

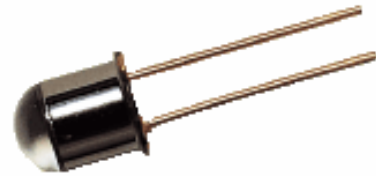
Features

- : 670nm wavelength range
- : Operating to over 50 °C
- : Low current and voltage
- : Narrow beam angle
- : High reliability
- : Other configurations available on request

Applications

- : Consumer Electronics
- : Position Sensors
- : Medical Instruments
- : Home Networking
- : Data Link Communication, IEEE1394b
- : Low power consumption application
such as battery-operated equipment

Description

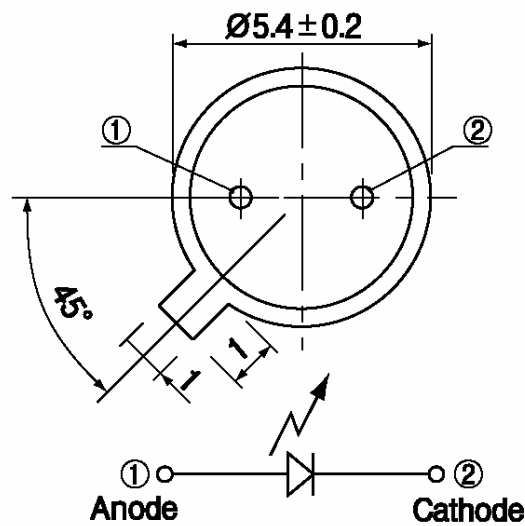
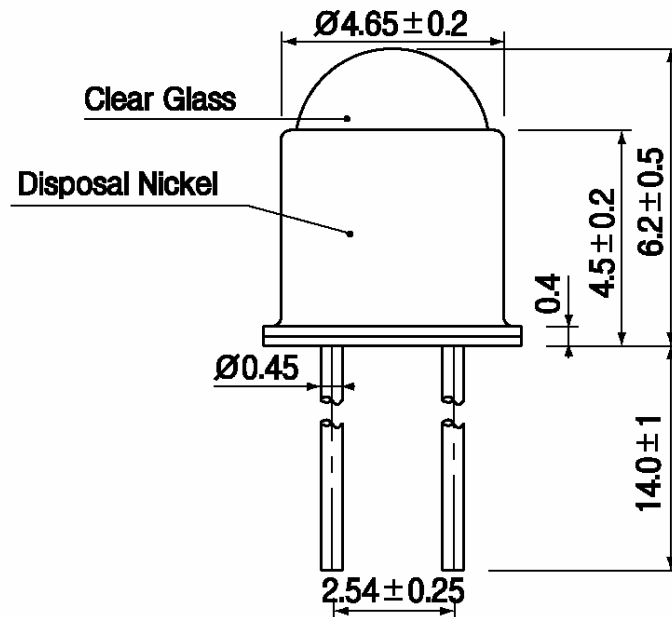


Absolute Maximum Ratings

| Parameter | Rating |
|----------------------------|----------------|
| Storage Temperature | -40 to 85 °C |
| Operating Temperature | -20 to 50 °C |
| Lead Solder Temperature | 260 °C, 10 sec |
| Continuous Forward Current | 8mA |
| Continuous Reverse Voltage | 5V (@10µA) |

Dimensions

Unit:mm



Electro-Optics Characteristics (T_a=25°C unless otherwise stated)

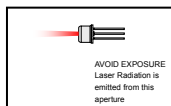
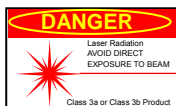
| Parameters | Symbol | Specified | | | Unit | Test Conditions |
|--------------------------|-----------------|-----------|------|------|------|--------------------------------|
| | | Min. | Typ. | Max. | | |
| Threshold Current | I _{th} | | 2 | 3.5 | mA | CW |
| Slope Efficiency | η | 0.2 | 0.3 | | W/A | I _f = 5mA |
| Optical Output Power | P _o | | 1.0 | | mW | I _f = 5mA |
| Peak Wavelength | λ | 660 | 670 | 690 | nm | I _f = 5mA |
| Spectral Bandwidth (RMS) | Δλ | | | 0.85 | nm | I _f = 5mA |
| Beam Divergence | Θ | | 2 | | ° | P ₀ =1.0mW, (FWHM) |
| Operating Voltage | V _f | | 2.1 | 2.5 | V | I _f = 5mA |
| Dynamic Resistance | R _d | | 60 | 90 | Ohm | I _f = 5mA |

Thermal Characteristics

| Parameters | Symbol | Min. | Typ. | Max. | Unit | Test Conditions |
|---------------------------------------|---------------------|------|------|------|--------|--------------------------------------|
| Max. Operating Temperature | | | | | | |
| Optical Output Power | P _{T=50°C} | | 0.5 | | mW | T _a = 50 °C, 5mA |
| I _{th} Temperature Variation | ΔI _{th} | | 1.5 | | mA | T _a = -20 to 50 °C |
| η Temperature Variation | Δη / ΔT | | -0.8 | | %/ °C | T _a = -20 to 50 °C at 5mA |
| λ Temperature Variation | Δλ / ΔT | | 0.05 | | nm/ °C | T _a = -20 to 50 °C at 5mA |

Notes

* These specifications are subject to change without notice



NOTICE

The inherent design of this component causes it to be sensitive to electrostatic discharge(ESD). To prevent ESD-induced damage and/or degradation to equipment, take normal ESD precautions when handling this product

DANGER

The VCSEL is a class IIIb laser and should be treated as a potential eye hazard. Due to the size of the component, the applicable warning logotype, aperture label, and certification / identification label cannot be placed on the component itself.