



## ) & \$\$\$ Series

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### Features

- 20 MHz – 3000 MHz
- 20 MHz – 6500 MHz
- Up to Four Flange-Mount Modules per 1U chassis
- 50 Ohm SMA and 75 Ohm BNC Options
- Variable RF Gains
- LNB Power Options 13 v / 18 v / 22 kHz

### Applications

- TVRO
- Broadcast
- Earth Stations
- Headends
- VSAT
- GPS
- Radios
- Wireless
- Cellular

The 5200 Series 3 GHz Fiber Optic Inter-Facility Link (IFL) is a high-performance, cost-effective alternative to coaxial cable for 20 MHz to 3000 MHz communications applications.

EMCORE's fiber optic IFLs function as transparent RF fiber links. These IFLs eliminate the limitations of copper systems by enabling longer transmission distance while retaining the highest level of signal quality.

In addition, EMCORE's fiber optics provide several other significant network advantages, including simplified network design, ease of installation, and immunity from EMI/RFI and lightning.

### Performance Highlights

Parameter	Minimum	Typical	Maximum	Units
Wavelength	1300	1310	1320	nm
Transmitter Optical Output	-	4	7	dBm
Receiver Optical Input	-25	-	-	dBm
Link Gain @ 1 dB Optical Loss, Max RF Gain	17	22	-	dB
Temperature Range	-20	-	+65	°C
Frequency Range	20	-	3000	MHz

See following pages for complete specifications and conditions.

### Absolute Maximum Ratings

Stresses in excess of the absolute maximum ratings can cause permanent damage to the device. These are absolute stress ratings only. Functional operation of the device is not implied at these or any other conditions in excess of those given in the operational sections of the data sheet. Exposure to absolute maximum ratings for extended periods can adversely affect device reliability.

Parameter	Condition	Min	Max	Units
Operating Temperature		-40	+75	°C
Storage Temperature		-40	+85	°C
Transmitter RF Input		-	0	dBm
Receiver Optical Input		-	6	dBm
DC Voltage		10 (GPS, Tx, Rx)	16 (Tx, Rx)	VDC
Transmitter DC Current (Standard) (LNB-ON) (GPS)	10-16 VDC 10-16 VDC 5 VDC	- - -	200 1,000 300	mA
Receiver DC Current (Standard) (GPS)	10-16 VDC 5 VDC	- -	250 300	mA

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**Electrical / Optical Characteristics**

Parameter	Condition	Min	Typ	Max	Units
Transmitter Wavelength		1300	-	1320	nm
Transmitter Optical Output Power		-	4	7	dBm
Receiver DC Responsivity		-	0.9	-	A/W
Fiber	Corning SMF-28 or equivalent	-	-	-	-
Connector	SC/APC -- Standard	-	-	-	-
Connector Return Loss		40	-	-	dB

**RF Characteristics, Tx**

Parameter	Min	Typ	Max
Tx Gain (TG)*	-5 dB	-2 dB	-
Tx Gain Adjustment	-	-	30 dB
Noise Figure, Max Gain*	-	16 dB	18 dB
Input IP3, Over Temp Range*	4 dBm	6 dBm	-
Gain vs Temperature	-	0.05 dB/°C	-
Amplitude Flatness Full Band	± 1.5 dB		
Return Loss	-12 dB		
Input Impedance	75 Ohm BNC, 50 Ohm SMA		

\*Tested with 1m fiber

**RF Characteristics, Rx**

Parameter	Min	Typ	Max
Rx Gain (RG)*	22 dB	24 dB	-
Rx Gain Adjustment	-	-	30 dB
Gain vs Temperature	-	0.05 dB/°C	-
Amplitude Flatness Full Band	± 1.5 dB		
Return Loss	-14 dB		
Output Impedance	75 Ohm BNC, 50 Ohm SMA		

**Link Characteristics, 1 dB Optical**

Parameter	Condition	Performance		
		Min	Typical	Max
Link Gain	Max RF Gain	17 dB	22 dB	-
Spurious Free Dynamic Range	Max RF Gain, -20 dBm/tone	-	110 dB-Hz <sup>2/3</sup>	-
Gain vs Temperature		-	0.05 dB/ °C	-
Amplitude Flatness Full Band		± 2.0 dB		

