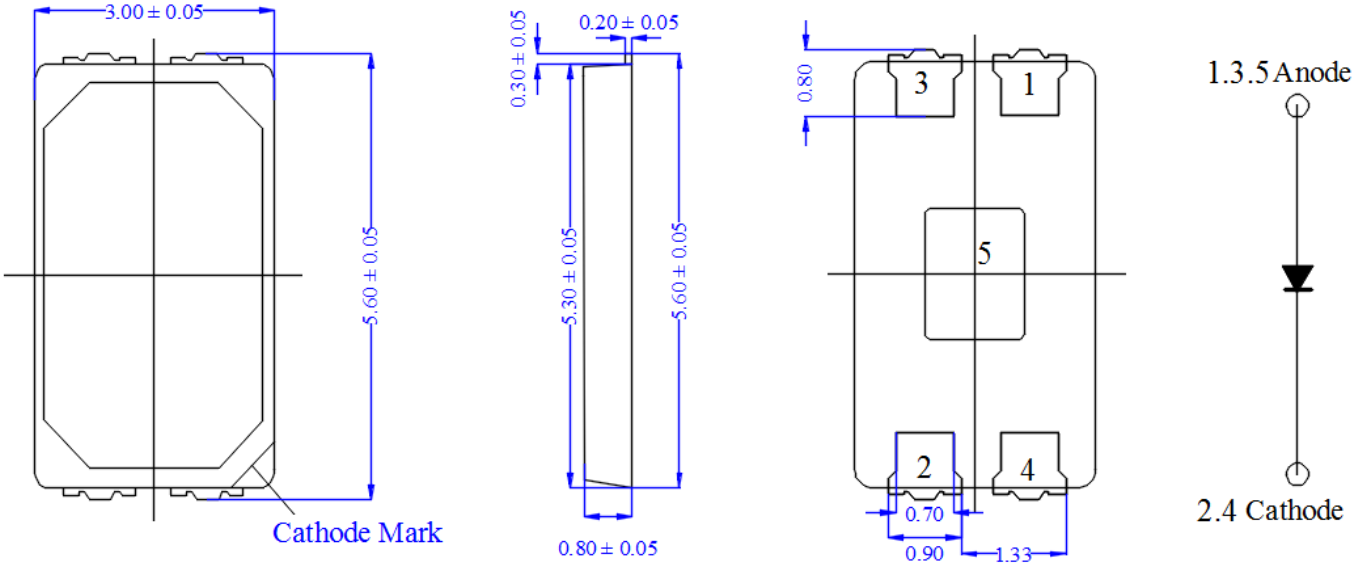
■ Features

1. Peak wavelength at 25°C：650 nm (typical)
2. Standard optical power output：5mW (CW)
3. 5630 Packaged
4. High temperature operation
5. single mode lasing

■ Applications

1. Laser Module
2. Laser Pointer
3. Medical application

■ External dimensions(Unit : mm) 5.60×3.00×0.80



Top View Front View Bottom View

Notes:

1. Drawings are not to scale
2. All dimensions are all in millimeter
3. All dimensions without tolerance are for reference only

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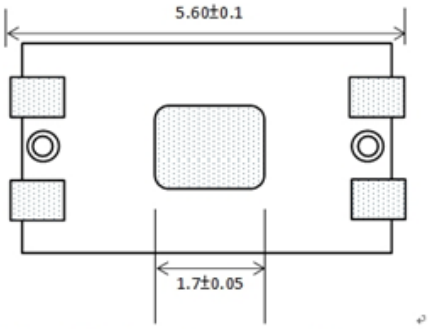
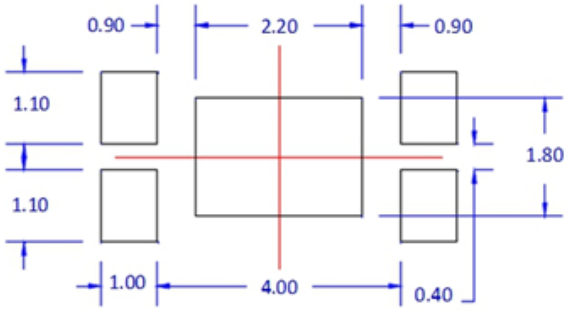
Soldering Conditions(Reference Outline)

