



### Description

The PSI-1600-10AT is a high performance microwave photonic transmitter with an RF pre-amplifier providing wideband electrical to optical (E/O) conversion for RF input signals beyond 12 GHz. Along with a PSI-1600-10UR receiver module, the PSI-1600-10AT provides a complete fiber optic link solution designed to replace low loss coaxial cable or microwave repeaters for applications in military systems, satellite communications, radio astronomy, optical delay lines, cellular/wireless base stations or other RF/Microwave related systems.

Custom RF performance, packaging, connectors and link gain configurations are also available. **Please contact PSI with your application needs.**

### Features

- Wide Operational and Instantaneous Bandwidth
- RF<sub>in</sub> to RF<sub>out</sub> Solution
- Complete TX and RX Modules
- High Dynamic Range
- Customization Available

### Applications

- Replace High Loss Coax Cable
- Remote Antenna Sites
- Radio Over Fiber
- Radio Astronomy
- Phased Array Radar
- EW/ECM
- SATCOM
- Delay Lines

### PHOTONIC SYSTEMS INC.

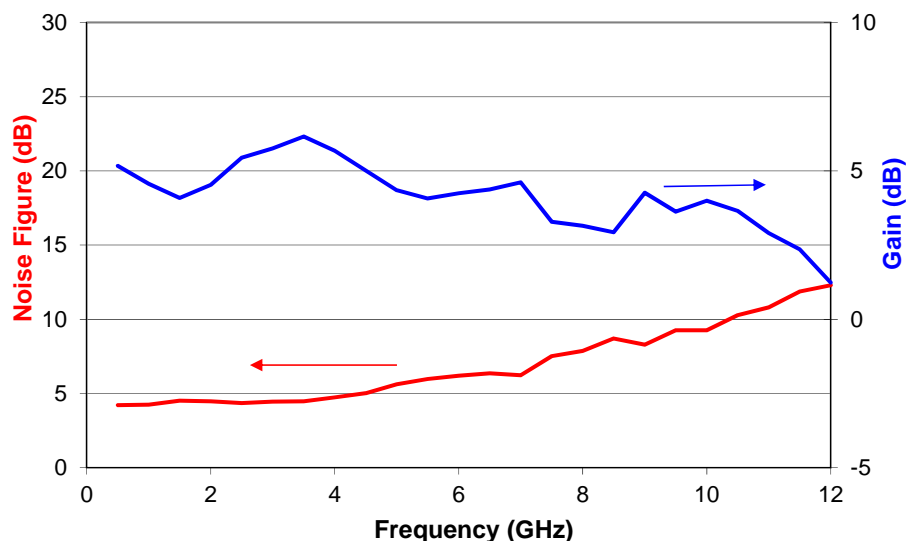
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### RF Link Performance Summary

Parameter	Condition	Min	Typ	Max	Units
Operating Bandwidth		0.1		12	GHz
Link Gain	@ 5 GHz	-1	0		dB
Noise Figure	@ 5 GHz		8	13	dB
Input IP3	@ 5 GHz	-10			dBm
Spur Free Dynamic Range	1 Hz band @ 5 GHz	101	104		dB/Hz <sup>2/3</sup>
Gain Flatness	1 - 12 GHz			±4	dB
	In any 100 MHz band			±0.5	dB

Note: RF link performance specifications with PSI-1600-10UR receiver module

### PSI-1602-10L Typical Response Over Frequency



**RF Characteristics**

Parameter	Min	Typ	Max	Units
Maximum RF Input			-14	dBm
Input 1dB Compression	-18			dBm
RF Input Impedance		50		Ohm
RF Return Loss	9.5	15		dB
RF Input Connector	SMA Female			

**Optical Characteristics**

Parameter	Min	Typ	Max	Units
Wavelength	1520	1550	1580	nm
Optical Power Out	0.5		10	mW
Optical Connector	FC/APC (see notes)			

Notes:

1. Contact PSI for other connector options
2. User supplied fiber optic interconnect cable should be singlemode Corning SMF-28 or equivalent
3. Optical cable return loss should be >55dB by using angled-polished optical connectors

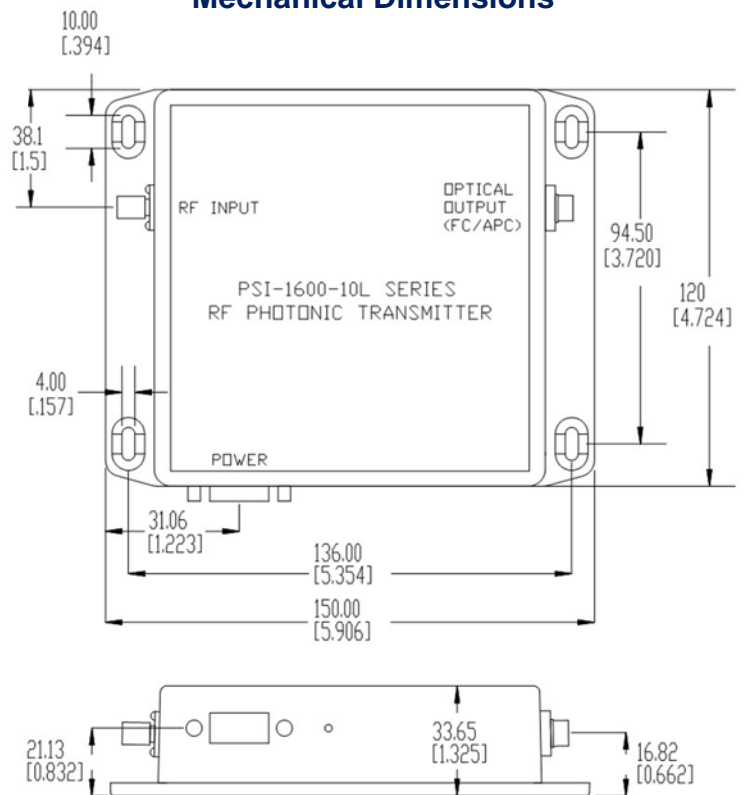
**Environmental Characteristics**

Parameter	Min	Typ	Max	Units
Operating Temperature	-5	25	70	°C
Optical Power Out	-20		85	°C

**DC Power & 9-pin D-Connector Pin Out**

Pin	Description
1	+12 V <sub>DC</sub> at 300mA Max.
2	Ground
3	+5 V <sub>DC</sub> at 1.8A Max.
4	Ground
5	-5 V <sub>DC</sub> at 1.5A Max.
6	NC
7	Ground
8	Ground
9	NC

**Mechanical Dimensions**



**Ordering Information**

Part Number	Description
PSI-1600-10AT	Amplified Transmitter Only
PSI-1602-10L	Link includes PSI-1600-10AT amplified transmitter and PSI-1600-10UR receiver
PSI-1604-10L	Link includes PSI-1600-10UT amplified transmitter and PSI-1600-10AR amplified receiver