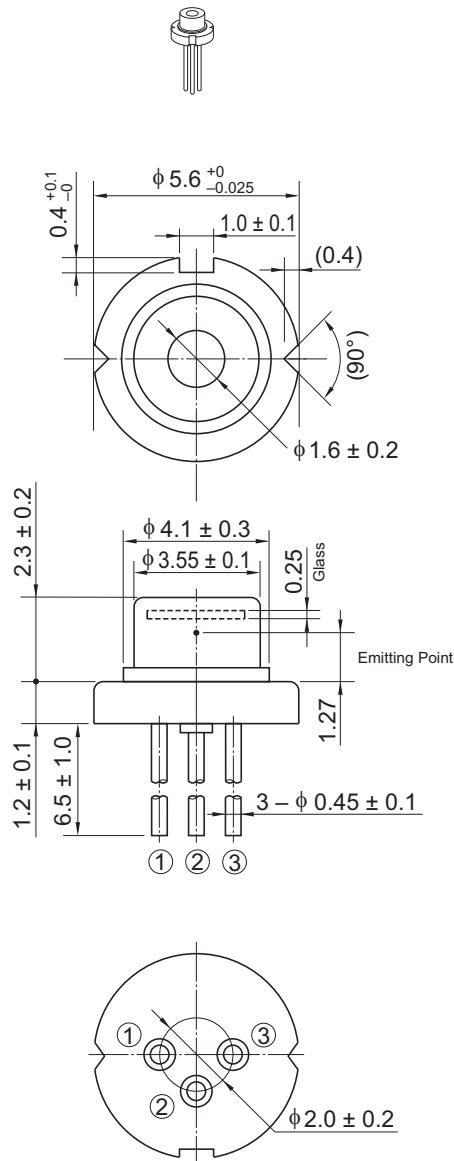
Item	Symbol	Min	Typ	Max	Unit	Test Conditions
Threshold current	$I_{th}$	—	30	60	mA	—
Slope efficiency	$\eta_s$	0.7	0.9	1.4	mW/mA	$24 \text{ (mW)} / (I_{(32\text{mW})} - I_{(8\text{mW})})$
Operating current	$I_{OP}$	—	75	100	mA	$P_O = 40 \text{ mW}$
Operating voltage	$V_{OP}$	—	2.5	—	V	$P_O = 40 \text{ mW}$
Lasing wavelength	$\lambda_p$	720	730	740	nm	$P_O = 40 \text{ mW}$
Beam divergence parallel to the junction	$\theta_{//}$	7	9	14	$^\circ$	$P_O = 40 \text{ mW}$ , FWHM
Beam divergence perpendicular to the junction	$\theta_{\perp}$	14	18	25	$^\circ$	$P_O = 40 \text{ mW}$ , FWHM
Monitor current	$I_s$	0.15	0.30	0.60	mA	$P_O = 40 \text{ mW}$ , $V_{R(PD)} = 5 \text{ V}$

Typical Characteristic Curves



Package Dimensions

Unit: mm



OPJ Code	LD/MG
JEDEC	—
JEITA	—
Mass (reference value)	0.3 g

## Cautions

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1. The laser light is harmful to human body especially to eye no matter what directly or indirectly. The laser beam shall be observed or adjusted through infrared camera or equivalent.
2. This product contains gallium arsenide (GaAs), which may seriously endanger your health even at very low doses. Please avoid treatment which may create GaAs powder or gas, such as disassembly or performing chemical experiments, when you handle the product.  
When disposing of the product, please follow the laws of your country and separate it from other waste such as industrial waste and household garbage.
3. Definition of items shown in this CAS is in accordance with that shown in Opto Device Databook issued by OPJ unless otherwise specified.

## Sales Offices



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