

TTR-1F58-327/ TTR-1F58-427

LC Connectorized 850nm VCSEL plus Monitor PD

FEATURES:

- Pre-aligned LC-type receptacle for multi-mode fiber communication.
- Support up to 10.3125Gbps data rate operation.
- Design for small form factor transceivers.
- Isolation pin-out configuration.
- Comply with flexible interconnect.



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	$T_A=25^{\circ}\text{C}$ $T_A=85^{\circ}\text{C}$
Slope Efficiency	η	0.09		0.17	mW/mA	$I_F=6\text{mA}$
Rise / Fall Time(20 % ~ 80 %)	tr/tf		50		ps	$I_F=6\text{mA}$, ER=5dB
Wavelength	λ_p	840	850	860	nm	$I_F=6\text{mA}$ ⁽²⁾
Forward Voltage	V_F	1.7		2.4	V	$I_F=6\text{mA}$
Spectral width (RMS)	$\Delta\lambda$			0.65	nm	$I_F=6\text{mA}$, $T_A = -10\sim 85^{\circ}\text{C}$
Relative Intensity Noise	RIN			-128	dB/Hz	$I_F=6\text{mA}$, $f=1\text{GHz}$
Monitor Current	I_M	30		500	μA	$V_R=5\text{V}$, $P_{oc} = 600\mu\text{W}$ ⁽³⁾
PD Dark Current	I_d			20	nA	$V_R=5\text{V}$, $T_A = 25^{\circ}\text{C}$
PD Capacitance	C_M		12		pF	$V_R=3\text{V}$, $f=1\text{MHz}$

THERMAL CHARACTERISTICS:

PARAMETERS	SYMBOL	MIN	TYP	MAX	UNIT	TEST CONDITIONS
I_{th} Temperature Variation	ΔI_{th}			1.5	mA	$T_A = -10\sim 85^{\circ}\text{C}$
η Temperature Coefficient	$\Delta\eta/\Delta T$		-0.4		%/ $^{\circ}\text{C}$	$T_A = -10\sim 85^{\circ}\text{C}$, $I_F=6\text{mA}$
λ_p Temperature Coefficient	$\Delta\lambda_p/\Delta T$		0.07		nm/ $^{\circ}\text{C}$	$T_A = -10\sim 85^{\circ}\text{C}$, $I_F=6\text{mA}$
Tracking Error	TE	-1.5		1.5	dB	$T_A = -10\sim 85^{\circ}\text{C}$ ⁽⁴⁾
Series Resistance	R_S		70	85	Ω	$T_A = 25^{\circ}\text{C}$, $I_F=6\text{mA}$
	R_S		60		Ω	$T_A = 85^{\circ}\text{C}$, $I_F=6\text{mA}$

Notes:

1. All parameters are measured at $I_F=6\text{mA}$, 25°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°C .
4. CW, I_m =Constant (@ $P_o=I_{th}+4\text{mA}$, 25°C), $TE=10\log[(P_o@T_A)/(P_o@25^{\circ}\text{C})]$

ABSOLUTE MAXIMUM RATINGS:

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

TrueLight reserves the right to make changes due to the improvement of process and package technology.



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