PM85-F1P1N-XX Rev 3.0

1.25/2.5Gbps 850nm VCSEL TO-46 Can Package with m-PD

Features

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

Description

Applications

: High speed Data Communications
: Gigabit Ethernet
: Fiber Channel

Absolute Maximum Ratings

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

Part Number :	Description :
PM85-F1P1N-KC	850nm Flat window type TO-46 Package, Common Cathode Type
PM85-F1P1N-AC	850nm Flat window TO-46 Package, Common Anode Type

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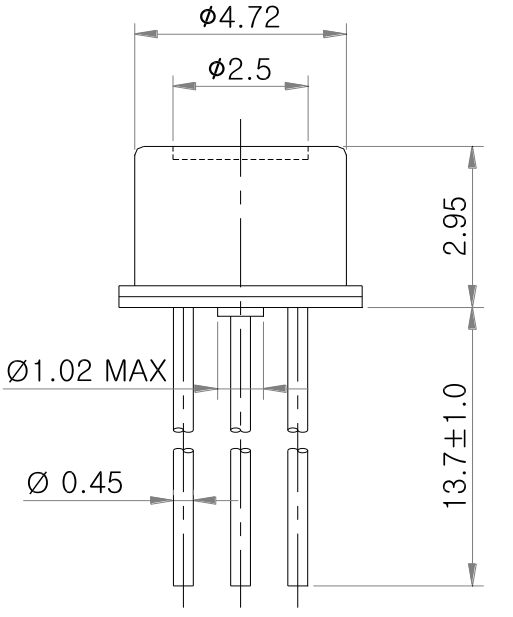
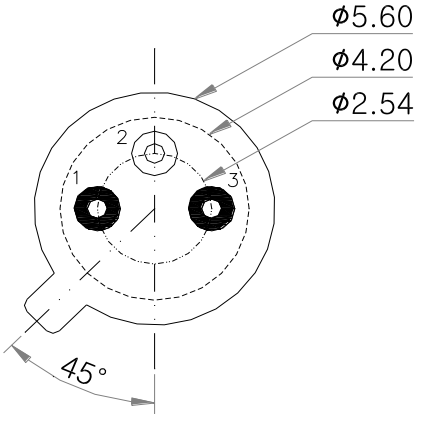
Dimensions

Unit :mm





Bottom View

PIN OUT

PM85-F1P1N-KC		PM85-F1P1N-AC	
Number	Function	Number	Function
1	A_{VCSEL}	1	K_{VCSEL}
2	K_{VCSEL}, $A_{m\text{-}PD}$	2	A_{VCSEL}, $K_{m\text{-}PD}$
3	$K_{m\text{-}PD}$	3	$A_{m\text{-}PD}$

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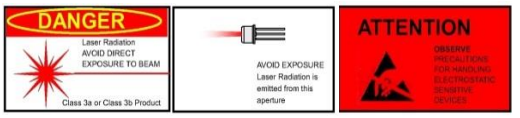
Electro-Optics Characteristics (T_a=25℃ unless otherwise stated)

Parameters	Symbol	Specified			Unit	Test Conditions
		Min.	Typ.	Max.		
Optical Output Power	P_o		1.0		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	Δ λ / ΔT		0.06		nm/ °C	T_a=0 to 85 °C at 7mA
Spectral Bandwidth (RMS)	Δ λ			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/℃	

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	$\Delta I_{PD}/\Delta T$		0.2		%/ °C	P_0=0.8mW
Dark current	I_D			10	nA	P_0=0mW,V_R=5V
PD Reverse Voltage	BVR_{PD}	40			V	P_0=0mW,IR=10μA
PD Capacitance	C			50	pF	V_R=0V,Freq=1MHz
				20		V_R=5V,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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