



FTF-10V-8L5-447

LC Connectorized 850nm VCSEL plus Monitor PD with FPC

FEATURES:

- LC-type optical sub-module with flexible circuit attached.
- Optimized for fiber optic application.
- Support up to 10.3125Gbps data rate operation.
- Isolated pinout between LD and monitor PD.



ELECTRO-OPTICAL CHARACTERISTICS:

PARAMETERS	SYMBOL	MIN	TYP	MAX	UNIT	TEST CONDITIONS ⁽¹⁾
Threshold Current	I_{th}		1.0 2.0	1.5 2.5	mA	$T_A=25^{\circ}C$ $T_A=85^{\circ}C$
Slope Efficiency	η	0.09		0.17	mW/mA	$I_F=6mA$
Rise / Fall Time(20 % ~ 80 %)	tr/tf		50		ps	$I_F=6mA$, ER=5dB
Wavelength	λ_p	840	850	860	nm	$I_F=6mA$ ⁽²⁾
Forward Voltage	V_F	1.7		2.4	V	$I_F=6mA$
Spectral width (RMS)	$\Delta\lambda$			0.45	nm	$I_F=6mA$, $T_A = -40\sim85^{\circ}C$
Relative Intensity Noise	RIN			-128	dB/Hz	$I_F=6mA$, f= 1GHz
Monitor Current	I_M	30		500	μA	$V_R=3V$, $P_{oc}=600\mu W$ ⁽³⁾
PD Dark Current	I_d			20	nA	$V_R=3V$, $T_A = 25^{\circ}C$
PD Capacitance	C_M		12		pF	$V_R=3V$, f= 1MHz

THERMAL CHARACTERISTICS:

PARAMETERS	SYMBOL	MIN	TYP	MAX	UNIT	TEST CONDITIONS
I_{th} Temperature Variation	ΔI_{th}			1.5	mA	$T_A = -40\sim85^{\circ}C$
η Temperature Coefficient	$\Delta\eta/\Delta T$		-0.4		%/ $^{\circ}C$	$T_A = -40\sim85^{\circ}C$, $I_F=6mA$
λ_p Temperature Coefficient	$\Delta\lambda_p/\Delta T$		0.07		nm/ $^{\circ}C$	$T_A = -40\sim85^{\circ}C$, $I_F=6mA$
Tracking Error	TE	-1.5		1.5	dB	$T_A = -40\sim85^{\circ}C$ ⁽⁴⁾
Series Resistance	R_S		70	85	Ω	$T_A = 25^{\circ}C$, $I_F=6mA$
	R_S		60		Ω	$T_A = 85^{\circ}C$, $I_F=6mA$

Notes:

1. All parameters are measured at $I_F=6mA$, $25^{\circ}C$ unless otherwise stated.
2. Minimum and Maximum values are valid over the entire ambient temperature range.
3. P_{oc} =Coupled Optical Power, be measured with a multi-mode 50/125 μm fiber and ambient temperature $25^{\circ}C$.
4. CW, I_M = Constant (@ $P_o = I_{th}+4mA$, $25^{\circ}C$), $TE=10\log[(P_o@T_A)/(P_o@25^{\circ}C)]$

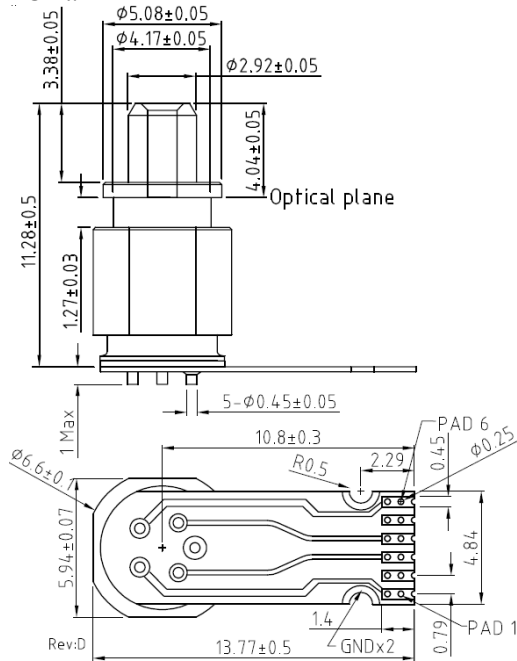
ABSOLUTE MAXIMUM RATINGS:

PARAMETERS	MIN	MAX	UNIT	CONDITIONS
Storage Temperature	-40	100	$^{\circ}C$	
Operating Temperature	-40	85	$^{\circ}C$	
Lead Solder Temperature		260	$^{\circ}C$	10 seconds
Peak Continuous Forward Current		10	mA	
Laser Reverse Voltage		10	V	



OUTLINE DIMENSIONS:

- Unit: mm



Pinout:

Pin Number	TTF-1F59-447
	Function
1	PD Cathode
2	Case/Gnd
3	VCSEL Anode
4	VCSEL Cathode
5	Case/Gnd
6	PD Anode



WARNING:

The VCSEL is a class 1M laser in the safety standard ANSI Z136.1 and should be treated as a potential eye hazard.