

# HL6513FM

## Visible High Power Laser Diode

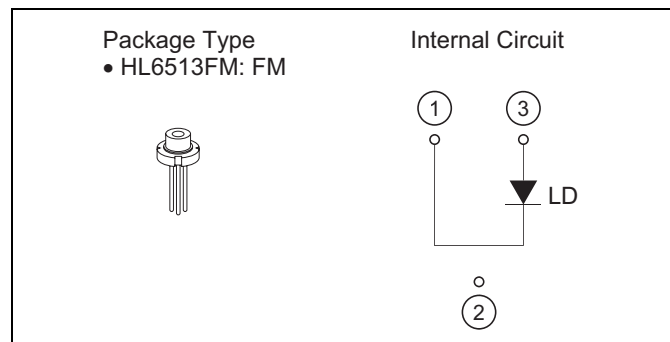
ODE-208-043 (Z)  
Rev.0  
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### Description

The HL6513FM is a 0.65  $\mu\text{m}$  band AlGaInP laser diode (LD) with a multi-quantum well (MQW) structure. Its beam divergence (parallel to the junction) has a small variation to the optical output power. It is suitable as light sources for laser scanners and optical equipment for measurement.

### Features

- High output power and Wide operating temperature: 70 mW (pulse), PW = 100ns, duty = 50%, (Topr = 70°C)
- Small package :  $\phi$  5.6 mm
- Visible light output :  $\lambda_p$  = 658 nm Typ
- The beam divergence (parallel to the junction) has a small variation to the output power.
- Single longitudinal mode



### Absolute Maximum Ratings

(T<sub>C</sub> = 25°C)

Item	Symbol	Ratings	Unit
Optical output power	P <sub>O</sub>	50	mW
Pulse optical output power	P <sub>O(pulse)</sub>	70 * <sup>1</sup>	mW
Laser diode reverse voltage	V <sub>R(LD)</sub>	2	V
Operating temperature	Topr	-10 to +70 * <sup>2</sup>	°C
Storage temperature	Tstg	-40 to +85	°C

Notes: 1. Pulse condition : Pulse width = 100 ns, duty = 50%

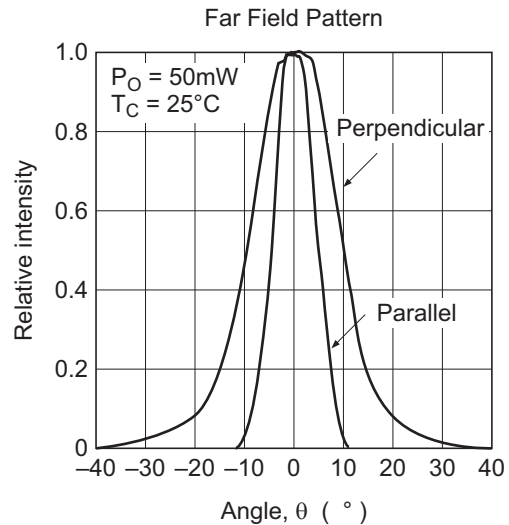
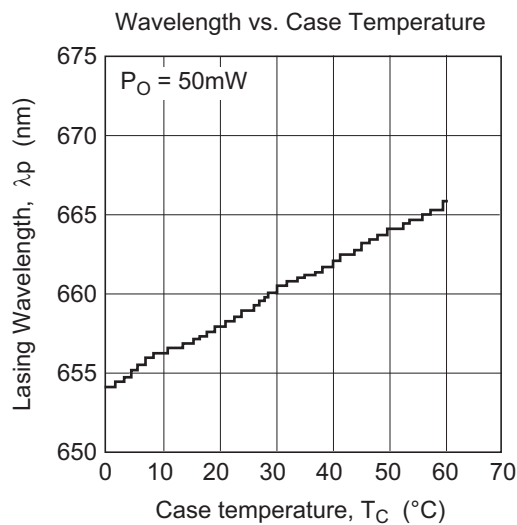
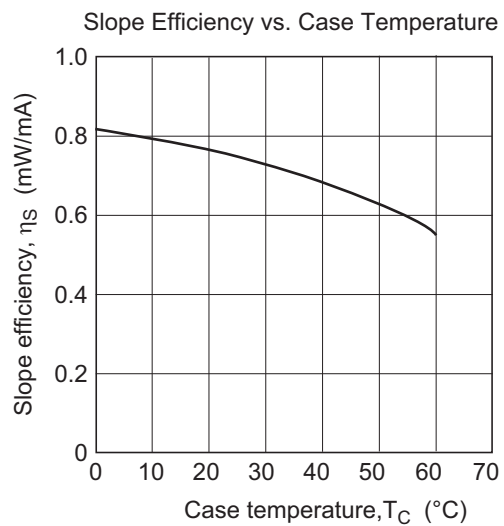
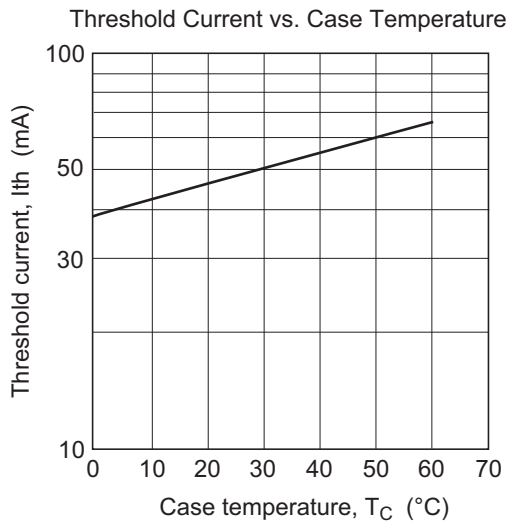
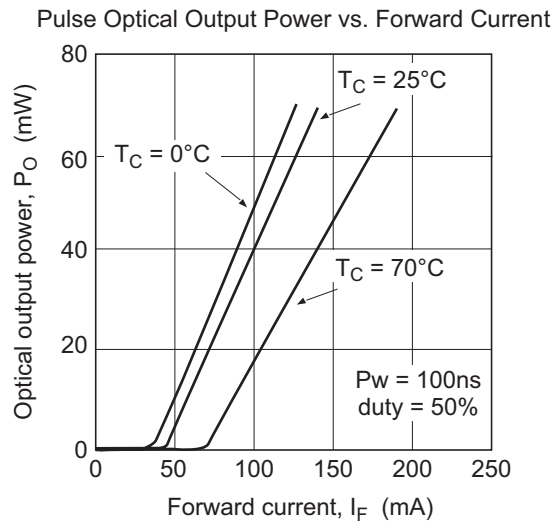
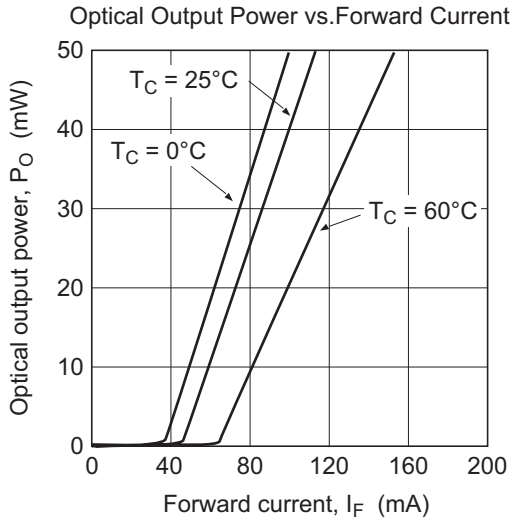
2. The value of -10 to +70°C is effective under pulse operation. The value under CW operation is -10 to +60°C.

