

**KVCB1 - 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.

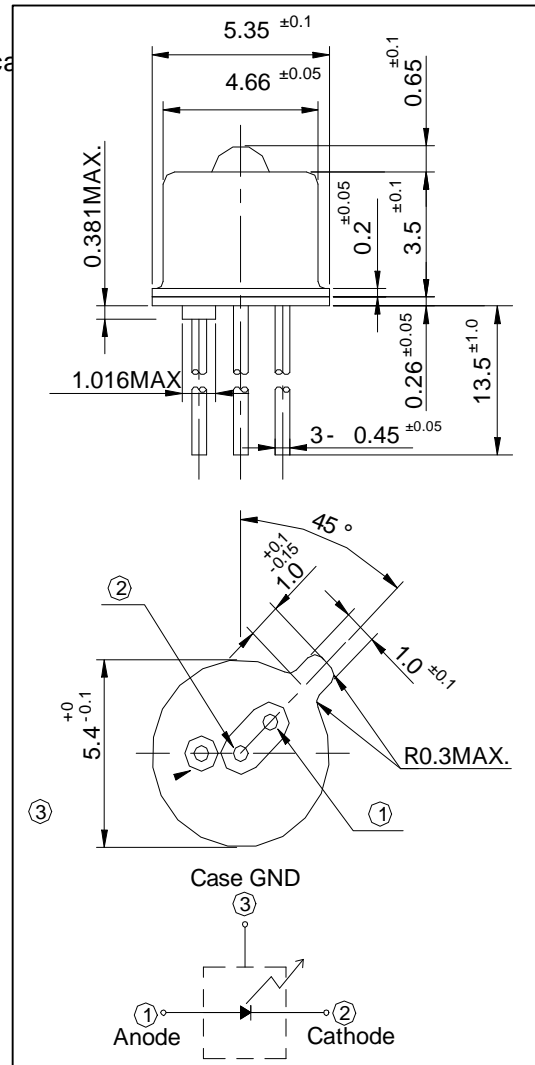
**FEATURES**

- 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**

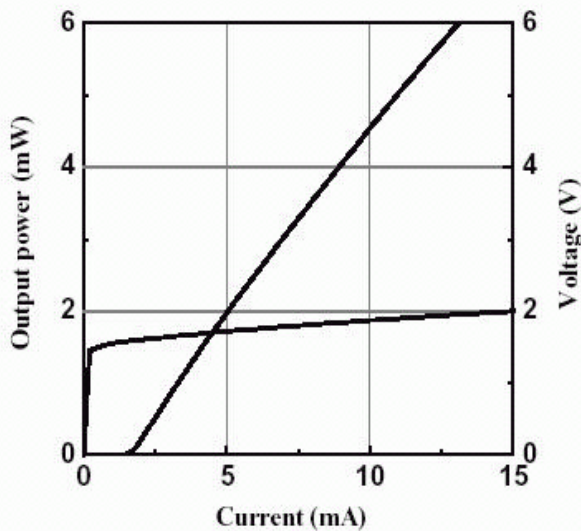
Item	Symbol	Ratings	Unit
Operating Temperature	T <sub>opr.</sub>	0~+70	
Storage Temperature	T <sub>stg.</sub>	-40~+100	
Lead Solder Temperature (10sec)	T <sub>sol</sub>	260	
Continuous Forward Current	I <sub>F</sub>	10	mA
Continuous Reverse Voltage	V <sub>R</sub>	5	V

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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	$\rho$	840	850	860	nm	$I_F=6$ mA
$\rho$ Temperature Coefficient	$\rho/ T$		0.06		nm/	$T_a=0$ to 70 at 6mA
Spectral Bandwidth			0.5	0.85	nm	$I_F=6$ mA
Beam Divergence		5	10	15	°	$P_o=1.5$ 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 Curve



#### 2.5Gbps Eye Diagram

