

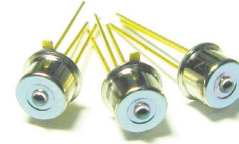
Features

- : 10mW High power VCSEL
- : 1Gbps data rates
- : 850nm wavelength range
- : Back monitor Photo diode
- : Ball lens Type TO-46 Can Package
- : Other configurations available on request

Applications

- : High speed Data Communications
- : Gigabit Ethernet
- : Fiber Channel
- : Free Space Optics
- : Sensor

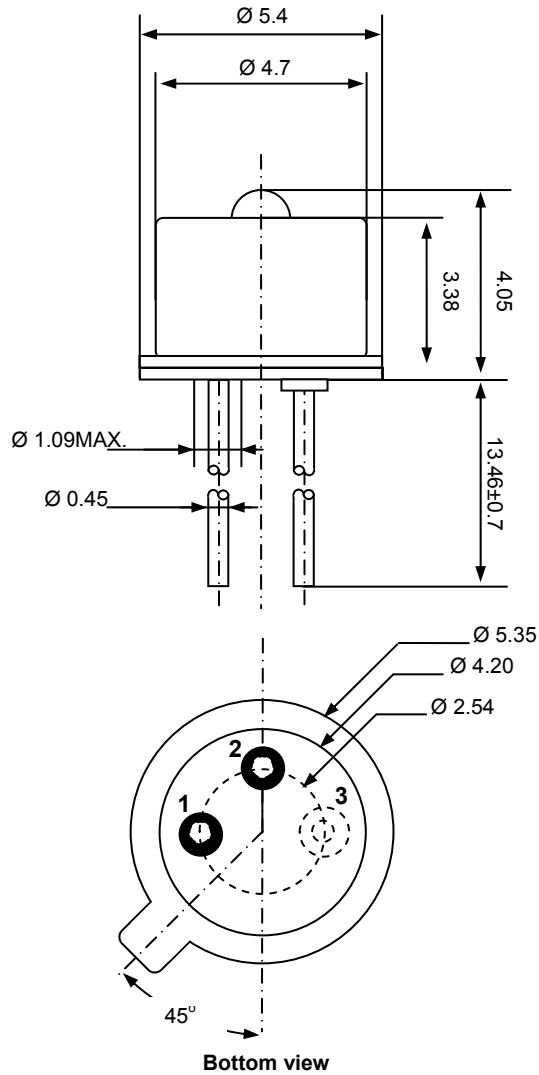
Description



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)

Dimensions



PIN OUT

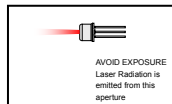
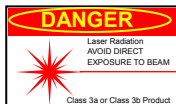
PH85-B1P1S2-KC		PH85-B1P1S2-AC	
Number	Function	Number	Function
1	A _{VCSEL}	1	K _{VCSEL}
2	K _{VCSEL} , A _{m-PD}	2	A _{VCSEL} , K _{m-PD}
3	K _{m-PD}	3	A _{m-PD}

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

Parameters	Symbol	Specified			Unit	Test Conditions
		Min.	Typ.	Max.		
Optical Output Power	P _o		8		mW	I _f = 20 mA
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 mA
η Temperature Variation	Δη / ΔT		-0.5		%/ °C	T _a =0 to 70 °C at 20 mA
Peak Wavelength	λ _p	840	850	860	nm	I _f = 20mA
λ _p Temperature Coefficient	Δλ / ΔT		0.06		nm/ °C	T _a =0 to 70 °C at 20mA
Spectral Bandwidth	Δλ			0.85	nm	I _f = 20mA, (RMS)
Beam Divergence	Θ		29		°	I _f = 20mA, (Full Width, 1/e ²)
Forward Voltage	V _f		2.0	2.3	V	I _f = 20mA
Breakdown Voltage	V _b		-10		V	
Series Resistance	R _s		20	30	Ohm	I _f = 20mA
Parameters	Symbol	Min.	Typ.	Max.	Unit	Test Conditions
Monitor Current	I _{PD}	0.1		1	mA	P ₀ = 8mW
I _{PD} Temperature Variation	ΔI _{PD} /ΔT		0.2		%/ °C	P ₀ = 8mW
Dark current	I _D			20	nA	P ₀ =0mW, V _R =3V
PD Reverse Voltage	BV _{RPD}	30	115		V	P ₀ =0mW, I _R =10μA
PD Capacitance	C			100	pF	V _R =0V, Freq=1MHz
				55		V _R =3V, Freq=1MHz

Notes

* These specifications are subject to change without notice


NOTICE

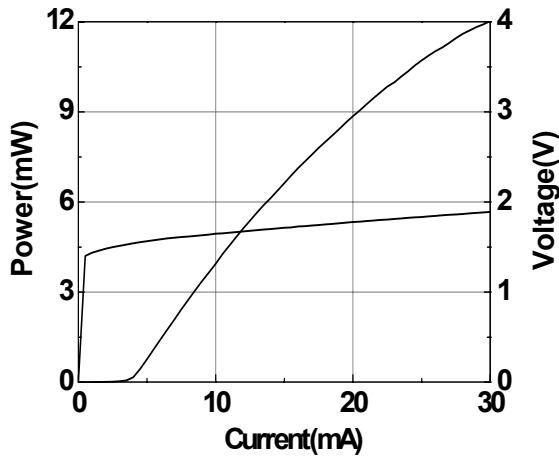
The inherent design of this component causes it to be sensitive to electrostatic discharge(ESD). To prevent ESD-induced damage and/or degradation to equipment, take normal ESD precautions when handling this product

DANGER

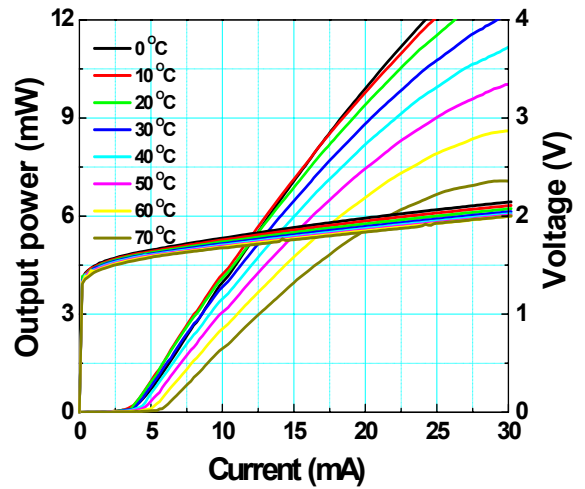
The VCSEL is a class IIIb laser and should be treated as a potential eye hazard. Due to the size of the component, the applicable warning logotype, aperture label, and certification / identification label cannot be placed on the component itself.

Characteristics Curves

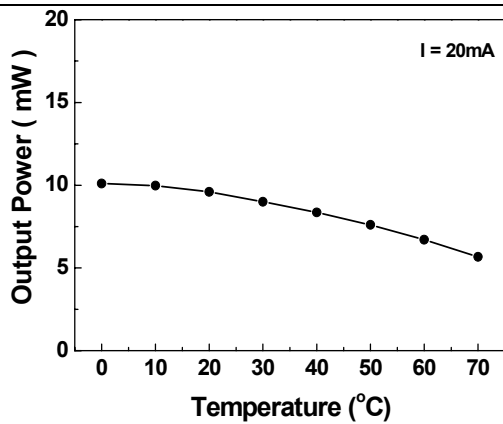
LIV Curve



LIV vs Temperature



P_o vs Temperature



I_{th} vs Temperature

