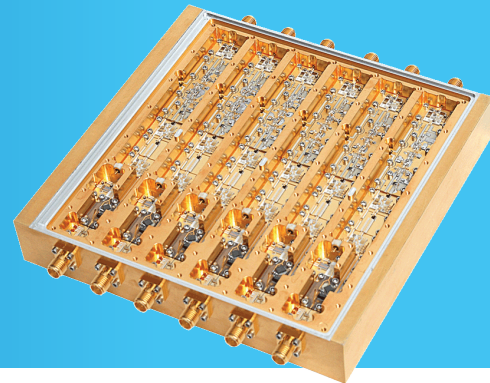


6-Channel Downconverter

2 – 18 GHz

High performance for demanding environments

EXPORT RESTRICTIONS MAY APPLY



Teledyne Microwave Solutions 6-Channel 2 to 18 GHz Downconverter is built for high-performance military grade applications. Designed with a compact, double-sided architecture, this unit is hermetically sealed to ensure long-term reliability and protection against harsh conditions. Engineered for rugged use, it delivers exceptional signal integrity and stability across a wide frequency range, making it ideal for defense, aerospace, and other mission-critical systems.

Features

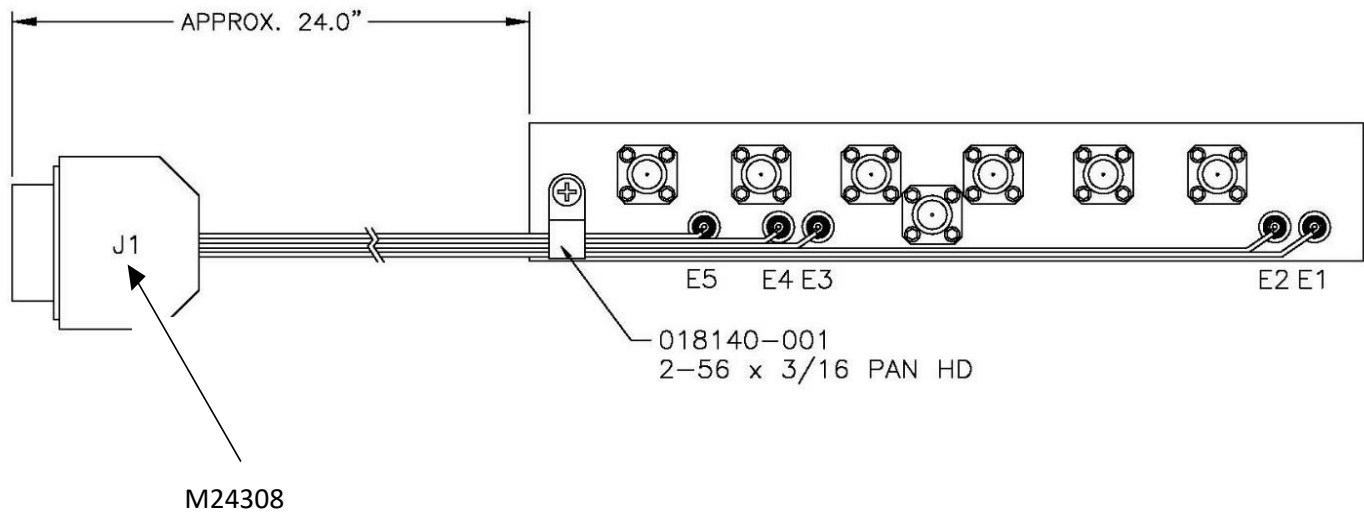
- Ultra broadband design: RF/LO 2 - 18 GHz, IF 0.96 GHz $\pm$ 0.5 GHz
- 25 dB conversion gain RF to IF
- -6 dBm single LO input drive
- 13 dB noise figure
- +28 dBm 3rd order 2-tone intermod
- Each channel includes a range extension singlepole singlethrow switch to add 20 dB range (controlled by TTL input)
- IF chains include amplification, phase adjustment, temperature compensation and lumped element high-rejection bandpass filtering
- ± 2 dB amplitude tracking between any 2 channels
- $\pm 20^\circ$ phase tracking between any 2 channels
- 100 micro second switching speed between gain path and dynamic range extension path
- 2-side hermetically sealed
- Meet or exceed ESS (Environmental Stress Screening) per MIL-HDBK-2164A, and can be upscreened to space qualified per MIL-PRF-38534 QML Class K

