

▶ Features
<ul style="list-style-type: none"> <li>: Multi-mode 850nm VCSEL</li> <li>: 2.5 Gbps data rates</li> <li>: Low drive current and voltage</li> <li>: Eextended operating temperature range</li> <li>: Other configurations available on request</li> </ul>



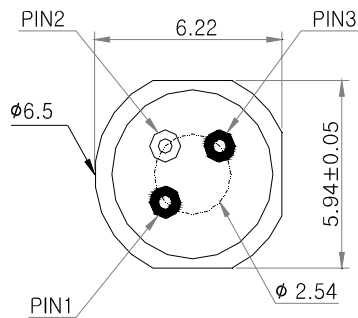
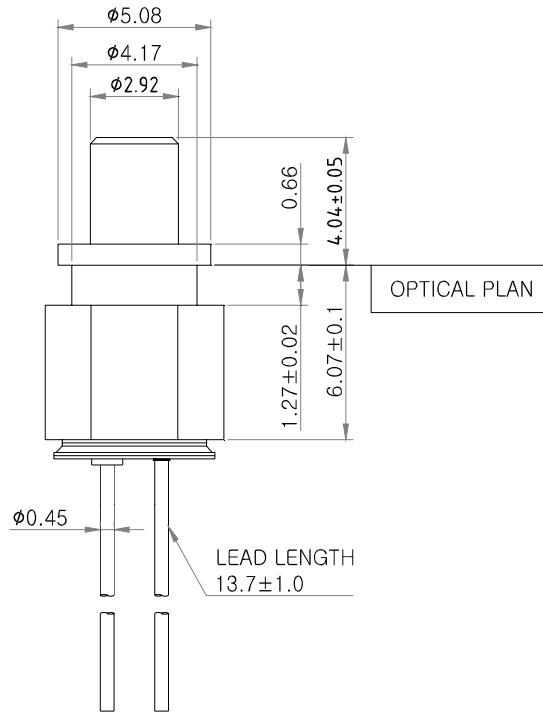
▶ Applications
<ul style="list-style-type: none"> <li>: High speed Data Communications</li> <li>: Gigabit Ethernet</li> <li>: Fiber Channel</li> </ul>

▶ 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 :
TP85-LCP1NW-KC	850nm 2.5Gbps LC TOSA, Common Cathode Type
TP85-LCP1NW-AC	850nm 2.5Gbps LC TOSA, Common Anode Type

Dimensions

Unit :mm



Bottom View

PIN OUT

TP85-LCP1NW-KC		TP85-LCP1NW-AC	
Number	Function	Number	Function
1	A <sub>VCSEL</sub>	1	K <sub>VCSEL</sub>
2	K <sub>VCSEL</sub> , A <sub>m-PD</sub>	2	A <sub>VCSEL</sub> , K <sub>m-PD</sub>
3	K <sub>m-PD</sub>	3	A <sub>m-PD</sub>

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

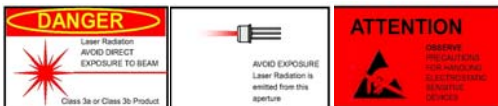
Parameters	Symbol	Specified			Unit	Test Conditions
		Min.	Typ.	Max.		
Peak Fiber Coupled Optical Output Power (See threshold current And slope efficiency which Control power output)	$P_{OC}$		500		$\mu\text{W}$	$I_f = 7 \text{ mA}, 50/125 \mu\text{m fiber NA}=0.20$
Threshold Current	$I_{th}$		1.0	2.5	mA	CW
$I_{th}$ Temperature Variation	$\Delta I_{th}$		2	3	mA	$T_a = -40 \text{ to } 85^\circ\text{C}$
Slope Efficiency	$\eta$	0.04		0.16	W/A	$I_f = 7 \text{ mA}$
$\eta$ Temperature Variation	$\Delta \eta / \Delta T$		-5000		PPM/ $^\circ\text{C}$	$T_a = -40 \text{ to } 85^\circ\text{C}$ at 7 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 mA
Spectral Bandwidth (RMS)	$\Delta \lambda$			0.85	nm	$I_f = 7 \text{ mA}$
Forward Voltage	$V_f$		1.7	2.2	V	$I_f = 7 \text{ mA}$
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	dB/Hz	1 GHz BW, $I_f = 7 \text{ mA}$
Series Resistance	$R_s$	20	35	55	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.