# USHIO

## High Power Red Laser (HL63520HD)

New Release

## World highest output power of 3.5W Pulse, 2.4W CW at 638nm

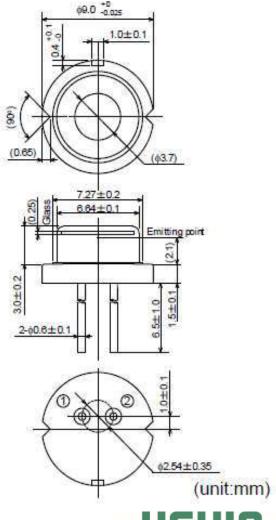
## Feature

- Dual emitters
- Optical output power: 3.5W (Pulse), 2.4W (CW)
- Red light emitting: 638 nm
- High wall plug efficiency: 43% typ.
- $\blacksquare$  High heat dissipation  $\phi$  9mm CAN Package

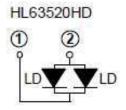
## | Applications

- Laser Projector
- Light source of optical equipment

#### Outline



#### Internal Circuit









#### Absolute Maximum Ratings (Tc=25°C)

Item	Symbol	Ratings	Unit A	
Operating current	lop	2.4		
Pulse operating current Note1)	lop(Pulse)	3.3	A V	
LD reverse voltage	VR(LD)	2		
Operating temperature Note2)	Topr	-10 ~ +55	°C °C	
Storage temperature	Tstg	-40 ~ +85		

Note1) Pulse condition: Pulse frequency≥120Hz, duty=30%

Note2) Operating temperature is defined by Case temperature "Tc". High increase in temperature of LD chip itself is expected during operation due to high current density. Thus, without proper heat dissipation, it is observed that no specific output power is achieved or it results to LD degradation. It is advised that sufficient measure of heat dissipation should be taken so that LD's maximum operating temperature is not exceeded during actual operation.

### Optical and Electrical Characteristics (Tc=25°C)

Parameter	Symbol	Min	Тур	Max	Unit	Test Condition
Optical output power	Po	\$ <b>2</b> \$	2.4	~	W	lop=2.4A
Pulse optical output power	Po(Pulse)	6724	3.5	0.5	W	lop(Pulse)=3.3A, f=120Hz,duty=30%
Threshold current	lth	:=:	570	750	mA	E=0
Operating voltage	Vop	=	2.4	2.8	V	Po=2.2W
Beam divergence Note3) Parallel to the junction	θ//	3	10	20	0	Po=2.2W, FWHM
Beam divergence Note3) Perpendicular to the junction	θ⊥	23	33	43	0	Po=2.2W, FWHM
Lasing Wavelength	λр	632	638	644	nm	Po=2.2W

Note3) Designed value

