

5-Bit Digital Attenuator

20-1000 MHz

AT-103

- Attenuation 0.5 dB Steps to 15.5 dB
- CMOS Control Interface
- Internal Latch on Control Input
- Hermetic Case

Guaranteed Specifications*

(From -55°C to +85°C)

Frequency Range	20-1000 MHz		
Nominal Attenuation**	0.5 dB Steps to 15.5 dB		
Attenuation Accuracy	20-500 MHz	± 0.25 dB	± 2% Max
	20-1000 MHz	± 0.35 dB	± 2% Max
VSWR	20-500 MHz	1.6:1 Max	
	20-1000 MHz	2.0:1 Max	
Reference Insertion Loss	5.0 dB Max		

Operating Characteristics

Impedance	50 Ohms Nominal	
Switching Characteristics		
Switching Time (50% CTL to 90%/10% RF)	8 μ S Typ	
Transients (In-Band)	20 mV Typ	
Input Power for 1 dB Compression	20-1000 MHz	+ 18 dBm Typ
Intermodulation Intercept Point (for two-tone input power up to + 5 dBm)		
Second Order	+ 40 dBm Typ	
Third Order	+ 30 dBm Typ	
Bias Power	+ 5 to + 15 VDC @ 30 mA Max (330 mW Typ)	
Control	5 line, CMOS Data Bus with Internal Latch controlled by Clock (Data Strobe) and reset inputs.	

Environmental

See Appendix for MIL-STD-883 screening option.

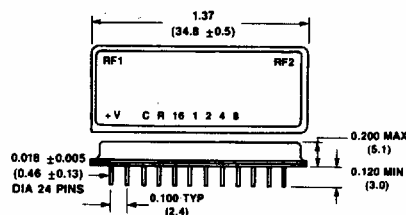
* All specifications apply when operated with bias voltage of + 15 VDC and a 50 ohm impedance at both RF ports.

** Above reference insertion loss.

Ordering Information

Model No.	Package
AT-103 PIN	Dual Inline

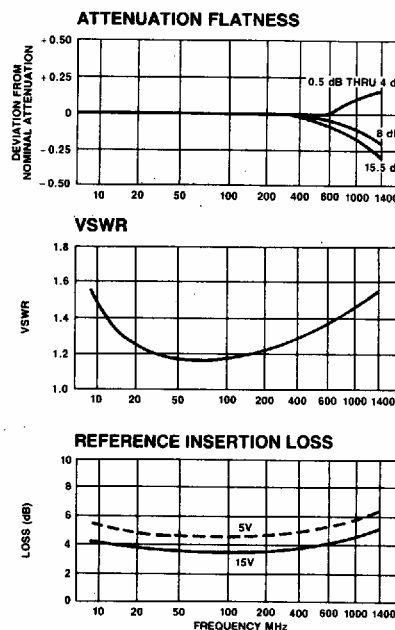
DI-3



Dimensions in () are in mm.

See Appendix for complete physical dimensions.

Typical Performance



Truth Table

CONTROL INPUT							ATTENUATOR SETTING
0.5	1	2	4	8	C	R	
0	0	0	0	0	1	1	REFERENCE
1	0	0	0	0	1	1	0.5 dB
0	1	0	0	0	1	1	1 dB
0	0	1	0	0	1	1	2 dB
0	0	0	1	0	1	1	4 dB
0	0	0	0	1	1	1	8 dB
ANY COMBINATION	1	1	1	1	1	1	SUM OF BITS SELECTED
X	X	X	X	X	0	1	NO CHANGE IN ATTENUATION
X	X	X	X	X	X	0	RESET TO REFERENCE

1' = LOGIC HIGH

0' = LOGIC LOW

X = DON'T CARE

*CLOCK INPUT STROBES DATA ON RISING EDGE

Specifications Subject to Change Without Notice.

M/A-COM Inc. ■ 1011 Pawtucket Boulevard, Lowell, MA 01853 USA

■ Telephone: 800-366-2266