



DFP-106G-1

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

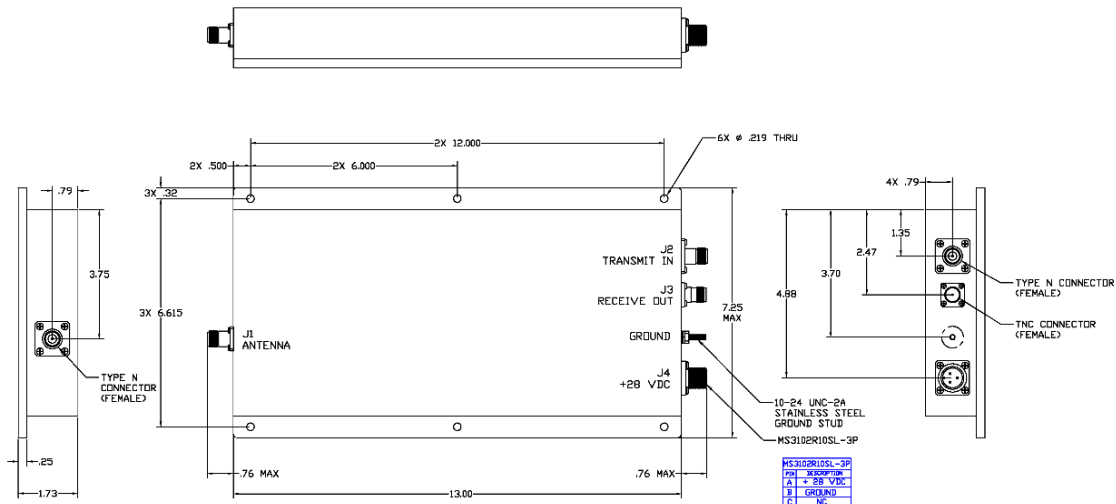
- Ultra-High Dynamic Range
- Very Low Noise Figure
- Full Duplex Operation
- DAMA/Mini-DAMA Compatible

DFP-106G-1

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
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: 8/26/16