

TTR-1F45-357/TTR-1F45-427

Connectorized high speed VCSEL with monitor PD

FEATURES:

- Pre-aligned LC-type receptacle for multi-mode fiber communication.
- Packaged with attenuating coating and monitoring PD.
- Support from DC to 4.25Gbps data rate operation.
- Design for small form factor transceivers
- Isolation pin-out configuration (-357/-427)



ELECTRO-OPTICAL CHARACTERISTICS:

PARAMETERS	SYMBOL	MIN	TYP	MAX	UNIT	TEST CONDITIONS
Threshold Current	I_{th}		1.5	2.75	mA	
Slope Efficiency	η	0.05	0.08	0.12	mW/mA	$I_F=6$ mA
Rise Time / Fall Time	t_r / t_f			90	ps	$I_F=6$ mA , ER= 10 dB
Wavelength	λ_p	830	850	860	nm	$I_F=6$ mA ⁽³⁾
Forward Voltage	V_F	1.6	1.8	2.1	V	$I_F=6$ mA
Spectral width (RMS)	$\Delta\lambda$			0.85	nm	$I_F=6$ mA
Monitor Current	I_M	200		800	μ A	$V_R=5$ V, $P_{OC}=350 \mu$ W ⁽²⁾

Notes:

1. All parameters except mentioned are measured at $I_F=6$ mA, 25°C , CW.
2. P_{OC} =Coupled Optical Power, be measured with a multi-mode 50/125 μ m fiber and ambient temperature 25°C.
3. Minimum and Maximum values are valid over the entire ambient temperature range.

THERMAL CHARACTERISTICS:

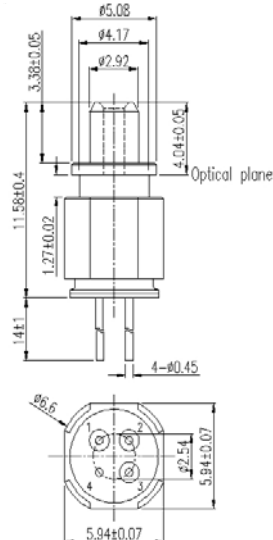
PARAMETERS	SYMBOL	MIN	TYP	MAX	UNIT	TEST CONDITIONS
I_{th} Temperature Variation	ΔI_{th}	-1.5		1.5	mA	$T_A=0\sim 70^\circ\text{C}$
η Temperature Coefficient	$\Delta\eta/\Delta T$	-0.6		-0.1	%/°C	$T_A=0\sim 70^\circ\text{C}$, $I_F=6$ mA
λ_p Temperature Coefficient	$\Delta\lambda_p/\Delta T$		0.06		nm/°C	$T_A=0\sim 70^\circ\text{C}$, $I_F=6$ mA
Series Resistance	R_s	30	45	60	Ω	$T_A=25^\circ\text{C}$, $I_F=6$ mA
	R_s	20			Ω	$T_A=85^\circ\text{C}$, $I_F=6$ mA

ABSOLUTE MAXIMUM RATINGS:

PARAMETERS	MIN	MAX	UNIT	TEST CONDITIONS
Storage Temperature	-40	100	°C	
Operating Temperature	-10	85	°C	
Lead Solder Temperature		260	°C	10 seconds
Continuous Forward Current		20	mA	
Continuous Reverse Voltage		10	V	

OUTLINE DIMENSIONS:

• Unit: mm

**Pinout:**

Pin Number	TTR-1F45-357	TTR-1F45-427
	Function	Function
1	VCSEL Anode	VCSEL Cathode
2	VCSEL Cathode	VCSEL Anode
3	PD Cathode	PD Cathode
4	PD Anode / Case	PD Anode / Case

**WARNING:**

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