

KVCF1 - 8512

VCSEL, or Vertical Cavity Surface Emitting Laser, is a semiconductor microlaser diode that emits light in a cylindrical beam vertically from the surface of a fabricated wafer.

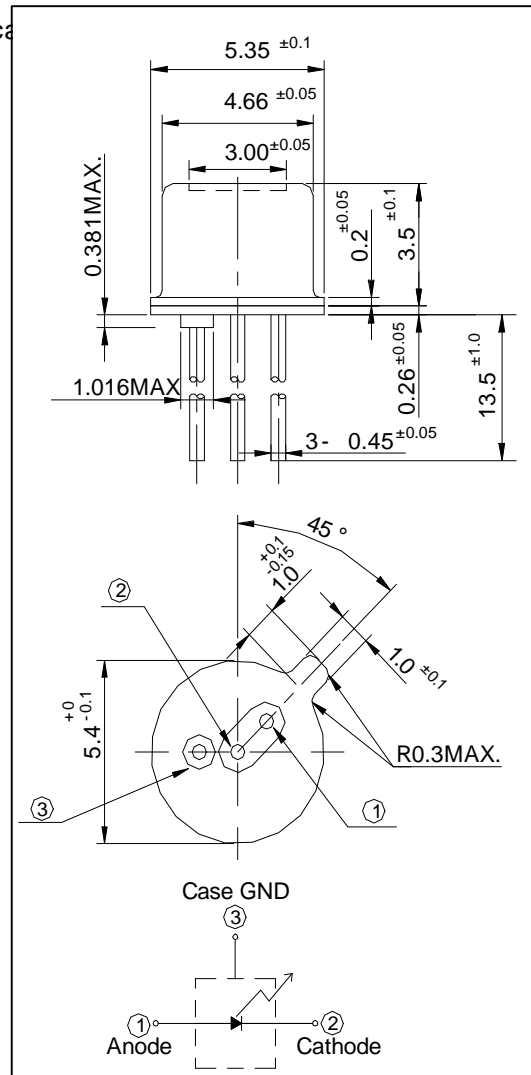
FEATURES

- 850nm wavelength range
- High data rate 2.5Gbps
- High reliability
- Low current and voltage
- Other configurations available on request

APPLICATIONS

- Fiber optic data links
- Proximity Sensors
- Encoders
- Laser range finders
- Laser printing
- Bar code scanning
- Optical storage

DIMENSIONS Unit:(mm)



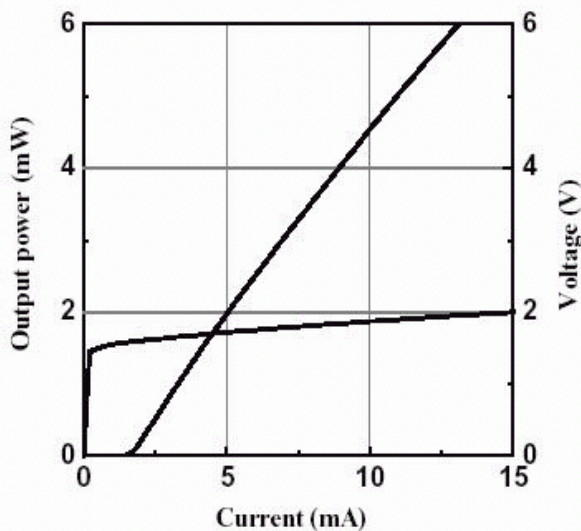
ABSOLUTE MAXIMUM RATINGS

| Item | Symbol | Ratings | Unit |
|---------------------------------|------------|----------|------|
| Operating Temperature | $T_{opr.}$ | 0~+70 | |
| Storage Temperature | $T_{stg.}$ | -40~+100 | |
| Lead Solder Temperature (10sec) | T_{sol} | 260 | |
| Continuous Forward Current | I_F | 10 | mA |
| Continuous Reverse Voltage | V_R | 5 | V |

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ELECTRO-OPTICAL CHARACTERISTICS

| Parameter | Symbol | Min | Typ | Max | Unit | Test Conditions |
|--------------------------------|-----------|-----|------|------|----------|-----------------------------------|
| Threshold Current | I_{th} | | 1.5 | 3 | mA | CW |
| I_{th} Temperature Variation | I_{th} | | 1 | | mA | $T_a=0$ to 70 |
| Slope Efficiency | | 0.3 | 0.5 | 0.7 | mW/mA | $I_F=6$ mA |
| Temperature Coefficient | / T | | -0.5 | | %/ | $T_a=0$ to 70 at 6mA |
| Optical Output Power | P_o | | 2.5 | | mW | $I_F=6$ mA |
| Peak Wavelength | ρ | 840 | 850 | 860 | nm | $I_F=6$ mA |
| ρ Temperature Coefficient | ρ/ T | | 0.06 | | nm/ | $T_a=0$ to 70 at 6mA |
| Spectral Bandwidth | | | 0.5 | 0.85 | nm | $I_F=6$ mA |
| Beam Divergence | | 14 | 25 | 30 | $^\circ$ | $P_o=1.5$ mW, Full Width, $1/e^2$ |
| Forward Voltage | V_f | | 1.8 | 2.2 | V | $I_F=6$ mA |
| Breakdown Voltage | V_b | | -10 | | V | |
| Dynamic Resistance | R_d | 25 | 35 | 55 | | $I_F=6$ mA |

L-I-V Curve2.5Gbps Eye Diagram