

PH85-D1P0S2

850nm VCSEL Dome Lens Can Package

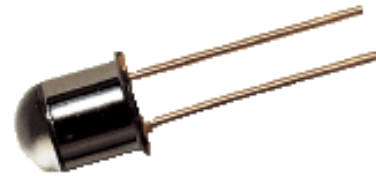
Features

- : **10mW** High power VCSEL
- : Narrow beam angle
- : High output power
- : Cost effective TO can
- : High reliability
- : Other configurations available on request

Applications

- : High speed Data Communications
- : Free Space Optics (FSO)
- : Sensor
- : Position Sensing
- : Encoder

Description



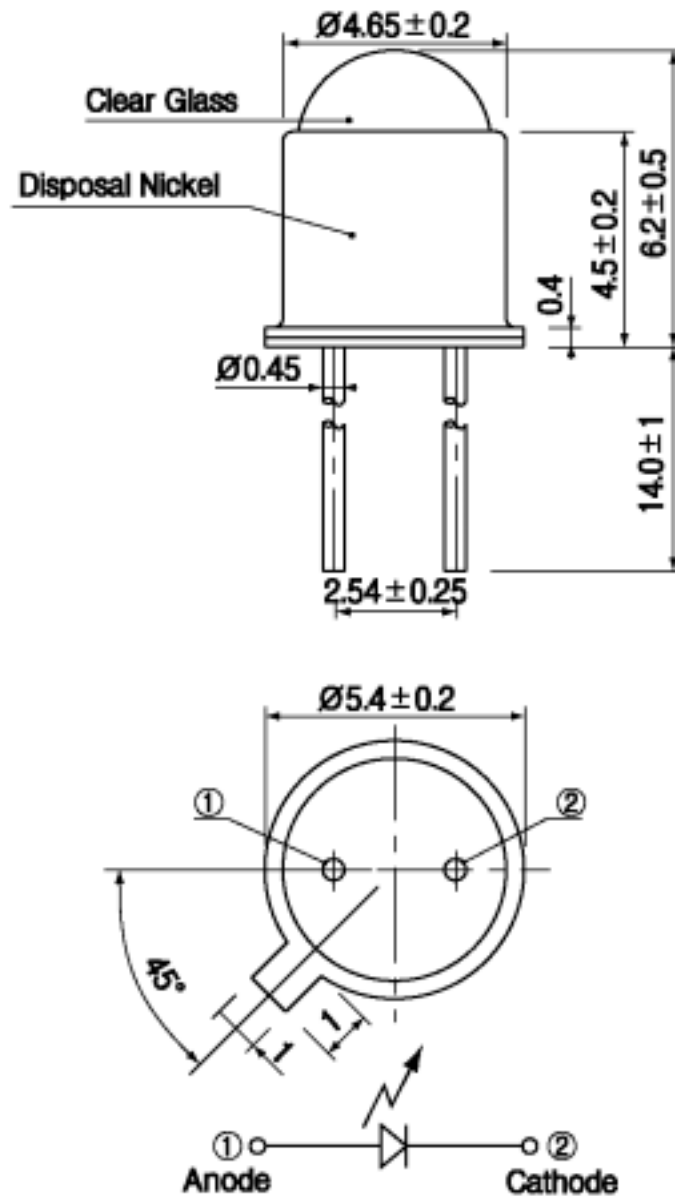
Absolute Maximum Ratings

| Parameter | Rating |
|----------------------------|----------------|
| Storage Temperature | -40 to 100 °C |
| Operating Temperature | 0 to 70 °C |
| Lead Solder Temperature | 260 °C, 10 sec |
| Continuous Forward Current | 30mA |
| Continuous Reverse Voltage | 5V (@10μA) |

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Dimensions

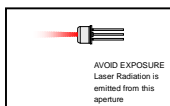
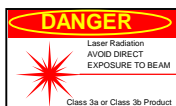