Soldering pad pattem



Metal solder stencil aperture

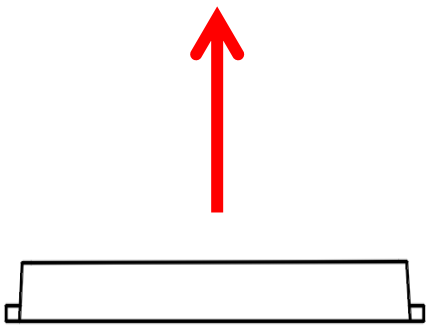


NOTE : All dimensions in mm tolerance is +/- 0.1mm unless otherwise noted.

The drawing above shows the recommended solder pad layout on Printed Circuit Board (PCB).

■ Emission direction

Laser beam



■ Absolute Maximum Ratings(Tc=25℃)

Parameter	Symbol	Rating	Unit
Optical Output	Po	5	mW
Reverse Voltage	Vr	2	V
Operating Temperature（Case）	Top	-10～+70	℃
Storage Temperature	Tstg	-40～+85	℃

■ Electrical and Optical Characteristics(Tc=25℃)

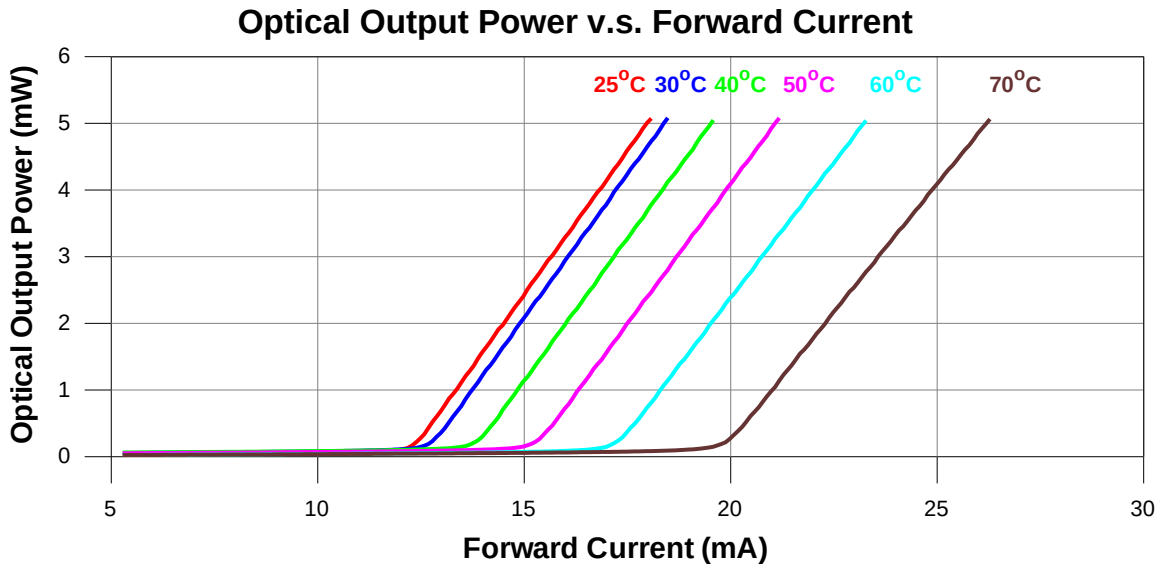
Parameter		Symbol	Condition	Min.	Typ.	Max.	Unit
Threshold Current		Ith	Po=5mW	-	12	25	mA
Operating Current		Iop	Po=5mW	-	17	25	mA
Operating Voltage		Vop	Po=5mW	-	2.2	2.5	Volts
Slope Efficiency		η	Po=1.5-5mW	0.7	1	-	mW/mA
Beam Divergence	Parallel	$\theta_{//}$	Po=5mW	5	7.5	12	deg.
(FWHM)	Perpendicular	$\theta_{\perp}$	Po=5mW	30	36	42	deg.
Lasing Wavelength		λ	Po=5mW	640	650	660	nm

◎ $\theta_{//}$ and $\theta_{\perp}$ are defined as the angle within which the intensity is 50% of the peak value.