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### 5200 Series 3 GHz Fiber Optic Links

#### Ordering Information - Transmitter

Part Number	Model Number	Description
G1526-002-003	5203TV-S5-1304-SA-66	Tx, 20-3000 MHz , 1310 nm, +4 dBm, 50 Ohm SMA, SC-APC, Variable Gain, IP 66
G1526-002-004	5203TVL-S5-1304-SA-66	Tx, 20-3000 MHz , 1310 nm, +4 dBm, 50 Ohm SMA, SC-APC, Variable Gain, LNB, IP 66
G1526-002-005	5202TV-B7-1304-SA-66	Tx, 20-2500 MHz, 1310 nm, +4 dBm, 75 Ohm BNC, SC-APC, Variable Gain, IP 66
G1526-002-006	5202TVL-B7-1304-SA-66	Tx, 20-2500 MHz, 1310 nm, +4 dBm, 75 Ohm BNC, SC-APC, Variable Gain, LNB, IP 66
G1526-002-007	5203TVG-S5-1304-SA-66	Tx, 20-3000 MHz, 1310 nm, +4 dBm, 50 Ohm SMA, SC-APC, Variable Gain, GPS, +5 VDC, IP 66
G1526-004-003	5203TV-S5-1304-SA	Tx, 20-3000 MHz, 1310 nm, +4 dBm, 50 Ohm SMA, SC-APC, Variable Gain
G1526-004-004	5203TVL-S5-1304-SA	Tx, 20-3000 MHz, 1310 nm, +4 dBm, 50 Ohm SMA, SC-APC, Variable Gain, LNB
G1526-004-005	5202TV-B7-1304-SA	Tx, 20-2500 MHz, 1310 nm, +4 dBm, 75 Ohm BNC, SC-APC, Variable Gain
G1526-004-006	5202TVL-B7-1304-SA	Tx, 20-2500 MHz, 1310 nm, +4 dBm, 75 Ohm BNC, SC-APC, Variable Gain, LNB
G1526-004-007	5203TVG-S5-1304-SA	Tx, 20-3000 MHz, 1310 nm, +4 dBm, 50 Ohm SMA, SC-APC, Variable Gain, GPS Only, +5 VDC

#### Ordering Information - Receiver

Part Number	Model Number	Description
G1527-002-003	5203RV-S5-SA-66	Rx, 20-3000 MHz, 50 Ohm SMA, SC/APC , Variable Gain, IP 66
G1527-002-005	5202RV-B7-SA-66	Rx, 20-2500 MHz, 75 Ohm BNC, SC/APC , Variable Gain, IP 66
G1527-002-007	5203RVG-S5-SA-66	Rx, 20-3000 MHz, 50 Ohm SMA, SC/APC, Variable Gain, GPS Only, +5 VDC , IP 66
G1527-004-003	5203RV-S5-SA	Rx, 20-3000 MHz, 50 Ohm SMA, SC/APC, Variable Gain
G1527-004-005	5202RV-B7-SA	Rx, 20-2500 MHz, 75 Ohm BNC, SC/APC, Variable Gain
G1527-004-007	5203RVG-S5-SA	Rx, 20-3000 MHz, 50 Ohm SMA, SC/APC, Variable Gain, GPS Only, +5 VDC

### 5200 Series 6.5 GHz Fiber Optic Links

#### Ordering Information - Transmitter

Part Number	Model Number	Description
G1526-002-001	5206TV-S5-1304-SA-66	Tx, 20-6500 MHz , 1310 nm, +4 dBm, 50 Ohm SMA, SC-APC, Variable Gain, IP 66
G1526-004-001	5206TV-S5-1304-SA	Tx, 20-6500 MHz, 1310 nm, +4 dBm, 50 Ohm SMA, SC-APC, Variable Gain

#### Ordering Information - Receiver

Part Number	Model Number	Description
G1527-002-002	5206RV-S5-SA-66	Rx, 20-6500 MHz, 50 Ohm SMA, SC/APC , Variable Gain, IP 66
G1527-004-002	5206RV-S5-SA	Rx, 20-6500 MHz, 50 Ohm SMA, SC/APC, Variable Gain