PH85-F1P1S2

850nm High power VCSEL TO-46 Can Package

Features

: **10mW** High power VCSEL

: 1Gbps data rates

: 850nm wavelength range

: Back monitor Photo diode

: Flat window Type TO-46 Can Package

: Other configurations available on request

Applications

: High speed Data Communications

: Gigabit Ethernet

: Fiber Channel

: Free Space Optics

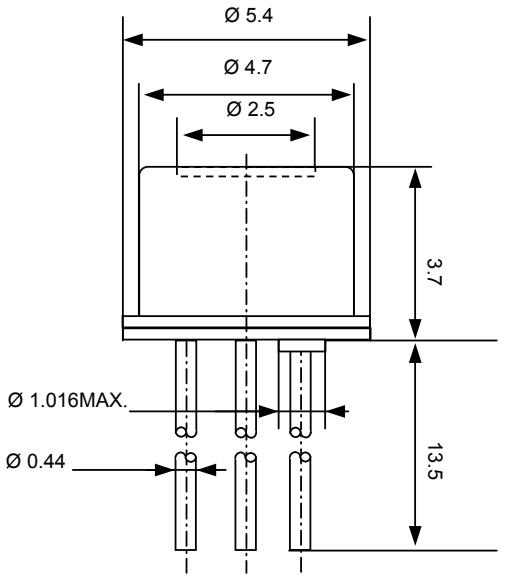
: Sensor

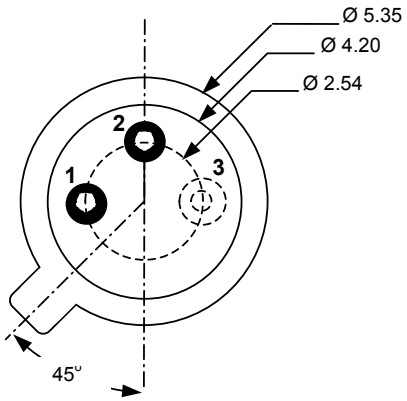
Description

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





Bottom view

PINOUT

Number	Function
1	A_{LD}
2	K_{LD},A_{PD}
3	K_{PD}

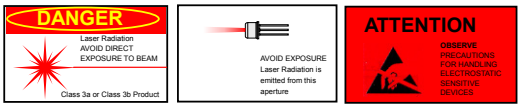
Unit:mm

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	Δ λ / ΔT		0.06		nm/ °C	T_a=0 to 70 °C at 20mA
Spectral Bandwidth	Δ λ			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	$\Delta I_{PD}/\Delta T$		0.2		%/ °C	P_0= 8mW
Dark current	I_D			20	nA	P_0=0mW,V_R=3V
PD Reverse Voltage	BVR_{PD}	30	115		V	P_0=0mW,IR=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.

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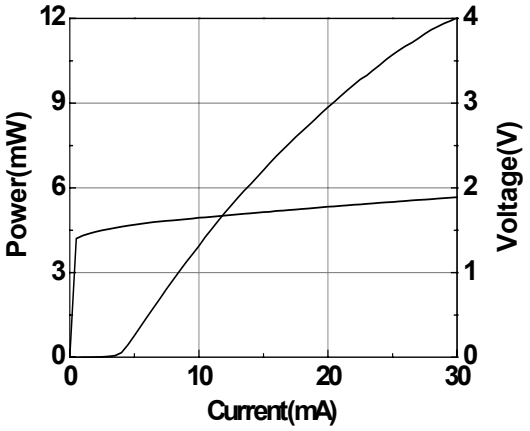
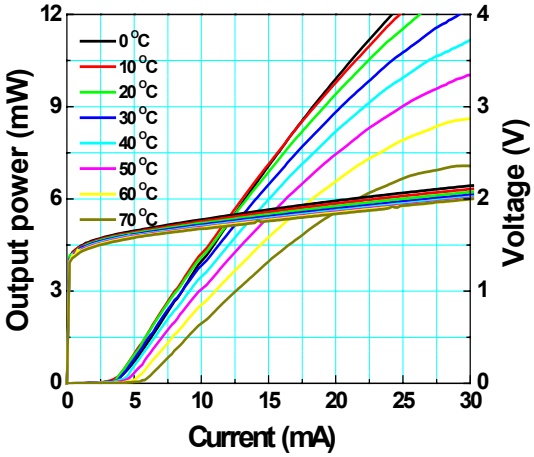
Characteristics Curves

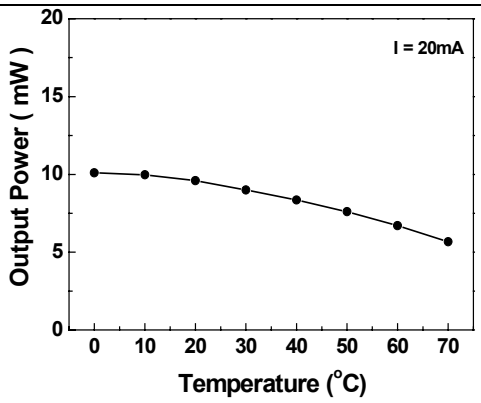
LIV Curve



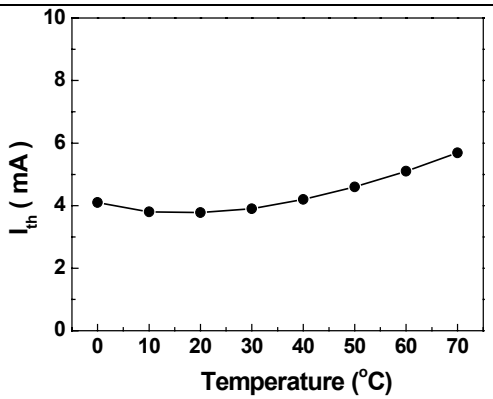
LIV vs Temperature



P_O vs Temperature



I_{th} vs Temperature



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