

650 nm LASER DIODE

Features

- ~ Visible wavelength: 650 nm (typ.)
- ~ Optical power: 5 mW (CW)
- ~ TO-18 package with flat window ($\varnothing$ 5.6 mm)
- ~ Low operating current: $I_{op} = 33$ mA (typ.)
- ~ Low operating voltage: $V_{op} = 2.8$ V (max)

Recommended operating optical power output

- ~ Less than 5 m W

Applications

- ~ Laser pointers
- ~ Laser modules
- ~ Bar code readers

Structure

Index-guided structure
AlGaInP quantum well structure
Integrated Si photodiode for optical power monitor



Description

The MCE-6E8F-Z02 is a red laser diode typically powered at 3 to 5 mW and designed for laser pointer.

The device contains a PIN photo diode to meet the designs of the automatic-power-control circuit. The small TO-18 package and lower consumption enable customers to easily incorporate our laser diodes into their products.

Handling and Safety Precautions

Anti-static protection, such as ionized air blowers or grounded wrist straps with a 1 mega series resistor, should be used at all times when handling laser diodes. In addition, soldering irons should be well grounded.

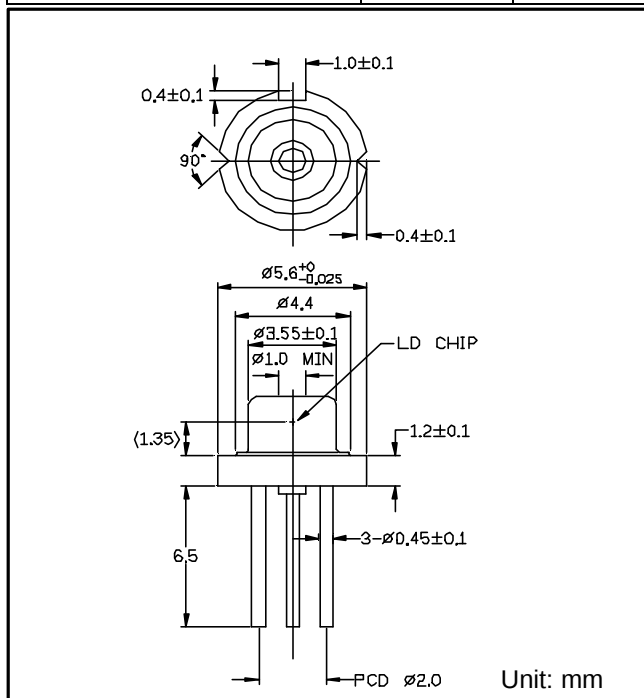
Overheating caused by soldering of the leads of a laser diode must be prevented. Recommend soldering iron temperature and maximum exposure time are below 260 °C and 10 seconds.

■ Absolute Maximum Ratings (Ta : 25°C)

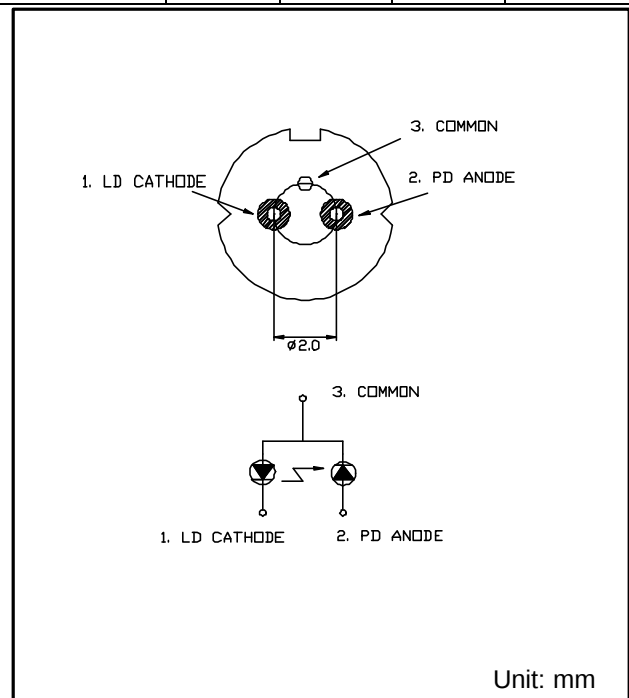
PARAMETERS	SYMBOL	Rated Value
Storage Temperature	Tstg	-20 to +85
Operating Temperature	Top	-10 to + 40
Optical output power (m W)	Po	7
LD reverse voltage (V)	Vr (LD)	2
PD reverse voltage (V)	Vr (PD)	30

■ Optical & Electrical Characteristics (Ta = 25°C)

Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Optical output power	Po	Kink free,CW	$\frac{3}{4}$	$\frac{3}{4}$	5	mW
Threshold current	Ith		$\frac{3}{4}$	24	35	mA
Operating current	Iop	Po=5mW	$\frac{3}{4}$	33	40	mA
Operation voltage	Vop	Po=5mW	$\frac{3}{4}$	2.2	2.8	V
Wavelength	lp	Po=5mW	$\frac{3}{4}$	650	660	nm
Beam divergence	q^	Po=5mW	$\frac{3}{4}$	29	$\frac{3}{4}$	deg
	q/	Po=5mW	$\frac{3}{4}$	8	$\frac{3}{4}$	deg
Slope efficiency	h	2mW [If(5mW)-If(3mW)]	$\frac{3}{4}$	0.6	$\frac{3}{4}$	mW/mA
Monitor current	Im	Po=5mW, Vr=5V	$\frac{3}{4}$	350	$\frac{3}{4}$	μA



Package Dimensions



Pin Connections (Bottom View)

NOTE: Specifications are subjected to change without notice.