

#### Features

- : Multi-mode 850nm VCSEL
- : 4.25 Gbps data rates
- : Low drive current and voltage
- : Other configurations available on request
- : Common cathode / anode Type

#### Description



#### Applications

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

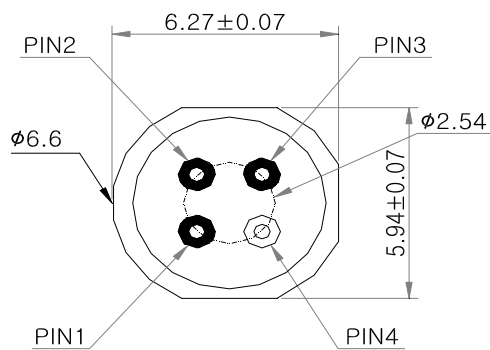
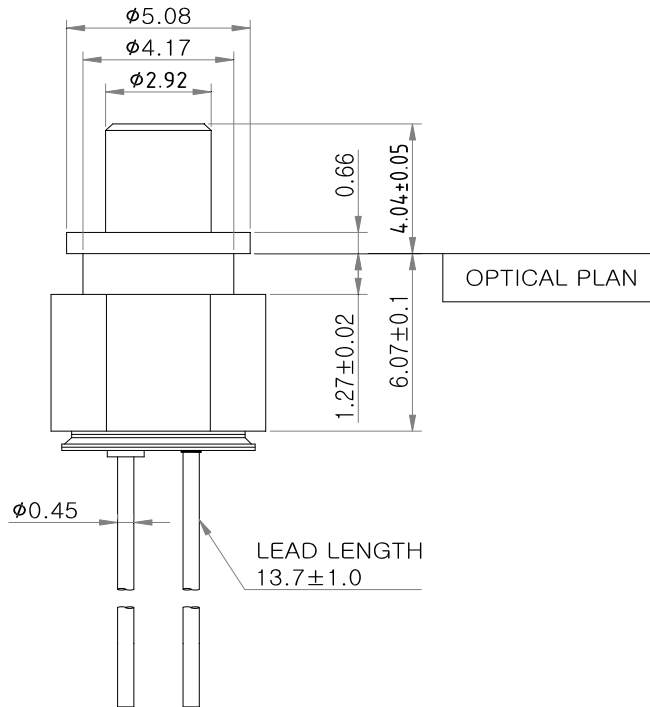
#### Absolute Maximum Ratings

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

Part Number :	Description :
YL-VC850-L1F-KC	850nm 4.25Gbps LC TOSA, Common Cathode Type
YL-VC850-L1F-AC	850nm 4.25Gbps LC TOSA, Common Anode Type
YL-VC850-L1F-K	850nm 4.25Gbps LC TOSA, pin separation Type
YL-VC850-L1F-A	850nm 4.25Gbps LC TOSA, pin separation Type

#### Dimensions

Unit :mm



Bottom View

PIN OUT

YL-VC850-L1F-KC		YL-VC850-L1F-AC		YL-VC850-L1F-K		YL-VC850-L1F-A	
Number	Function	Number	Function	Number	Function	Number	Function
1	$A_{VCSEL}$	1	$K_{VCSEL}$	1	$A_{VCSEL}$	1	$K_{VCSEL}$
2	$K_{VCSEL}, A_{m-PD}$	2	$A_{VCSEL}, K_{m-PD}$	2	$K_{VCSEL}$	2	$A_{VCSEL}$
3	$K_{m-PD}$	3	$A_{m-PD}$	3	$K_{m-PD}$	3	$K_{m-PD}$
4	Case(NC)	4	Case(NC)	4	$A_{m-PD}$	4	$A_{m-PD}$

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

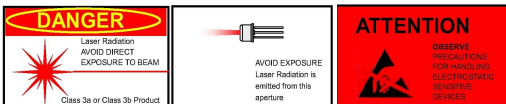
Parameters	Symbol	Specified			Unit	Test Conditions
		Min.	Typ.	Max.		
Peak Fiber Coupled Optical Output Power (See threshold current And slope efficiency which Control power output)	$P_{OC}$		500		$\mu\text{W}$	$I_f = 7 \text{ mA}, 50/125 \mu\text{m fiber NA}=0.20$
Threshold Current	$I_{th}$	0.6	1.0		mA	CW
$I_{th}$ Temperature Variation	$\Delta I_{th}$		1.5	2	mA	$T_a=-40 \text{ to } 85^\circ\text{C}$
Slope Efficiency	$\eta$	0.06	0.09	0.12	W/A	$I_f = 7 \text{ mA}$
		0.03				$I_f=7 \text{ mA at } 85^\circ\text{C}$
$\eta$ Temperature Variation	$\Delta\eta / \Delta T$		-5000		PPM/ $^\circ\text{C}$	$T_a=-40 \text{ to } 85^\circ\text{C at } 7 \text{ mA}$
Peak Wavelength	$\lambda_p$	840	850	860	nm	$I_f = 7 \text{ mA}$
$\lambda_p$ Temperature Coefficient	$\Delta \lambda / \Delta T$		0.06		nm/ $^\circ\text{C}$	$T_a=-40 \text{ to } 85^\circ\text{C at } 7 \text{ mA}$
Spectral Bandwidth (RMS)	$\Delta \lambda$			0.85	nm	$I_f = 7 \text{ mA}$
Forward Voltage	$V_f$		2.0	2.2	V	$I_f = 7 \text{ mA}$
Breakdown Voltage	$V_b$		-10		V	
Rise and Fall Times	$t_R$ $t_F$			90	ps	Prebias Above Threshold, 20%~80%
				90		
Relative Intensity Noise	RIN		-130	-122	dB/Hz	1 GHz BW, $I_f = 7 \text{ mA}$
Series Resistance	$R_d$	30	50	70	Ohm	$I_f = 7 \text{ mA}$
$R_s$ Temperature Coefficient	$dR_s/dT$		-3000		PPM/ $^\circ\text{C}$	

Parameters	Symbol	Min.	Typ.	Max.	Unit	Test Conditions
Monitor Current	$I_{PD}$	0.2		0.7	mA	$P_{OC}=0.5\text{mW}$
Dark current	$I_D$			10	nA	$P_o=0\text{mW}, V_R=5\text{V}$
PD Reverse Voltage	$BVR_{PD}$	40			V	$P_o=0\text{mW}, I_R=100\mu\text{A}$
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



<b>NOTICE</b>	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
<b>DANGER</b>	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.