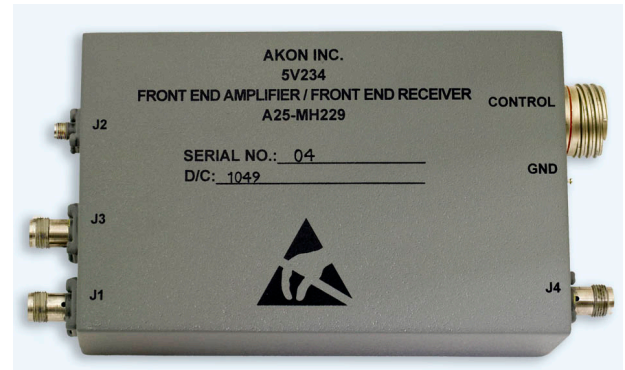


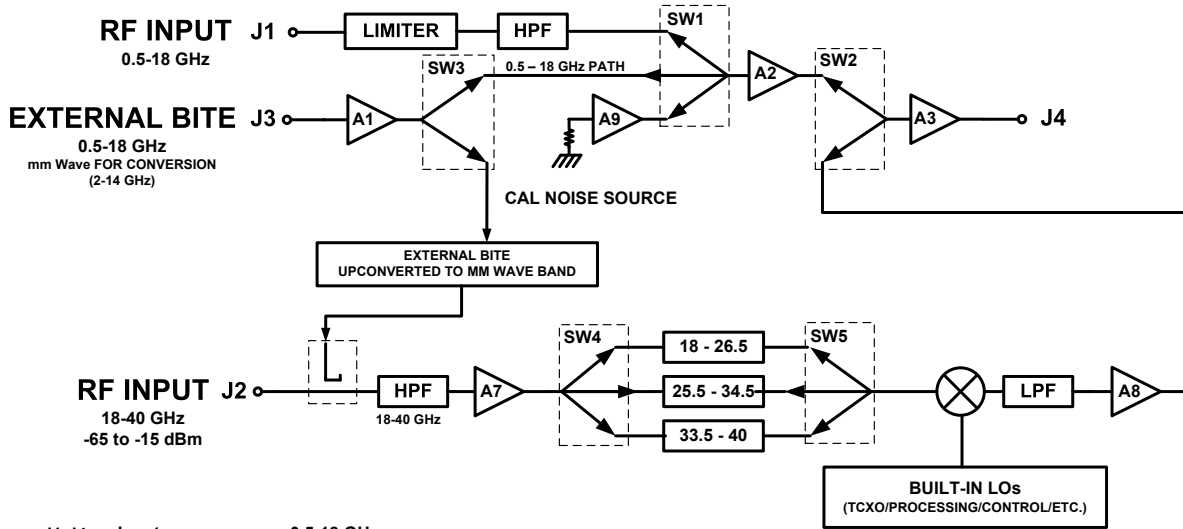
**FEATURES:**

- 0.5 - 40.0 GHz INPUT FREQUENCY
- 0.5 - 18.0 GHz OUTPUT FREQUENCY
- 22 dB GAIN
- +/- 2.5 dB GAIN FLATNESS
- UP TO 50 dBm MAX INPUT POWER (DAMAGE)
- TOTAL WEIGHT: 1.74 Kg
- 6.5 x 4.0 x 1.85 INCHES
- LO's BUILT-IN



AKON's model **A25-MH229** is a front-end down converter for 18.0 - 40.0 GHz and 0.5 - 18.0 GHz front-end amplifier with switch filter bank and medium power amplifiers. Nominal gain of 0.5 - 18.0 GHz channel is 22 dB, with +21 dBm as minimum output power at 1.0 dB compression. The unit features built-in LO's for 18.0 - 40.0 GHz front-end and built-in BITE signals for 0.5 - 18.0 GHz (1.0 GHz, 16.0 GHz) and 18.0 - 40.0 GHz (20.0, 28.0 and 36 GHz) block converter.

