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## 1310nm 1.25Gbps 4-Pin FP TOSA

### FI1N-9103-1 Series

#### TYPE NAME: FI1N-9103-1

#### Product Description:

The LuxNet FI1N-9103-1 4-pin 1.25G FP Lasers TOSA (Transmitter Optical Sub-Assembly) is designed for Synchronous Digital Hierarchy (SDH) systems and other fiber optic communication network applications. This device integrates our Fabry-Perot (FP) laser diode with InGaAs monitor PIN-PD in a receptacle type package, and have low threshold current and high performance at high temperature.

#### Product Specifications:

##### Absolute Maximum Ratings

Parameter	Symbol	Units	Min	Max
Operating Temperature (case)	Top	°C	-40	+85
Storage Temperature	Tstg	°C	-40	+85
Solder Reflow Temperature (10 sec)	STEM	°C	-	260
Laser Reverse Voltage	V <sub>RL</sub>	V	-	2
Laser Forward Current	I <sub>FL</sub>	mA	-	150
Photodiode Reverse Voltage	V <sub>RD</sub>	V	-	20
Photodiode Forward Current	I <sub>pd</sub>	mA	-	10

##### Electro-Optical Characteristics (T = 25°C, unless noted otherwise):

Parameter	Symbol	Units	Min	Typ	Max	test condition
Threshold Current	I <sub>th</sub>	mA		7	15	CW, Tc = 25°C
Forward Voltage	V <sub>f</sub>	V		1.1	1.5	CW, I <sub>op</sub> = I <sub>th</sub> + 20 mA
Optical Output Power	P <sub>f</sub>	mW	0.2	0.3	0.5	CW, I <sub>op</sub> = I <sub>th</sub> + 20 mA
Slope Efficiency	SE	W/A	0.01	-	0.025	CW, I <sub>op</sub> = I <sub>th</sub> + 20 mA
Peak Wavelength	λ	nm	1290	1310	1330	CW, I <sub>op</sub> = I <sub>th</sub> + 20 mA
Spectral Width	Δλ	nm		1	3	CW, I <sub>op</sub> = I <sub>th</sub> + 20 mA
Rise and Fall time	tr, tf	ns	-	-	0.3	CW, I <sub>op</sub> = I <sub>th</sub> + 20 mA
Tracking Error	ΔP <sub>f</sub> /P <sub>f</sub>	dB	-2	-	+2	CW, Tc = 0~70°C, monitor current hold @25°C

##### Photodiode Characteristics (T = 25°C, unless noted otherwise):

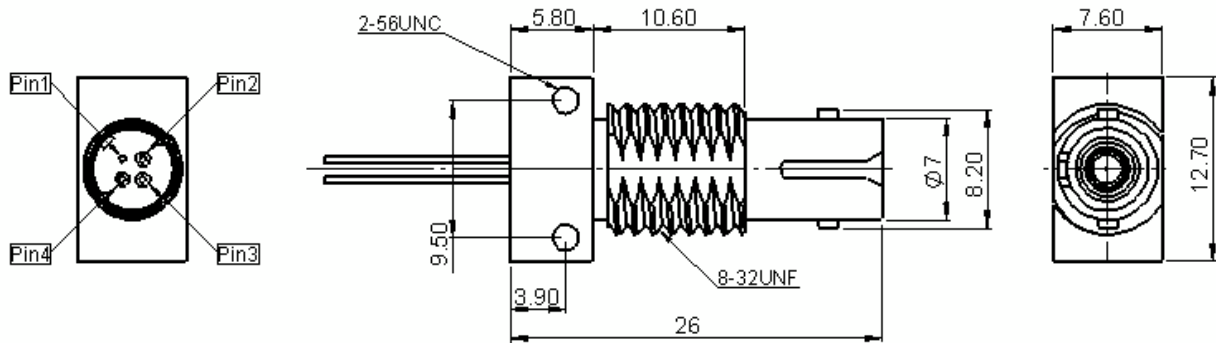
Parameter	Symbol	Units	Min	Typ	Max	test condition
PD Monitor Current	I <sub>m</sub>	uA	100	-	-	CW, I <sub>op</sub> =I <sub>th</sub> +20mA
PD Dark Current	I <sub>d</sub>	uA	-	-	0.1	V <sub>rp</sub> =5V,
Monitor Capacitance	C <sub>t</sub>	pF	-	-	20	VRD=5 V, f=1MHz

- \* Specifications are subject to change without notice.
- \* Screening per customer-specified reject limits is available.

Version 1.1

## FI1N-9103-1 (ST-TOSA)

**Dimensions:** (mm)  
*All dimensions are nominal*



PINOUT(Bottom View)

FI1N-9103-1	
Number	Function
1	Case Gnd
2	Laser Diode Cathode
3	Photodiode Anode
4	Laser Diode Anode & Photodiode Cathode

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