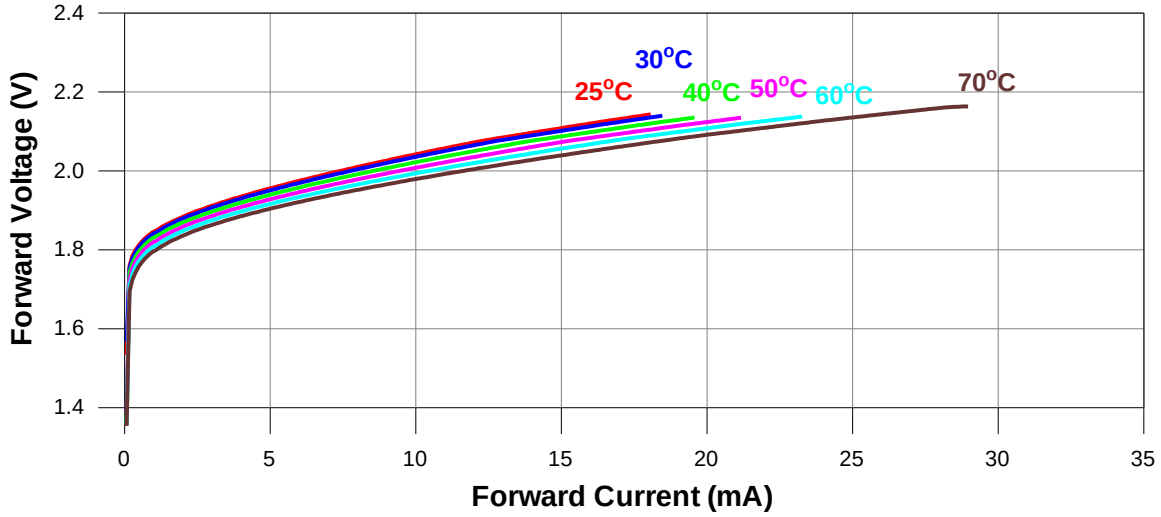
■ Quality Notice

This device is still under product development.

