

Microwave and Millimeter Wave Photonic Receiver



Description

The PSI-2600-40UR is a high-performance microwave and millimeter wave photonic receiver providing wideband optical to electrical (O/E) conversion for RF signals up to 40 GHz. Along with a PSI-2600-40UT transmitter module, the PSI-2600-40UR provides a complete fiber optic link solution designed to replace 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 packaging, connectors and link gain configurations are also available. Please contact PSI with your application needs.

Features

- Wide Operational and Instantaneous Bandwidth
- High Dynamic Range
- Customization Available
- Complete Link Option Available

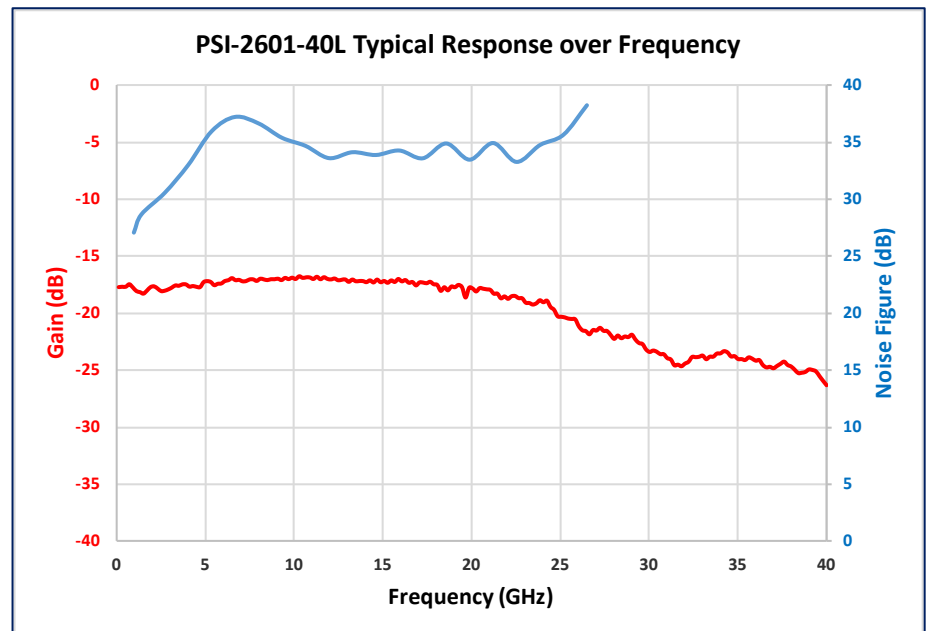
Applications

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

RF Link Performance Summary

| Parameter | Condition | Min | Typ | Max | Units |
|-------------------------|---------------------|------|-----|------|----------------------|
| Operating Bandwidth | | 0.05 | | 40 | GHz |
| Link Gain | @ 10 GHz | -25 | -17 | | dB |
| Noise Figure | @ 10GHz | | 35 | 38 | dB |
| Input IP3 | @ 10 GHz | -20 | -17 | | dBm |
| Spur Free Dynamic Range | 1 Hz band @ 5 GHz | 100 | 104 | | dB/Hz ^{2/3} |
| Gain Flatness | 1 - 40 GHz | | | ±5 | dB |
| | In any 100 MHz band | | | ±1.0 | dB |

Note: RF link performance specifications with PSI-2600-40UT transmitter module



PHOTONIC SYSTEMS INC.

900 Middlesex Turnpike
Building 5
Billerica, MA 01821 USA
P: 1-978-670-4990
F: 1-978-670-2510
E: psi.sales@photonicsinc.com
www.photonicsinc.com

RF Characteristics

| Parameter | Min | Typ | Max | Units |
|---------------------|--------------|-----|-----|-------|
| RF Output Impedance | | 50 | | Ohm |
| RF Return Loss | 8 | 15 | | dB |
| RF Input Connector | 2.4mm Female | | | |

Optical Characteristics

| Parameter | Min | Typ | Max | Units |
|---------------------|--------------------|-----|------|-------|
| Wavelength | 1300 | | 1600 | nm |
| Optical Input Power | | | 10 | mW |
| Responsivity @ 25°C | 0.7 | 0.8 | | A/W |
| 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

DC Power & 9-pin D-Connector Pin Out

| Pin | Description |
|-----|----------------------|
| 1 | +12 VDC at 20mA Max. |
| 2 | Ground |
| 3 | NC |
| 4 | Ground |
| 5 | NC |
| 6 | NC |
| 7 | Ground |
| 8 | Ground |
| 9 | NC |

Note: Pins 2, 4, 7 and 8 all internally tied to case ground

Environmental Characteristics

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

Ordering Information

| Part Number | Description |
|---------------|--|
| PSI-2600-40UR | Receiver Only |
| PSI-2601-40L | Link includes PSI-2600-40UT transmitter and PSI-2600-40UR receiver |

Mechanical Dimensions

