

Features

- : Multi-mode 850nm wavelength range
- : Data rate > 2.5Gbps
- : Low Current and Voltage
- : Cost effective.
- : Other configurations available on request

Description



Applications

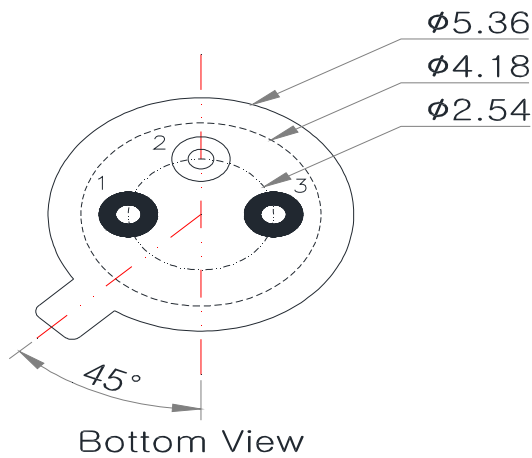
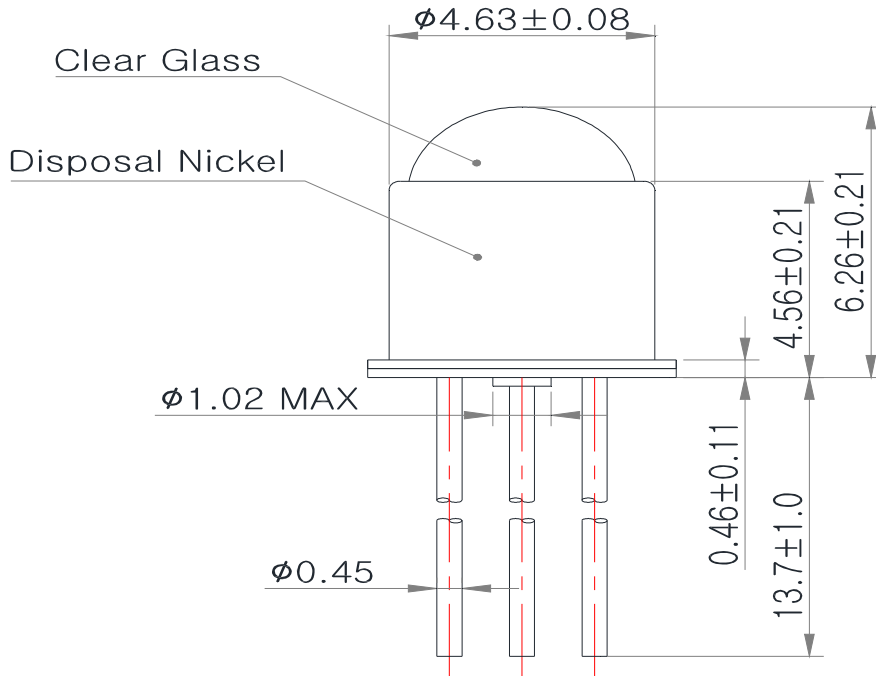
- : Position Sensors
- : Encoder

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	10mA
Continuous Reverse Voltage	5V (@10µA)

Part Number :	Description :
PM85-D2P4HW-KC	850nm Dome lens type TO-46 Package, Common Cathode Type
PM85-D2P4HW-AC	850nm Dome lens type TO-46 Package, Common Anode Type

Dimensions



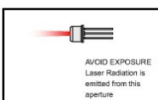
PIN OUT		PIN OUT	
PM85-D2P4HW-KC		PM85-D2P4HW-AC	
Number	Function	Number	Function
1	A_{VCSEL}	1	K_{VCSEL}
2	K_{VCSEL}, A_{M-PD}	2	A_{VCSEL}, K_{M-PD}
3	K_{M-PD}	3	A_{M-PD}

Electro-Optics Characteristics ($T_a=25^\circ\text{C}$ unless otherwise stated)

Parameters	Symbol	Specified			Unit	Test Conditions
		Min.	Typ.	Max.		
Threshold Current	I_{th}		0.7		mA	CW
I_{th} Temperature Variation	ΔI_{th}		1		mA	$T_a=0$ to 85°C
Slope Efficiency	η	0.8	0.9	1.0	W/A	$I_f = 6$ mA
η Temperature Variation	$\Delta\eta / \Delta T$		-0.5		%/ $^\circ\text{C}$	$T_a = 0$ to 85°C at 6mA
Optical Output Power	P_o		4.5		mW	$I_f = 6$ mA
Peak Wavelength	λ	840	850	860	nm	$I_f = 6$ mA
λ_p Temperature Variation	$\Delta \lambda / \Delta T$		0.06			$T_a=0$ to 85°C at 6mA
Spectral Bandwidth (RMS)	$\Delta \lambda$			0.85	nm	$I_f = 6$ mA
Beam Divergence	Θ		5		$^\circ$	$I_f = 6$ mA, (FWHM)
Operating Voltage	V_f		2.1	2.5	V	$I_f = 6$ mA
Breakdown Voltage	V_b		-10		V	-
Dynamic Resistance	R_d		70		Ohm	$I_f = 6$ mA
Parameters	Symbol	Min.	Typ.	Max.	Unit	
Monitor Current	I_{PD}		0.20		mA	$I_f = 6$ mA
Dark current	I_D			10	nA	$P_0=0\text{mW}, V_R=5\text{V}$
PD Reverse Voltage	BVR_{PD}	40			V	$P_0=0\text{mW}, I_R=10\mu\text{A}$
PD Capacitance	C			50	pF	$V_R=0\text{V}, \text{Freq}=1\text{MHz}$
				20		$V_R=5\text{V}, \text{Freq}=1\text{MHz}$

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.