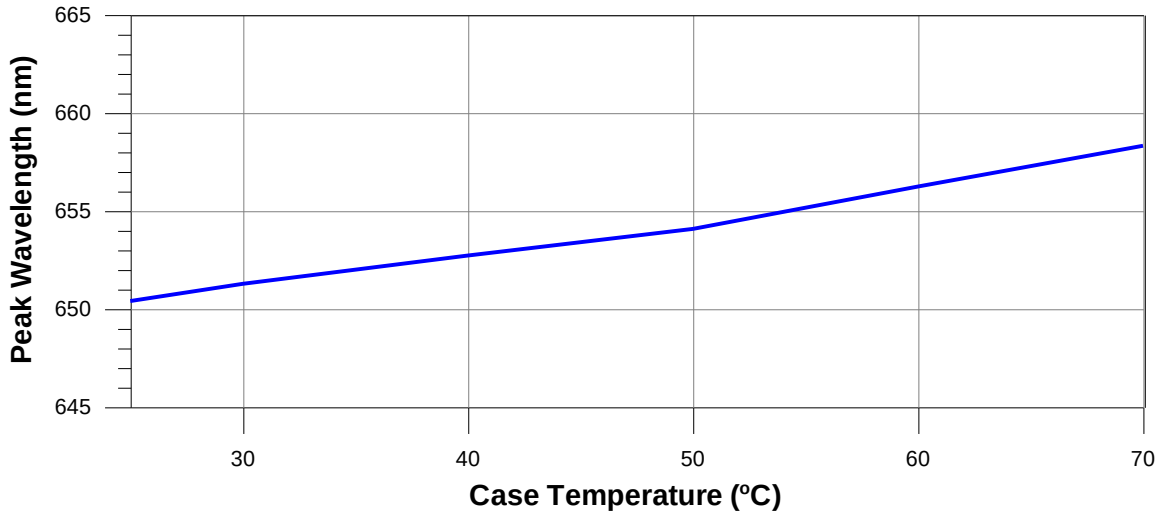
■ Typical characteristic curves



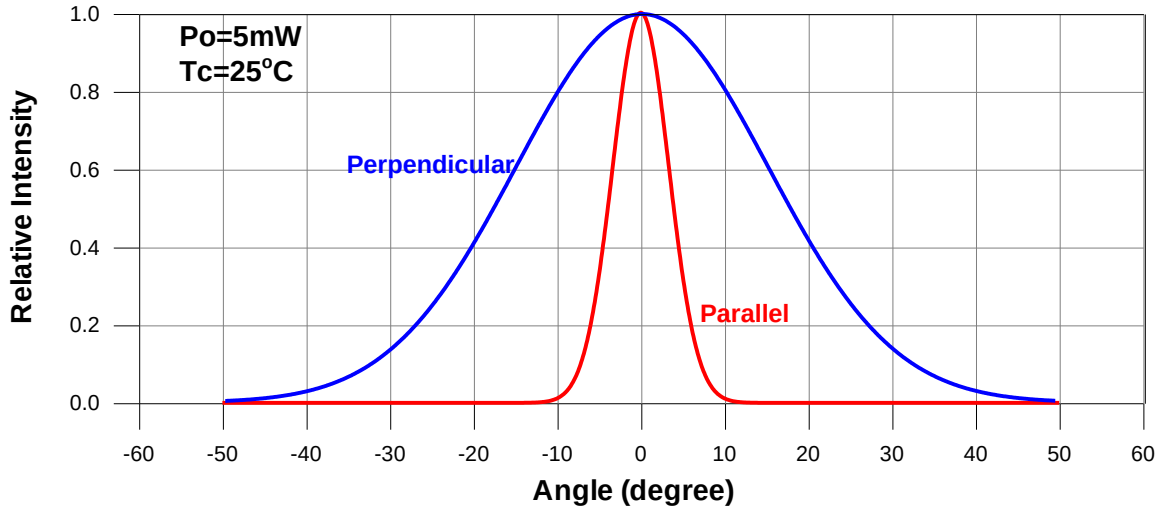
Forward Voltage v.s. Forward Current



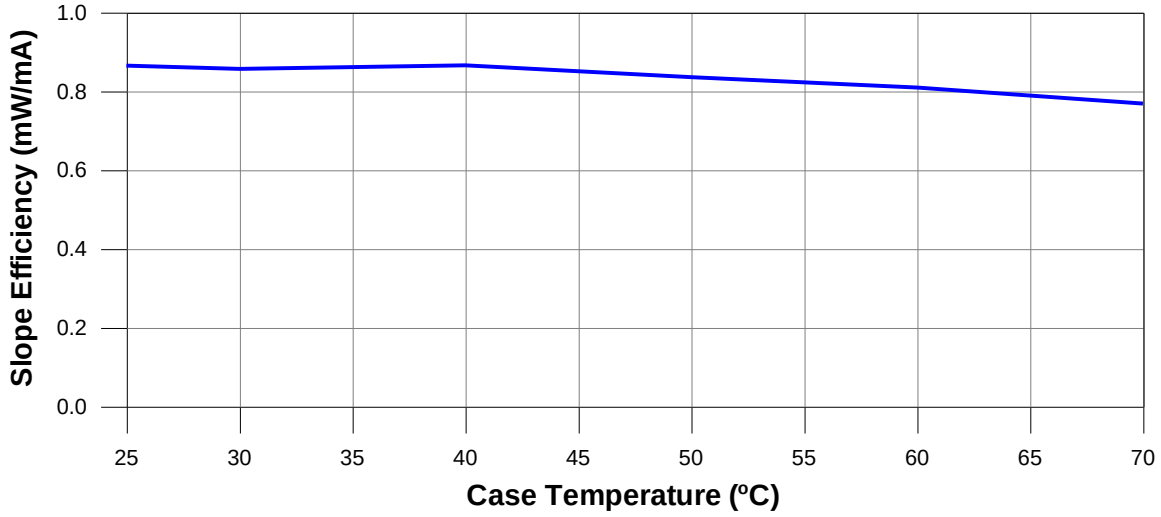
Peak Wavelength v.s. Case Temperature



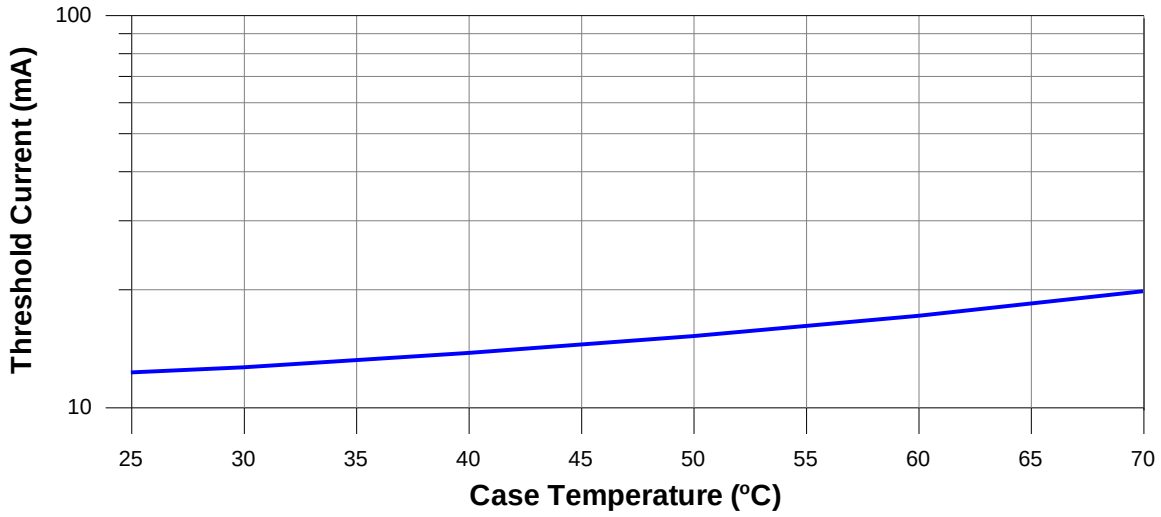
Far-Field Pattern



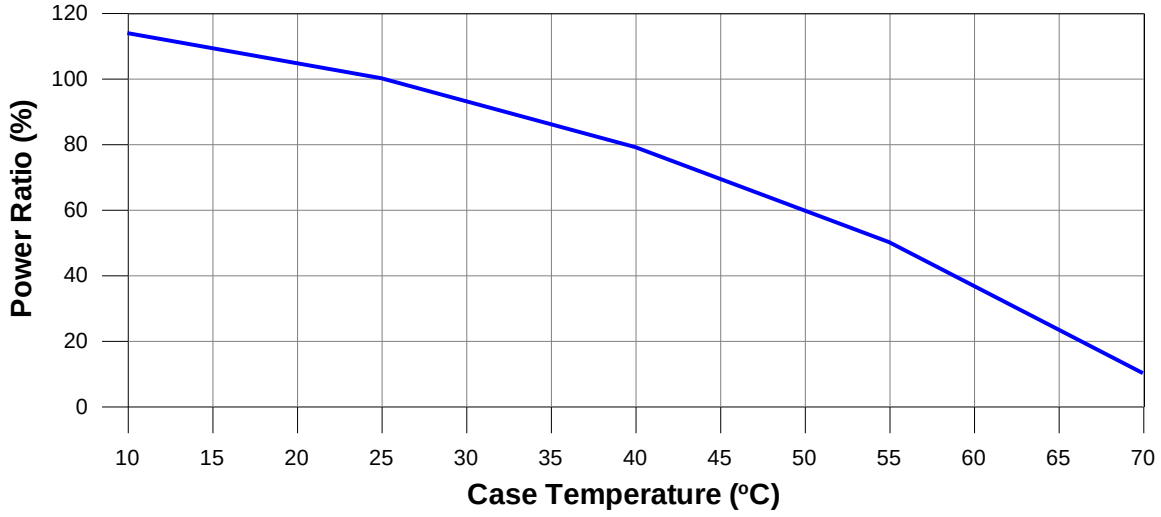
Slope Efficiency v.s. Case Temperature



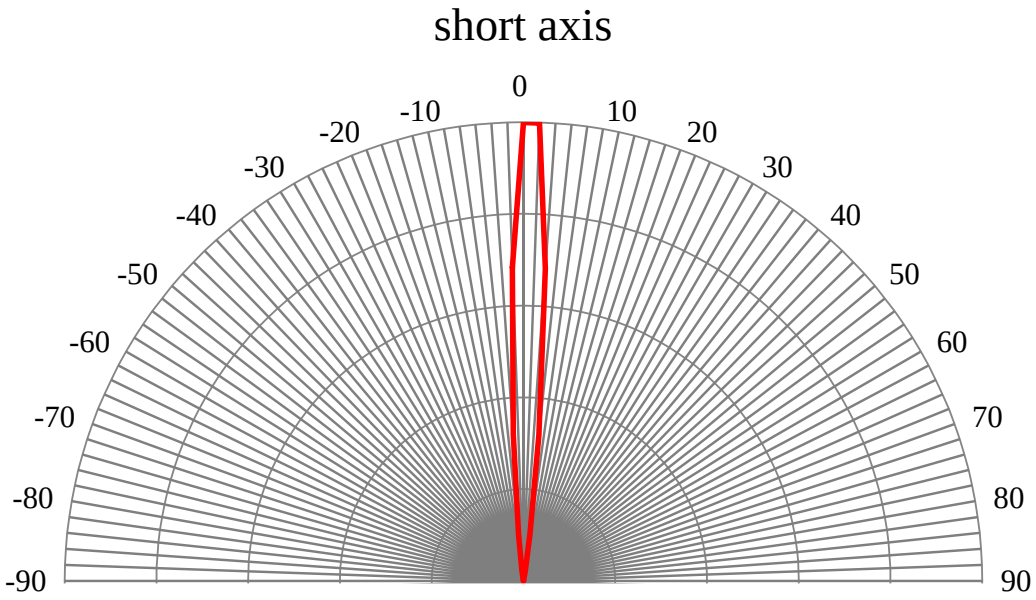
Threshold Current v.s. Case Temperature

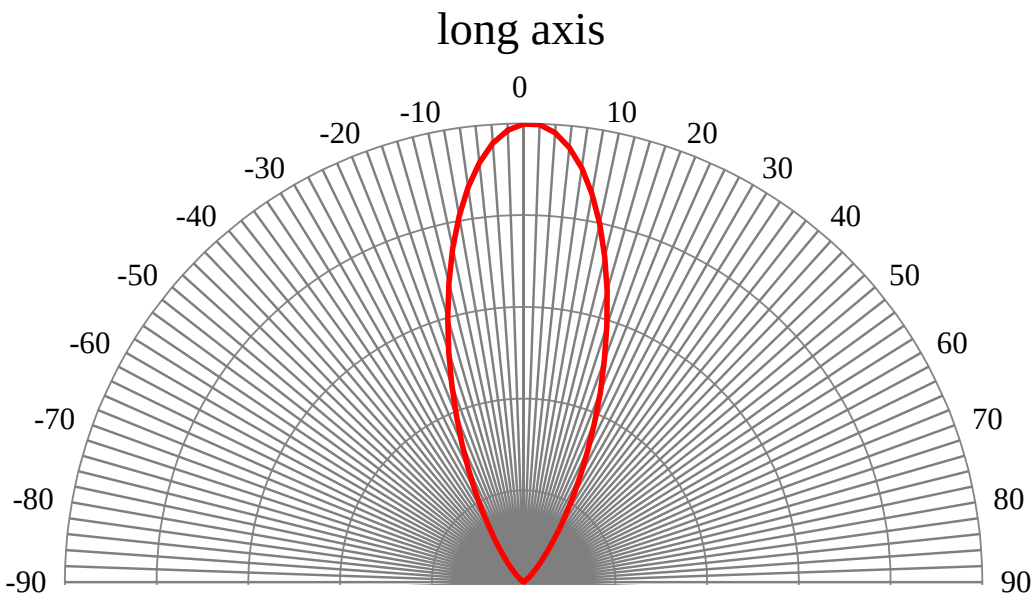


Power v.s. Case Temperature



■ Radiation Pattern in Polar Coordinate System





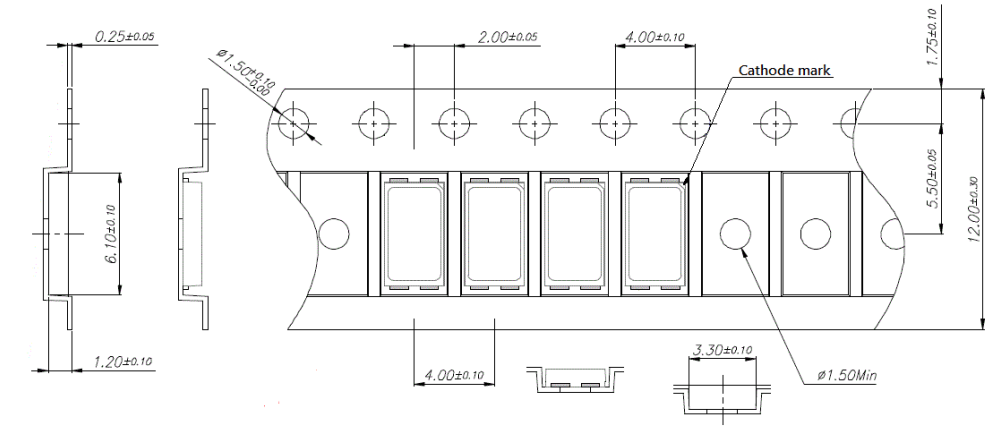
■ Recommend reflow conditions

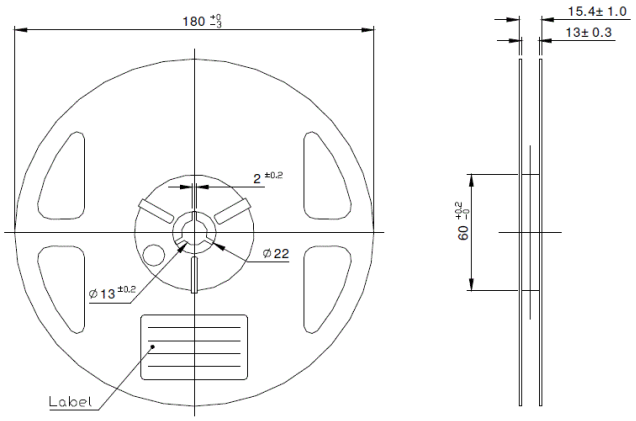
