



Digital Attenuators

Space Qualified

AT-5XX Series

Electrical Specifications

Part #	AT-537
Frequency Range	20–600 MHz
VSWR	1.5:1 Max
Insertion Loss (REF)	5.5 dB Max
Input Power for 1dB Comp	+10 dBm Min
Inter Mod Intercept	
Second Order	
EA Weighted Bit	+30 dBm Min
for 31dB Total	+15 dBm Min
Third Order	
For Bits 0,1, 2 & 4	+20 dBm Min
For Bits 8, 16	+15 dBm Min
For 31dB Total	0 dBm Min
Attenuation	31 dB in 1 dB Steps
Attenuation Accuracy	±0.25 dB ±2%
Switching Time	
t On	12 µs
t Off	50 ms
Bias Voltage	+5 to +15 Vdc
Control Voltage	5 line CMOS Data Bus w/Internal Latch
Package	24 Pin DIP

Part #	AT-540
Frequency Range	60–100 MHz 900–1000 MHz
VSWR	1.6:1 Max
Insertion Loss (REF)	
60–100 MHz	5.5 dB Max
900–1000 MHz	7.5 dB Max
Attenuation	31 dB in 1 dB Steps
Attenuation Accuracy	
60–100 MHz	±0.25 dB ±2%
900–1000 MHz	±0.5 dB ±4%
Bias Voltage	+5 Vdc Min
Control Voltage	5 line CMOS Data Bus w/Internal Latch
Package	24 Pin DIP

Specifications Subject to Change Without Notice.

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

■ Telephone: 800-366-2266

Digital Attenuators, Space Qualified

AT-5XX Series

AT-537

Test Step	Mil Spec	Method	Cond.
100% Screening			
Precap Visual	Mil-Std-883C	2017	
High Temp Storage	Mil-Std-883C	1008	B
Temperature Cycling	Mil-Std-883C	1010	B
Constant Acceleration	Mil-Std-883C	2001	A, Y1
PIND	Mil-Std-883C	2020	A or B
Seal Test			
Fine Leak	Mil-Std-883C	1014	A
Gross Leak	Mil-Std-883C	1014	C
Radiographic	Mil-Std-883C	2012	
Interim Electrical	Per Detail Spec		
High Temp Burn-In	Mil-Std-883C	1015	B, D, E
Final Electrical	Per Detail Spec		
External Visual	Mil-Std-883C	2009	

AT-540

Test Step	Mil Spec	Method	Cond.
100% Screening			
Initial Electrical	Per Detail Spec		
Stabilization Bake	Mil-Std-883 C	1008	B
Temperature Cycling	Mil-Std-883C	1010	B
Constant Acceleration	Mil-Std-883C	2001	B
PIND	Mil-Std-883C	2020	A or B
Interim Electrical	Per Detail Spec		
High Temp Burn-In	Mil-Std-883C	1015	B, D, E
Final Electrical	Per Detail Spec		
Radiographic	Mil-Std-883C	2012	
Seal Test			
Fine Leak	Mil-Std-883C	1014	A
Gross Leak	Mil-Std-883C	1014	C
External Visual	Mil-Std-883C	2009	

Quality Conformance Testing

Group B

Physical Dimensions	Mil-Std-883C	2016	
Marking Permanency	Mil-Std-883C	2015	
Internal Visual	Mil-Std-883C	2014	
Bond Strength	Mil-Std-883C	2011	D
Die Shear Strength	Mil-Std-883C	2019	
Solderability	Mil-Std-883C	2003	

Group C

External Visual	Mil-Std-883C	2009	
Temperature Cycling	Mil-Std-883C	1010	B
Moisture Resistance	Mil-Std-883C	1004	
Seal Test			
Fine Leak	Mil-Std-883C	1014	A or B
Gross Leak	Mil-Std-883C	1014	C
Radiographic	Mil-Std-883C	2012	
Visual	Mil-Std-883C	1010	
End Point Electrical	Per Detail Spec		
Internal Water Vapor	Mil-Std-883C	1018	

Quality Conformance Testing*

Group IIC

Thermal Shock	Mil-Std-202	204	D
Temperature Cycling	Mil-Std-883C	1010	B
Moisture Resistance	Mil-Std-883C	1004	
Seal Test			
Fine Leak	Mil-Std-883C	1014	A
Gross Leak	Mil-Std-883C	1014	C
Acceleration	Mil-Std-883C	2001	B
Vibration	Mil-Std-883C	2007	A
Seal Test			
Fine Leak	Mil-Std-883C	1014	A
Gross Leak	Mil-Std-883C	1014	C
External Visual	Mil-Std-883C	2009	

Group IIIC

Resistance to Solvents	Mil-Std-883C	2015	
Solderability	Mil-Std-883C	2003	
Leads integrity	Mil-Std-883C	2004	B2
Seal Test			
Fine Leak	Mil-Std-883C	1014	A
Gross Leak	Mil-Std-883C	1014	C
External Visual	Mil-Std-883C	2009	

Group IV

Operating Life (1000 Hours)	Mil-Std-883C	1015	B, D, E
--------------------------------	--------------	------	---------

* The AT-540 was qualified by similarity to the SW-582.

Specifications Subject to Change Without Notice.

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

■ Telephone: 800-366-2266