

Features

- : 850nm wavelength range
- : Single mode transverse and longitudinal mode
- : Low drive operation available
- : Flat window Type TO-46 Can Package
- : Back monitor Photo diode
- : Other configurations available on request

Description



Applications

- : Consumer electronics
- : Laser mouse
- : Safety sensor

Absolute Maximum Ratings

Parameter	Rating
Storage Temperature	-40 to 85 °C
Operating Temperature	-10 to 70 °C
Lead Solder Temperature	260 °C, 10 sec
Continuous Forward Current	6mA
Continuous Reverse Voltage	5V (@10µA)

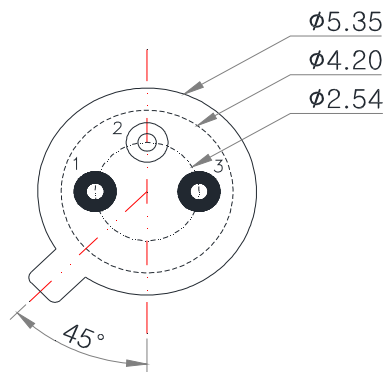
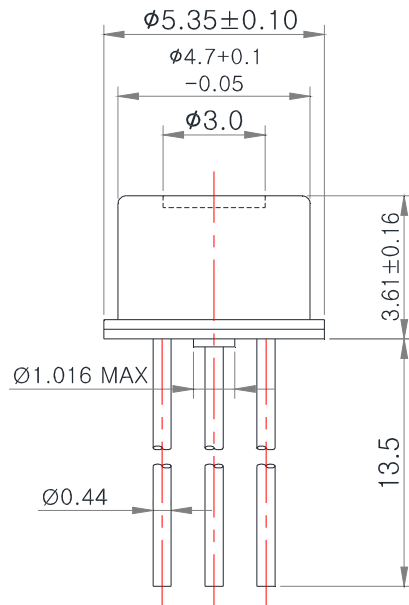
Part Number : Description :

PS85-F1P1U-KC-5U 850nm Flat window type TO-46 Package, Common Cathode Type

PS85-F1P1U-AC-5U 850nm Flat window TO-46 Package, Common Anode Type

Dimensions

Unit :mm



Bottom View

PIN OUT

PS85-F1P1U-KC-5U		PS85-F1P1U-AC-5U	
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}

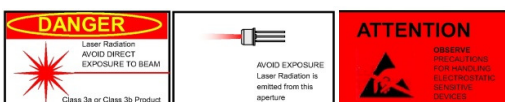
Electro-Optics Characteristics ($T_a=25^\circ\text{C}$ unless otherwise stated)

Parameters	Symbol	Specified			Unit	Test Conditions
		Min.	Typ.	Max.		
Threshold Current	I_{th}		2		mA	CW
I_{th} Temperature Variation	ΔI_{th}		1.5		mA	$T_a=-10$ to 70°C
Slope Efficiency	η		0.35		W/A	$I_f = 3.5$ mA
η Temperature Coefficient	$\Delta\eta / \Delta T$		-0.5		%/ $^\circ\text{C}$	$T_a = -10$ to 70°C at 3.5mA
Optical Output Power	P_o		0.5		mW	$I_f = 3.5$ mA
Peak Wavelength	λ_p	840	850	860	nm	$I_f = 3.5$ mA
λ_p Temperature Coefficient	$\Delta \lambda / \Delta T$		0.06		nm/ $^\circ\text{C}$	$T_a = -10$ to 70°C at 3.5mA
Beam Divergence	Θ		8		$^\circ$	$I_f = 3.5$ mA, (FWHM)
Forward Voltage	V_f		1.8		V	$I_f = 3.5$ mA
Breakdown Voltage	V_b		-10		V	
Dynamic Resistance	R_d		70		Ohm	$I_f = 3.5$ mA
Side mode suppression ratio	SMSR	15	30		dB	$I_f = 3.5$ mA
			10		dB	$I_f = 4.0$ mA
Max. single-mode Power	P_{SM}			0.35	mW	SMSR > 15dB

Parameters	Symbol	Min.	Typ.	Max.	Unit	Test Conditions
Monitor Current	I_{PD}		20		μA	$I_f = 3.5$ mA
Dark current	I_D			10	nA	$P_o=0\text{mW}, V_R=5\text{V}$
PD Reverse Voltage	BVR_{PD}	40			V	$P_o=0\text{mW}, I_R=10\mu\text{A}$
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.