

microwave photonic systems

5050A1MTX / 5075A1MRX

L-Band; 950 MHz to 2 Ghz Fiber Optic Plug-In Module



Configurable as an L-Band Uplink or Downlink - Provides High Spur Free Dynamic Range Performance.

The Model 5050A1MTX and Model 5075A1MRX product series provides high performance L-Band communications interconnectivity in a hot swappable 4RU plug-in form factor. Designed for antenna remoting and L-Band SATCOM Uplink & Downlink RF transmission applications, the Plug-In modules are interconnected using singlemode fiber optic cable to extended transmission distances beyond that of traditional coaxial cable. The receiver module is equipped with a digitally controlled attenuator which allows the operator to dynamically configure the optical channel to act as either an Uplink or Downlink transmission path. This capability provides operational flexibility to tailor the RF path performance over a range of optic loss budgets.

The transmitter uses a high efficiency Distributed Feedback (DFB) laser diode with an operating wavelength of 1310 nm that provides high dynamic range performance. The laser diode's temperature stability is microprocessor controlled using a thermal electric cooler. The transmitter's microprocessor also provides embedded status monitoring of all critical parameters and communicates this information to a host computer using an RS-485 I/O interface. The I/O parameters include laser bias current, temperature and alarm status.

The receiver utilizes a high-speed, low distortion PIN photodiode detector and also has an integrated microprocessor which provides the user with status monitoring. The I/O parameters include received optical power, temperature and alarm status.

Information: Call us toll-free at 888-868-8967 or email info@b2bphotonics.com

Applications

- Antenna Remoting
- L Band SATCOM Transmission
- Delay Lines
- RADAR, EW & ECM

Features

- Uplink or Downlink, 950 MHz - 2 GHz
- High Spur Free Dynamic Range
- Hot Swappable, Plug-In Module
- Status Monitoring: RS-485

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Specifications

Optical:

| | |
|-----------------------------|----------|
| Operating Wavelength: | 1310 nm |
| Optical Output Level (min): | +5.0 dBm |
| E/O Diff. Eff. (min): | 0.1 W/A |
| Line Width (3 dB): | 10 MHz |
| Side Mode Supression (typ): | 45.0 dB |

Uplink Channel:

| | |
|-------------------------------|--|
| Frequency: | 950 MHz to 2.0 GHz |
| Flatness (typ.): | ± 0.75 dB over any 500 MHz Bandwidth |
| VSWR Input (max): | 1.5:1 |
| 1 dB Input Comp. Level (min): | 20.0 dBm(1) |
| Output IP-3 (min): | 30.0 dBm(1) |
| RF Link Gain (min): | -10.0 dB +/- 1.0 dB(1) |
| Noise Figure (max): | 58.0 dB (1) |
| RF Input Power (max): | + 10 dBm |

Downlink Channel:

| | |
|------------------------------|--|
| Frequency | 950 MHz to 2.0 GHz |
| Flatness (typ.) | ± 0.75 dB over any 500 MHz Bandwidth |
| VSWR Input (max) | 1.5:1 |
| 1 dB Input Comp. Level (min) | 20.0 dBm(1) |
| Output IP-3 (min) | 30.0 dBm(1) |
| RF Link Gain (min) | -10.0 dB +/- 1.0 dB(1) |
| Noise Figure (max) | 58.0 dB (1) |
| RF Input Power (max) | + 18 dBm |

General:

| | |
|-------------------------|--|
| Power Supply | +15.0 VDC, 1.5 A max., Unipolar PWR Supply |
| Optical / RF Connector | FC/APC & SMA (f), 50 ohm |
| Operating/Storage Temp. | 0.0°C to +50°C & -20°C to +70°C |
| Local Alarm | LED: Bit Fault & Optical Power Failure |
| Remote Alarms | RS-485 Interface |
| Dimensions | Plug-In Module |

