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# HL6733FM

## Visible High Power Laser Diode

# HITACHI

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### Description

The HL6733FM is a 0.68  $\mu\text{m}$  band AlGaInP laser diode (LD) with a multi-quantum well (MQW) structure. It is suitable as a light source for large capacity optical disc memories and various other types of optical equipment.

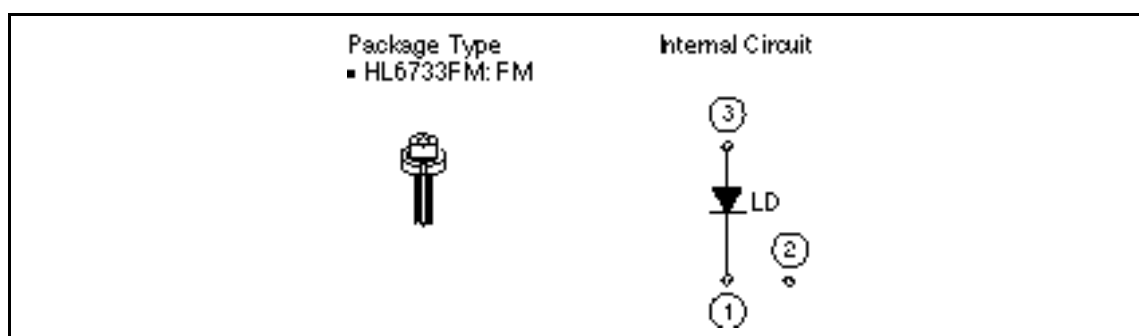
It does not have a photodiode, and the GND pin is not connected to the LD chip. The outline is the same as MG-type (5.6 mm ).

### Application

- Optical disc memories.
- Optical equipment

### Features

- High output power: 35 mW (CW)
- Visible light output:  $\lambda_p = 675$  to 695 nm
- Small package: 5.6 mm
- Low astigmatism: 6  $\mu\text{m}$  Typ ( $P_o = 5$  mW)



**Absolute Maximum Ratings ( $T_C = 25^\circ\text{C}$ )**

Item	Symbol	Value	Unit
Optical output power	$P_O$	35	mW
Pulse optical output power	$P_O$ (pulse)	50 *	mW
Laser diode reverse voltage	$V_{R(LD)}$	2	V
Operating temperature	$T_{opr}$	-10 to +70	$^\circ\text{C}$
Storage temperature	$T_{stg}$	-40 to +85	$^\circ\text{C}$

Note: Pulse condition: Pulse width = 100 ns, duty = 50%

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

Items	Symbols	Min	Typ	Max	Units	Test Conditions
Optical output power	$P_O$	35	—	—	mW	Kink free *
Pulse optical output power	$P_{O(pulse)}$	50	—	—	mW	Kink free *
Threshold current	$I_{th}$	30	45	70	mA	—
Operating voltage	$V_{OP}$	2.1	2.5	2.8	V	$P_O = 30 \text{ mW}$
Slope efficiency	$s$	0.5	0.7	0.9	mW/mA	$18(\text{mW})/(I_{(24\text{mW})} - I_{(6\text{mW})})$
Lasing wavelength	$\lambda$	675	690	695	nm	$P_O = 30 \text{ mW}$
Beam divergence parallel to the junction	//	7	8.5	11	deg.	$P_O = 30 \text{ mW}$
Beam divergence perpendicular to the junction		17	19	23	deg.	$P_O = 30 \text{ mW}$
Asigmatism	$A_s$	—	6	—	$\mu\text{m}$	$P_O = 5 \text{ mW}$ , NA = 0.55

Note: Kink free is confirmed at the temperature of  $25^\circ\text{C}$ .

# Typical Characteristics Curves