Electro-Optics Characteristics ($T_a=25^{\circ}\text{C}$ unless otherwise stated)

| Parameters | Symbol | Specified | | | Unit | Test Conditions |
|-------------------------------------|----------------------------|-----------|------|------|-----------------------|--|
| | | Min. | Typ. | Max. | | |
| Threshold Current | I_{th} | | 5 | | mA | CW |
| I_{th} Temperature Variation | ΔI_{th} | | 2.5 | | mA | $T_a=0$ to 70°C |
| Slope Efficiency | η | 0.2 | 0.4 | | W/A | $I_f = 20\text{mA}$ |
| η Temperature Coefficient | $\Delta\eta / \Delta T$ | | -0.5 | | %/ $^{\circ}\text{C}$ | $T_a=0$ to 70°C at 20mA |
| Optical Output Power | P_o | | 10 | | mW | $I_f = 20\text{mA}$ |
| Peak Wavelength | λ | 840 | 850 | 860 | nm | $I_f = 20\text{mA}$ |
| λ_P Temperature Coefficient | $\Delta\lambda / \Delta T$ | | 0.06 | | | $T_a=0$ to 70°C at 20mA |
| Spectral Bandwidth (RMS) | $\Delta\lambda$ | | | 0.85 | nm | $I_f = 20\text{mA}$ |
| Beam Divergence | Θ | | 2 | | $^{\circ}$ | $P_o=10\text{mW}$, (FWHM) |
| Forward Voltage | V_f | 1.6 | 1.9 | 2.2 | V | $I_f = 20\text{mA}$ |
| Breakdown Voltage | V_b | | -10 | | V | |
| Dynamic Resistance | R_d | | 25 | 40 | Ohm | $I_f = 20\text{mA}$ |

Notes

* These specifications are subject to change without notice.



NOTICE

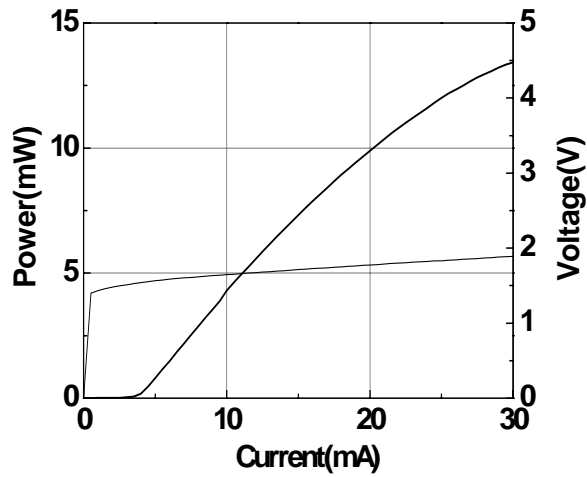
The inherent design of this component causes it to be sensitive to electrostatic discharge(ESD). To prevent ESD-induced damage and/or degradation to equipment, take normal ESD precautions when handling this product

DANGER

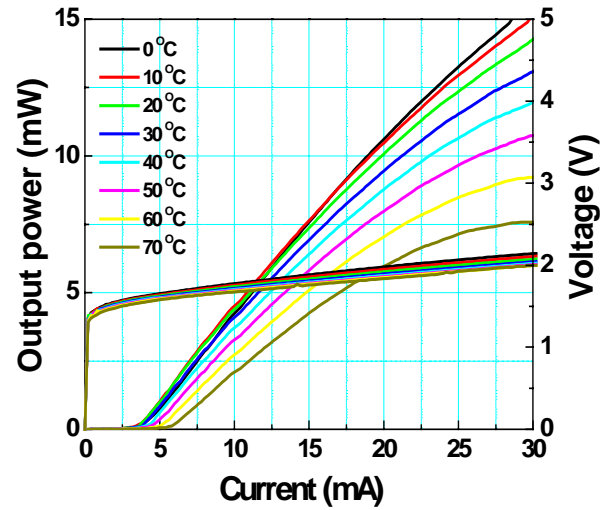
The VCSEL is a class IIIb laser and should be treated as a potential eye hazard. Due to the size of the component, the applicable warning logotype, aperture label, and certification / identification label cannot be placed on the component itself.

Characteristics Curves

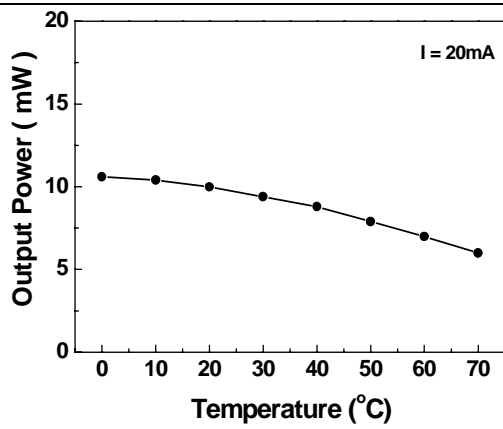
LIV Curve



LIV vs Temperature



P_o vs Temperature



I_{th} vs Temperature