**BLOCK DIAGRAM:**

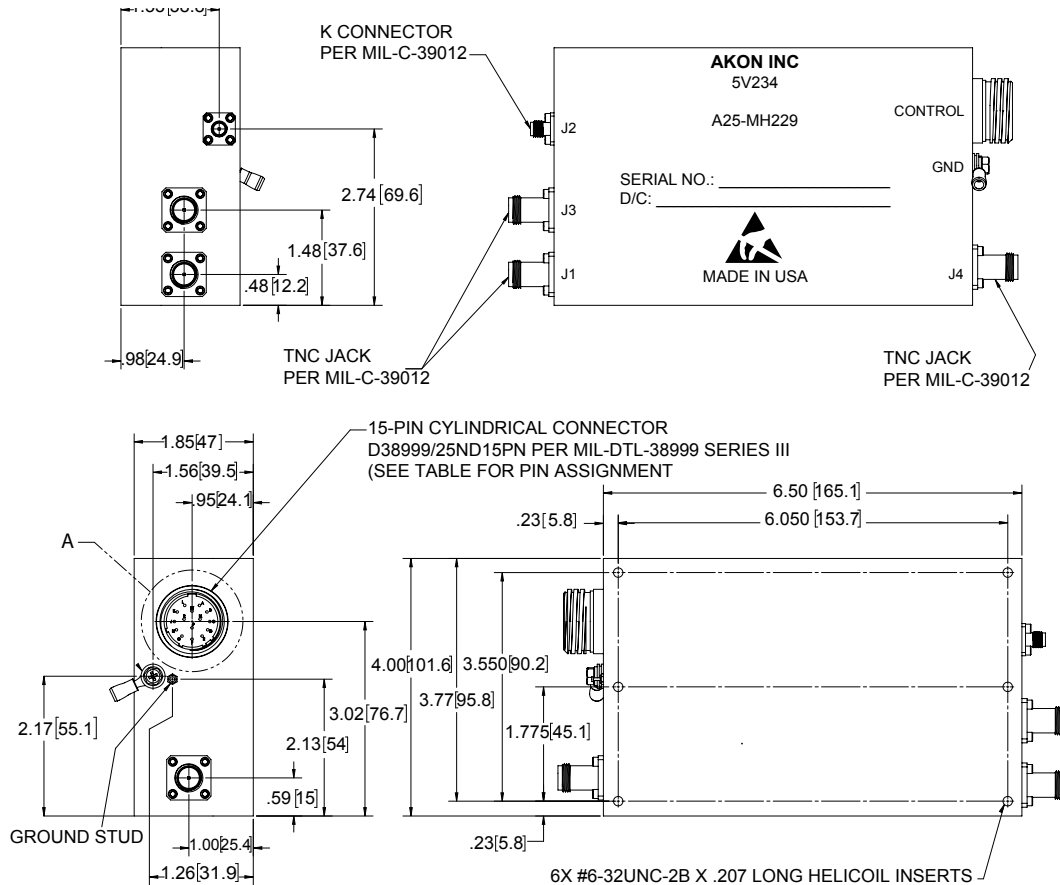


J1-J4	Input:	0.5-18 GHz	
	Output:	0.5-18 GHz	
	Noise Figure:	9.5 dB max	
	Gain:	22 dB nom	
	Gain Flatness:	+/-1.5 dB	
			J3-J4
			0.5-18 GHz BITE OUTPUT SELECTED
			Input: 0.5-18 GHz
			Output: 0.5-18 GHz
			Gain: 22 dB nom
			18-40 GHz BITE OUTPUT SELECTED
			Input LO Output
			6-14 32 18-26
			2-10 24 28-34
			2-8 32 34-40

## SPECIFICATIONS:

Model Number	A25-MH229
Input Frequency Range (GHz)	Input J1 (Low Band): 0.5 -18.0 Input J2 (High Band): 18.0 - 40.0
Input J3 (BITE) (GHz)	0.5 to 18.0
Output Frequency Range (J4) (GHz)	0.5 to 18.0
Input Signal Type	CW/Pulsed
Maximum Input Power For Damage (dBm)	J1: For CW mode: +30.0; For Pulse mode: +50.0; PW:1 uSec and 1KHz PRF; J2: For CW mode: +20.0
Gain over Frequency (dB)	J1-J4: 22.0 (nom), 20.5 (min) J2-J4: 22.0 (nom), 20.5 (min)
Gain Flatness over Frequency (dB)	+/- 2.5
Input 1 dB Compression (dBm)	J1: 0 J2: -15
Noise Figure (dB)	J2-J4: 9.0 (nom); 9.5 (max) J1-J4: 10.0 (max)
VSWR	2.2:1 (max)
Switch Isolation b/w Ports (SP2T) (dB)	70 (min)
Switching Speed (SP2T) (ns)	< 50
Image Rejection (dBc)	-60
Harmonics (in-band) at J4	2nd Harmonic: -22 dBc (min) 3rd Harmonic -26 dBm (min)
Spurious (dBc)	-50 (nom) -40 (min)
High Pass Filter Rejection (dBc)	J1 (0.5 GHz - 18.0 GHz): -50 @ 375.0 MHz -60 -> 340 MHz  J2 (18 GHz - 40 GHz): -50 -> DC to 15.3 GHz
Local Oscillator Phase Noise (LO signal provided inside the unit for 18 GHz-40 GHz band)	-60 dBc/ Hz 1 kHz -80 dBc/ Hz 10 kHz -90 dBc/ Hz 100 kHz
Impedance at all Ports (Ohms)	50
Connectors	Input RF Port J1: ETNC-F RF Input J2: 2.9 mm K type External BITE J3: ETNC-F Output Port J4: ETNC-F Supply and Control Connector: Circular per MIL DTL 38999, Series III
TTL Control (Bits)	RS 422 differential format (for Band Selection, Switch Filter Bank and BITE Selection and BITE Enable)
Power Supply with Built-In EMI Filter	+28 V +/- 10%
Operating Temperature (°C)	-40 to +71
Storage Temperature (°C)	-55 to 85
Size (inches)	6.5" x 4.0" x 1.85"
Weight (Kg)	1.74 (max)

## OUTLINE DRAWING:



CONTROL PIN-OUTS	
PIN	ASSIGNMENT
A	BIT 0
B	BIT 0
C	BIT 1
D	BIT 1
E	BIT 2
F	BIT 2
G	BIT 3
H	BIT 3
J	+28V
K	+28V RETURN
L	DIGITAL GROUND
M	SPARE
N	SPARE
P	SPARE
R	SPARE

