



DFP-106G-1
DFP-106G-1W*

UHF SATCOM DIPLEXER/LNA



DESCRIPTION

The MPI Model DFP-106G-1 is a UHF SATCOM Antenna Diplexer and low noise figure, high dynamic range preamplifier, combined into an integral unit. This configuration allows a single antenna to be used with a UHF SATCOM transmitter (291-318.3 MHz) and a UHF SATCOM receiver (243-270 MHz) in a full-duplex operating mode, without T/R switching. The DFP-106G-1 is intended to be connected as close as possible to the system antenna. The preamplifier gain will thus provide a very low receiver noise figure. The LNA gain will compensate for the insertion loss of the cable interconnecting the antenna with the receiver. The diplexer filter selectivity protects the preamplifier from the transmitter signals, thereby eliminating the need for external filters, isolators or coaxial switches. The DFP-106G-1 is DAMA compatible.

FEATURES

- Ultra-High Dynamic Range
- Very Low Noise Figure
- Full Duplex Operation
- DAMA/Mini-DAMA Compatible
- *Semi Gloss White Finish, 27925 per FED-STD-595

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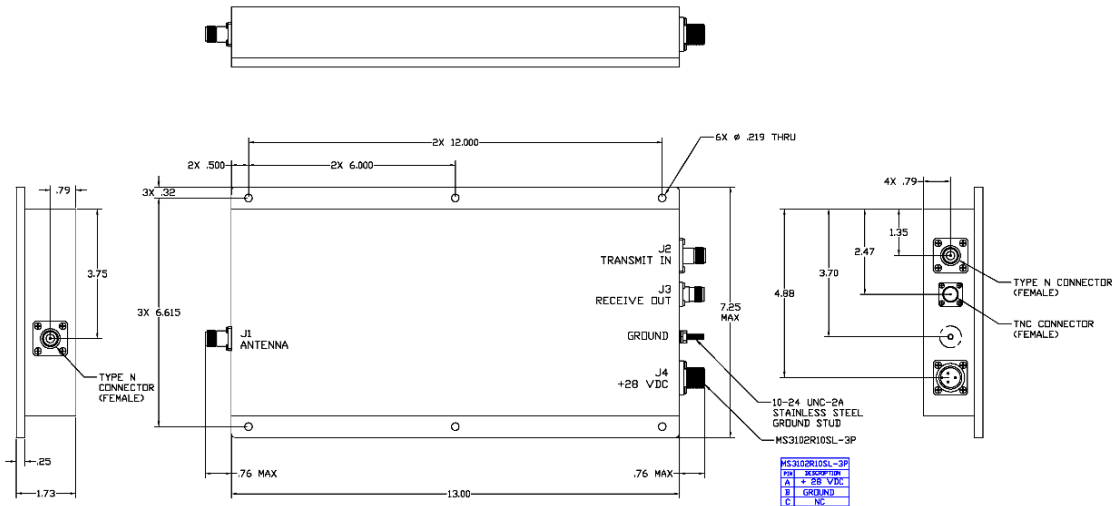
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DFP-106G-1/DFP-106G-1W*

Ultra-High Dynamic Range

UHF SATCOM DIPLEXER

Full Duplex Operation



ELECTRICAL SPECIFICATIONS

RECEIVE CHARACTERISTICS, J1- J3, Note 1

| | |
|--|------------------------|
| Passband Rolloff | 1.5 dB max. |
| VSWR | 1.5:1 max. |
| Stopband | |
| 0-180 MHz | 90 dB min. |
| 180-210 MHz | 70 dB min. |
| 291-400 MHz | 90 dB min. |
| 400-1000 MHz | 90 dB min. |
| Gain | 29 dB min./ 32 dB max. |
| Noise Figure | 2.5 dB max. |
| Input @ 1 dB gain compression | 0 dBm nom. |
| Input Signal, Protect Level, 243-270 MHz | 1W, CW |
| Intercept Point, third order | +43 dBm nom. |
| Reverse Isolation (J3-J1), 0.3-1000 MHz | 50 dB min. |

TRANSMIT TO RECEIVE ISOLATION, J2-J3, Note 2

| | |
|-------------|------------|
| Rejection | |
| 0.3-228 MHz | 95 dB min. |
| 243-270 MHz | 55 dB min. |
| 291-400 MHz | 85 dB min. |

Notes:

1 Unless otherwise listed, applicable over 243-270 MHz, J1 (ANT) to J3 (RCVR.) Stopband values are relative from the maximum passband gain. J2 (TRAN) terminated with 50 Ohms.

2. Measured from J2 (TRAN) to J3 (RCVR) with 50 Ohm load on J1 (ANT). Values include the gain of the preamplifier.

3. Measured from J2 (TRAN) to J1 (ANT), 291-318.3 MHz with preamp ON and J3 terminated with 50 Ohms.

TRANSMIT CHARACTERISTICS, J2- J1, Note 3

| | |
|------------------------------|---------------|
| Passband | 291-318.3 MHz |
| Insertion Loss, 295-315 MHz | 0.8 dB max. |
| Insertion Loss over passband | 1.0 dB max. |
| VSWR over 291-318.3 MHz | 1.4:1 max. |
| Input Power, max. | +23 dBW |
| Stopband | |
| 0-250 MHz | 90 dB min. |
| 250-270 MHz | 80 dB min. |
| 350-400 MHz | 75 dB min. |
| 400-1000 MHz | 90 dB min. |

GENERAL CHARACTERISTICS

| | |
|------------------------------|---------------------------------|
| Environment | Shipboard/Airborne Weatherproof |
| *Semi Gloss White Finish | 27925 per FED-STD-595 |
| Weight | 9 lbs. max. |
| Size, excluding connectors | 13.00" X 7.25" X 1.73" |
| Operating Current, 24-32 VDC | 520 mA max. |
| Connectors | |
| J1 Antenna | Type N (Female) |
| J2 Transmit In | Type N (Female) |
| J3 Receive Out | TNC (Female) |
| J4 +28 VDC | MS3102R10SL-3P |

REV: 3/17/2020