Low temperature solder is recommended.

Maximum solder profile should be less than 200℃ 1min.

■ Packing Information

- Embossed Tape Dimension





(Tolerance: ±0.2, Unit: mm)

■ Precautions

QUALITY ASSURANCE

After any processing of laser chip or laser diode SMD (LD) by the customer, the performance, yield and reliability of the product, in which the chip or LD is applied, are subject to change due to customer's handling, assembly, testing, and processing. Because laser chip and LD are strongly affected by environmental conditions, physical stress, and chemical stresses imposed by customer that are not in Union Optronics Corp. (UOC) control and hence no guarantee on the characteristics and the reliability at all after the shipment. Also, UOC does not have any responsibility for field failures in a customer product. When attaching a heat sink to laser chip or LD, be careful not to apply excessive force to the device in the process.

SAFETY PRECAUTIONS

Although Union Optronics Corp. (UOC) keeps improving quality and reliability of its laser chip and laser diode SMD (LD), semiconductor devices in general can malfunction or fail due to their intrinsic characteristics. Hence, it is required that the customer's products are designed with full regard to safety by incorporating the redundancy, fire prevention, error prevention so that any problems or error with UOC laser chip or LD does not cause any accidents resulting in injury, death, fire, property damage, economic damage, or environmental damage. In case customer wants to use UOC laser chip or LD in the systems requiring high safety, customer is requested to confirm safety of entire systems with customer's own testing.

SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE.

The information provided by Union Optronics Corp. (UOC), including but not limited to technical specifications, recommendations, and application notes relating to laser chip or laser diode SMD (LD) is believed to be reliable and accurate and is subject to change without notice. UOC reserves the right to change its assembly, test, design, form, specification, control, or function without notice.