

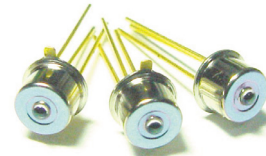
Features

- : Multi-mode 850nm VCSEL
- : 1.25 / 2.5 Gbps data rates
- : Low drive current and voltage
- : Ball Lens Type TO-46 Can Package
- : Back monitor Photo diode
- : Attenuating coating
- : Other configurations available on request

Applications

- : High speed Data Communications
- : Gigabit Ethernet
- : Fiber Channel

Description

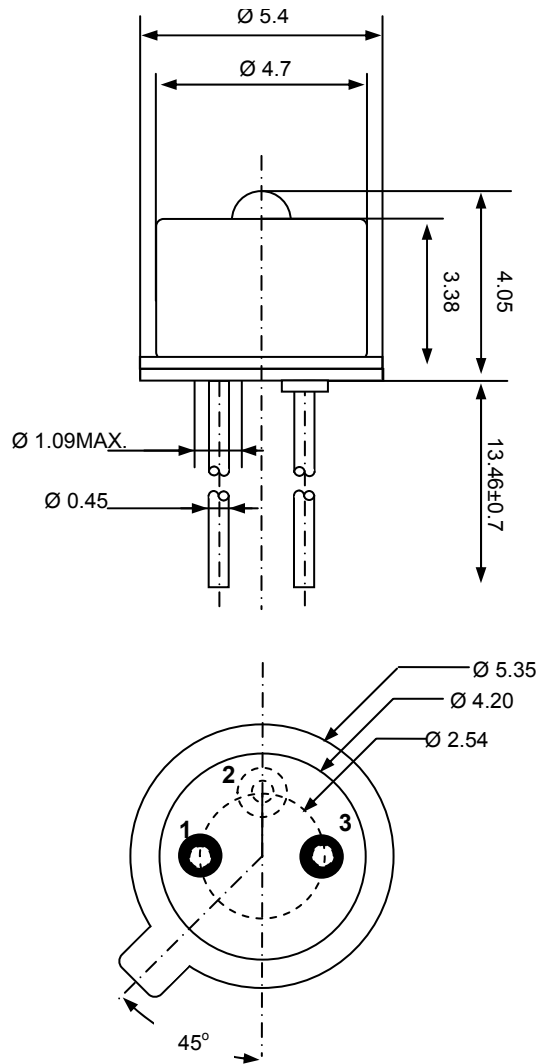


Absolute Maximum Ratings

Parameter	Rating
Storage Temperature	-40 to 100 °C
Operating Temperature	0 to 85 °C
Lead Solder Temperature	260 °C, 10 sec
Continuous Forward Current	12mA
Continuous Reverse Voltage	5V (@10µA)

Part Number :	Description :
PM85-B1P1N-KC	850nm Ball lens type TO-46 Package, Common Cathode Type
PM85-B1P1N-AC	850nm Ball lens type TO-46 Package, Common Anode Type

Dimensions



Bottom view

PIN OUT

PM85-B1P1N-KC		PM85-B1P1N -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}

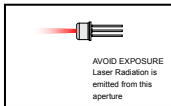
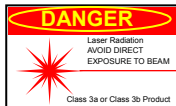
Electro-Optics Characteristics (T_a=25°C unless otherwise stated)

Parameters	Symbol	Specified			Unit	Test Conditions
		Min.	Typ.	Max.		
Optical Output Power	P _o		0.8		mW	I _f = 7 mA
Threshold Current	I _{th}		1.5	3	mA	CW
I _{th} Temperature Variation	ΔI _{th}		1.5		mA	T _a =0 to 85 °C
Slope Efficiency	η	0.08	0.15	0.25	W/A	I _f = 7 mA
η Temperature Variation	Δη / ΔT		-0.5		%/ °C	T _a =0 to 85 °C at 7 mA
Peak Wavelength	λ _p	840	850	860	nm	I _f = 7mA
λ _p Temperature Coefficient	Δλ / ΔT		0.06		nm/ °C	T _a =0 to 85 °C at 7mA
Spectral Bandwidth (RMS)	Δλ			0.85	nm	I _f = 7mA
Forward Voltage	V _f		1.8	2.2	V	I _f = 7mA
Breakdown Voltage	V _b		-10		V	
Rise and Fall Times	t _r			130	ps	Prebias Above Threshold, 20%~80%
	t _f			150		
Relative Intensity Noise	RIN		-130	-122		1 GHz BW, I _f = 7mA
Series Resistance	R _s	20	35	55	Ohm	I _f = 7mA
R _s Temperature Coefficient	dR _s /dT		-3000		PPM/ °C	

Parameters	Symbol	Min.	Typ.	Max.	Unit	Test Conditions
Monitor Current	I _{PD}	0.1		1.0	mA	P ₀ =0.8mW
I _{PD} Temperature Variation	ΔI _{PD} /ΔT		0.2		%/ °C	P ₀ =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

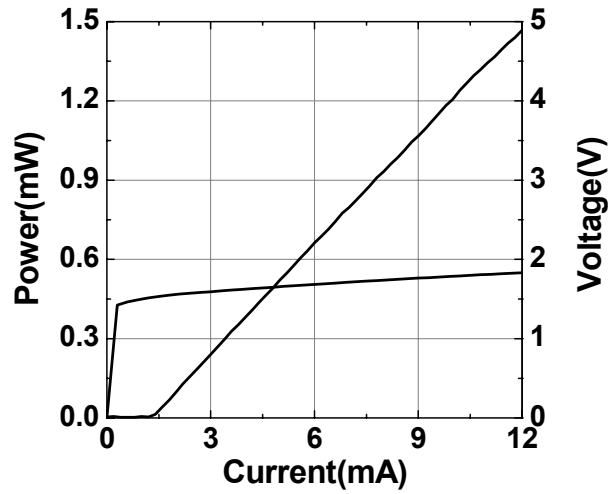
The inherent design of this component causes it to be sensitive to electrostatic discharge(ESD). To prevent ESD-induced damage and/or degradation to equipment, take normal ESD precautions when handling this product

DANGER

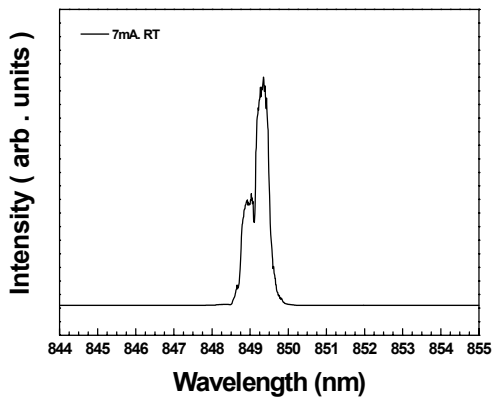
The VCSEL is a class IIIb laser and should be treated as a potential eye hazard. Due to the size of the component, the applicable warning logotype, aperture label, and certification / identification label cannot be placed on the component itself.

Characteristics Curves

LI Curve



EL Spectrum



I_{th} vs Temperature