### Optical and Electrical Characteristics

(T<sub>C</sub> = 25°C)

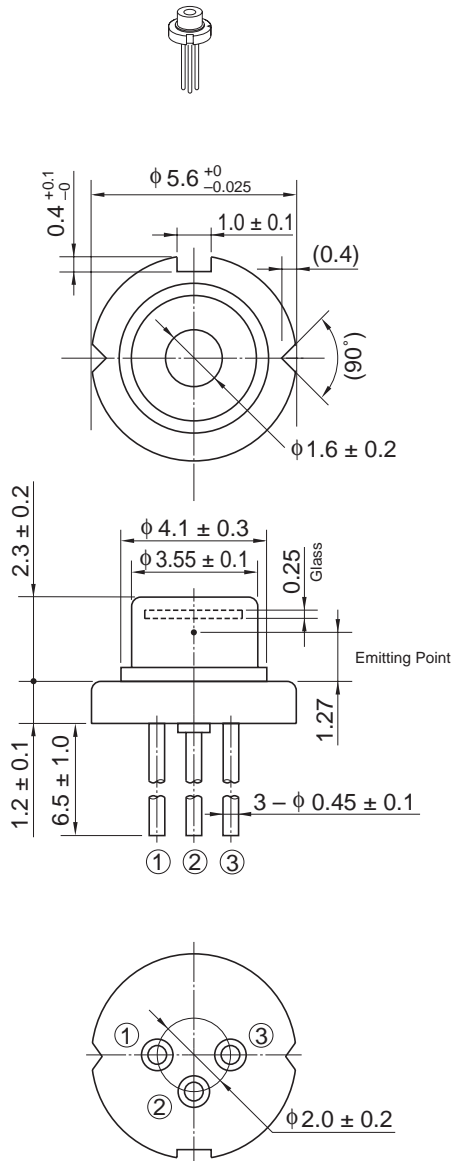
Item	Symbol	Min	Typ	Max	Unit	Test Conditions
Threshold current	I <sub>th</sub>	30	45	60	mA	—
Operating current	I <sub>op</sub>	—	115	135	mA	P <sub>O</sub> = 50 mW
Operating voltage	V <sub>OP</sub>	2.1	2.6	3.0	V	P <sub>O</sub> = 50 mW
Beam divergence parallel to the junction	$\theta_{//}$	7	8.5	11	°	P <sub>O</sub> = 50 mW
Beam divergence perpendicular to the junction	$\theta_{\perp}$	18	21	26	°	P <sub>O</sub> = 50 mW
Astigmatism	A <sub>s</sub>	—	5	—	$\mu\text{m}$	P <sub>O</sub> = 5 mW, NA = 0.55
Lasing wavelength	$\lambda_p$	655	658	662	nm	P <sub>O</sub> = 50 mW

### Typical Characteristic Curves



Package Dimensions

As of July, 2002  
Unit: mm



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

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## Sales Offices



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