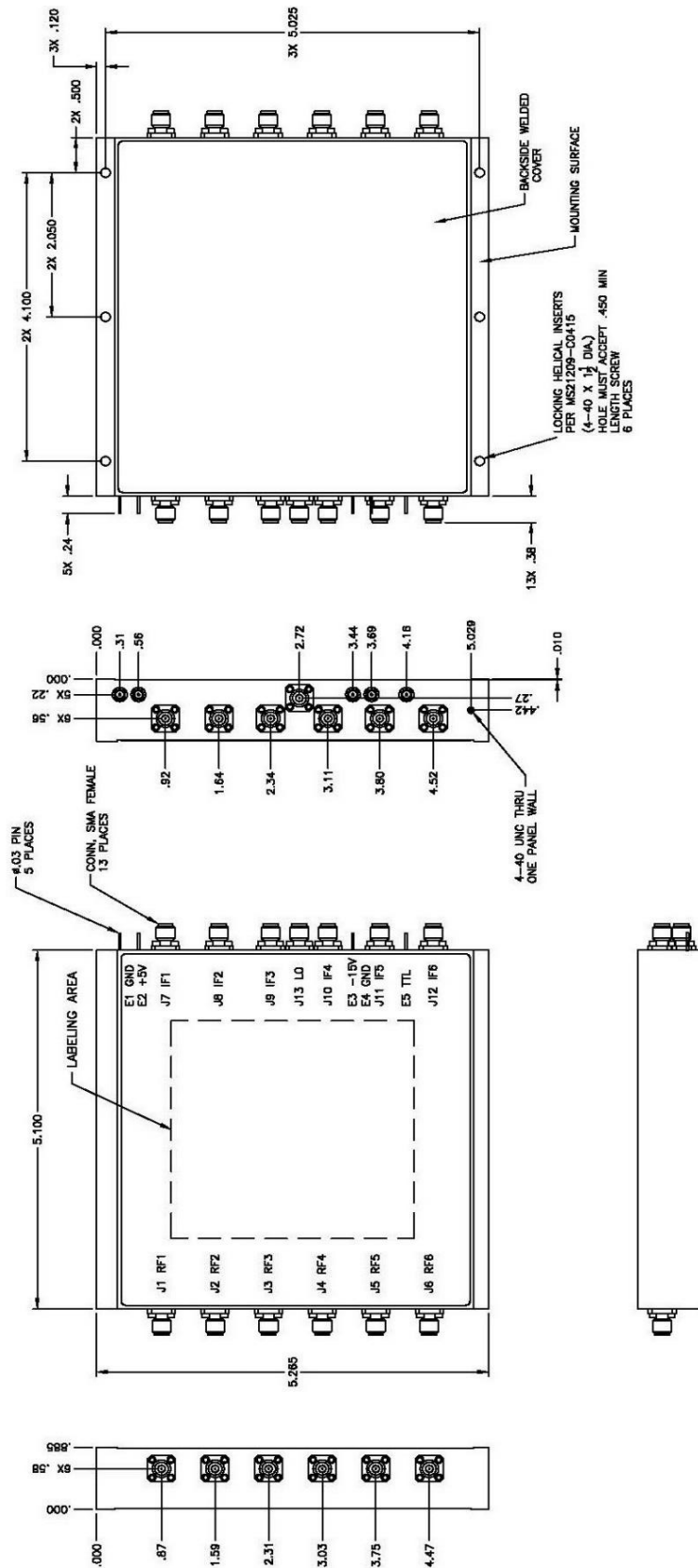
Specifications

Parameter	Value
SSB Conversion Gain per Channel Freq = HSLO1 CNTL = "0"	22 dB Min 28 dB Max
Dynamic Range Control per Channel Freq = HSLO1	19.5 dB Min 20.5 dB Max
DC Current @ +5.0 DC @ -15.0 DC @ +5.0 (TTL)	1765 mA Max 15 mA Max 0.8 mA Max
IF Rejection RF = 10.17 - 10.57 GHz LO = 10 GHz IF = 170 - 570 MHz CNTL = "0"	65 dB Min
IF Rejection RF = 11.35 - 11.85 GHz LO = 10 GHz IF = 1.35 - 1.85 GHz CNTL = "0"	65 dB Min
RF VSWR Freq = 2 - 18 GHz LO Freq = 10 GHz CNTL = "0"	3.5:1 Max
LO VSWR (Common LO for all Channels) Freq = 2 - 18 GHz	3.5:1 Max
IF VSWR 710 - 1210 MHz LO Freq = 10 GHz	2.5:1 Max
Noise Figure Freq = HSLO2 CNTL = "0"	15 dB Max
Noise Figure Freq = LSLO2 CNTL = "0"	15 dB Max

Parameter	Value
Isolation LO to RF Freq = 2 - 18 GHz	10 dB Min
Isolation LO to IF Freq = 2 - 18 GHz	5 dB Min
Compression Point Freq = HSLO2 RF Power = -8 dBm CNTL = "0"	1.0 dB Max
Compression Point Freq = LSLO2 RF Power = -8 dBm CNTL = "0"	1.0 dB Max
I.P.3 Freq = HSLO2 (2nd Tone 10 MHz Apart) CNTL = "0"	14 dBm Min
I.P.3 Freq = LSLO2 (2nd Tone 10 MHz Apart) CNTL = "0"	14 dBm Min
Amplitude Tracking IF ₁ = 730 MHz IF ₂ = 960 MHz IF ₃ = 1190 MHz	±2.0 dB Max
Phase Tracking IF ₁ = 730 MHz IF ₂ = 960 MHz IF ₃ = 1190 MHz	±20° Max

WIRE HARNESS CONNECTION TABLE			
J1 PIN NUMBERS	CCM18001 "E" NUMBER	FUNCTION	WIRE COLOR
5	E1	Ground	BLACK
2	E2	+5V	RED
4	E3	-15V	GREEN
7	E4	Ground	BLACK
8	E5	Control	WHITE





NOTES UNLESS OTHERWISE SPECIFIED:

ALL SURFACES TO BE PAINTED PER MILSTD7179 EXCEPT, SMA CONNECTORS, DC AND GROUND PINS, BACKSIDE WELD COVER AND MOUNTING SURFACE. COLOR SHALL BE GREY, LUSTERLESS PER FEDSTD595 # 36231. UNIT SHIPPED WITH WIRE HARNESS ATTACHED.