

MINIATURE DOWNCONVERTER

MODEL: DCM-060180

FEATURES

- Single and multi-channel radar receiver front ends
- Single and multi-channel frequency converters
- Switch filters
- Switch amplifiers
- Frequency multiplexers
- Transmit/receive modules



SPECIFICATIONS

PARAMETERS	LIMITS	CONDITIONS
Input frequency range	6–18 GHz	AZ1, AZ2, EL1, EL2, REF, CAL,
Input signal power	10 dBm maximum	
EMI input	2 W CW maximum	
LO frequency range	5.4–18.6 GHz	
LO power	20 dBm, ± 2 dBm	
LO leakage at the outputs	-47 dBm	LO to AZ1 and 2 Out LO to EL1 and 2 Out
Output frequency range	DC–600 MHz	
Gain	-15 dB typical, -16 dB maximum -17 dB typical, -18 dB maximum -21.5 dB typical, -23 dB maximum	AZ to AZ Out, EL to EL Out REF to AZ Out and EL Out CAL to AZ Out and EL Out
Isolation	-50 dB -45 dB	AZ to EL AZ1 to AZ2, EL1 to EL2
Amplitude unbalance	1.4 dB maximum	See Note 1
Phase unbalance	$\Delta + 8^\circ$ maximum 10° maximum	See Note 1 REF to AZ1, AZ2 or EL1, EL2
Switching speed	2 μ s maximum	All switches
DC power	5 V @ 175 mA maximum	5 V regulated supply
Control	TTL	E1 and E2
Weight	30 Grams	

Note 1:

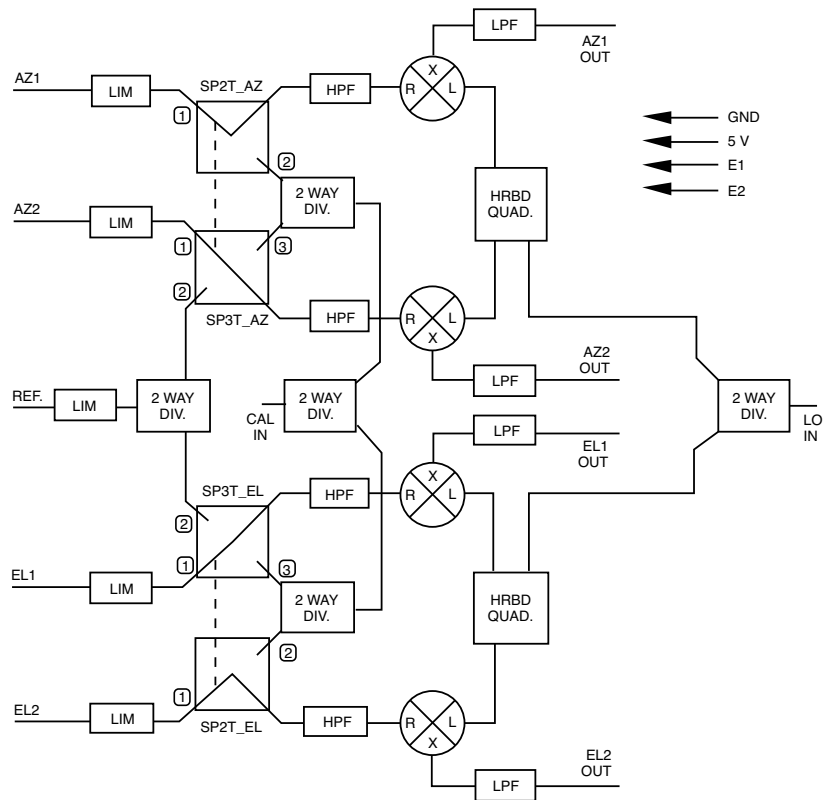
Amplitude and gain unbalance is defined as a change in the channel-to-channel output amplitude or phase with reference to the respective phase and amplitude outputs of the assembly. When the switch is in the CAL vs. the direct AZ and EL antenna positions over the operating environment (i.e., residual amplitude and phase changes that cannot be calibrated out by reference to the CAL signal), phases may vary by a Δ which corresponds to a fixed line length difference.

ENVIRONMENTAL CONDITIONS

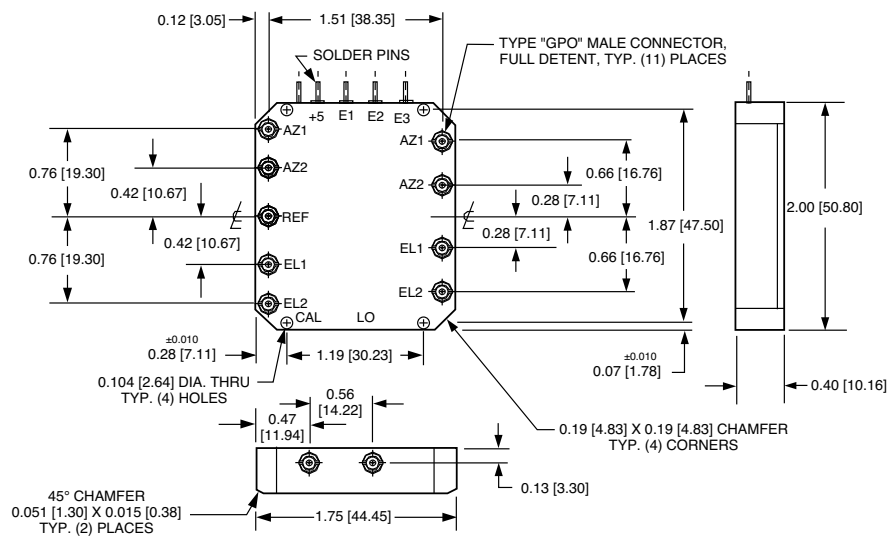
Operating temperature..... 0 to 70°C
 Storage temperature..... -30 to +85°C
 Humidity..... 95% noncondensing
 Vibration..... 12 g's rms, 20-2000 Hz per MIL-STD-810B Method 514, Procedure 5

DCM-C-060180

FUNCTIONAL BLOCK DIAGRAM



OUTLINE DRAWING



GENERAL NOTES:

1. Dimensions shown in brackets [] are in millimeters.
2. Tolerance as follows: .xx = ± 0.01 [.xx = ± 0.25], .xxx = ± 0.005 [.xxx = ± 0.13]