Fixed Attenuators (SMA Type)

AT-100, AT-200, and AT-300 Series

■Features

1.Abundant Variations of Attenuators

Attenuation amounts are available in abundant variations from 0 to 4 dB in 0.5 dB steps, from 4 to 10 dB in 1 dB steps, and in 12, 13, 15, and 20 dB so that levels can be finely adjusted.

2.SMA Type

The coupling portions are available in all types of plug and jack combinations and stainless steel is used for the external cladding to form a small and durable structure.

3.High Degree of Matching and High Reliability

The design of the attenuation element uses a distributed constant circuit and metal film resistor. A high degree of matching is achieved as indicated in the VSWR of the appended tables. Furthermore, these attenuators show stable characteristics for environments of varying temperature, humidity, and gases.

■Product Specifications

Rating	Rated frequency range (NOTE)	DC to 18.0 GHz	Operating temperature range	-10℃ to +60℃
	Characteristic impedance	50Ω		
	Maximum usable power	1 W	Operating relative humidity	95% or less

NOTE: The frequency range will differ depending on the model.

Item	Standard	Conditions
1.Vibration resistance	No electrical disconnections of 1μs or greater No damage, cracks, or parts looseness	Frequency of 10 to 2000 Hz, overall amplitude of 1.52 mm, 98 m/s² acceleration, in 3 axial directions, 2 hours each
2.Shock resistance	No electrical disconnections of 1μs or greater No damage, cracks, or parts looseness	490 m/s² acceleration, half sine wave, in 3 axial directions, 3 times each
3.Temperature cycle	No damage, cracks, or parts looseness	(-55℃: 30 min. → 5 to 35℃: Within 15 min. → 85℃: 30 min. → 5 to 35℃: Within 15 min.) for 200 cycles

●The test method conforms to MIL-STD-202.
●Please see the specification items for details concerning the amount of attenuation and the VSWR.

■Materials

Part	Material	Processing
External cladding	Stainless steel	Passivated
Insulation	Teflon	——
Male contacts	Beryllium copper	Gold plating
Female contacts	Beryllium copper	Gold plating
Attenuation element	Metal film	——

■Product Number Breakdown

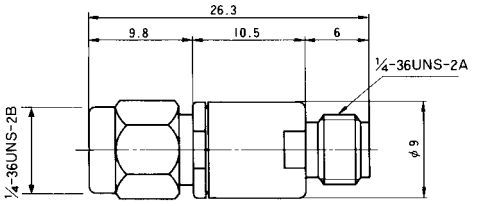
AT - 1 00-(0)
❶ ❷ ❸

❶ AT: Indicates a fixed attenuator.	❸ Amount of attenuation (Examples) 01 : 1dB 06 : 6dB 00-(0) : 0dB (Through) 00-(0.5) : 0.5dB 00-(3.5) : 3.5dB
❷ Indicates the Series Name (Coupling Portion) 1: SMA plug - jack 2: SMA plug - plug 3: SMA jack - jack	

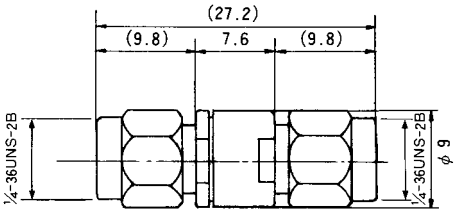
■Specifications

Model No.	(dB) Attenuation		V.S.W.R.(Max)			(W) Power	Connectors	(g) Weight
	DC～12.4GHz	12.4～18GHz	DC～4GHz	4～12.4GHz	2.4～18GHz			
AT-100-(0)	$0^{+0.5}_{0}$	$0^{+1.0}_{0}$	1.15	1.20	1.30	1	HRM-J・P	8
AT-100-(0.5)	0.5±0.5	$0.5^{+1.0}_{-0.5}$	1.15	1.20	1.30	1	HRM-J・P	8
AT-101	1±0.5	1±1.0	1.15	1.20	1.30	1	HRM-J・P	8
AT-100-(1.5)	1.5±0.5	1.5±1.0	1.15	1.20	1.30	1	HRM-J・P	8
AT-102	2±0.5	2±1.0	1.15	1.20	1.30	1	HRM-J・P	8
AT-100-(2.5)	2.5±0.5	2.5±1.0	1.15	1.20	1.30	1	HRM-J・ P	8
AT-103	3±0.5	3±1.0	1.15	1.20	1.30	1	HRM-J・P	8
AT-100-(3.5)	3.5±0.5	3.5±1.0	1.15	1.20	1.30	1	HRM-J・P	8
AT-104	4±0.5	4±1.0	1.15	1.20	1.30	1	HRM-J・P	8
AT-105	5±0.7	5±1.2	1.15	1.20	1.30	1	HRM-J・P	8
AT-106	6±0.7	6±1.2	1.15	1.20	1.30	1	HRM-J・P	8
AT-107	7±0.7	7±1.2	1.15	1.20	1.30	1	HRM-J・P	8
AT-108	8±0.7	8±1.2	1.15	1.20	1.30	1	HRM-J・P	8
AT-109	9±1.0	9±1.25	1.15	1.20	1.30	1	HRM-J・P	8
AT-110	10±1.0	10±1.25	1.15	1.20	1.30	1	HRM-J・vP	8
AT-112	12±1.0	12±1.25	1.15	1.20	1.30	1	HRM-J・P	8
AT-113	10±10	10±1.25	1.15	1.20	1.30	1	HRM-J・P	8
AT-115	15±1.2	15±1.3	1.15	1.20	1.30	1	HRM-J・P	8
AT-120	20±1.2	20±1.3	1.15	1.20	1.30	1	HRM-J・P	8
AT-203	3±0.5	3±1.0	1.15	1.20	1.30	1	HRM-P・P	9
AT-206	6±0.7	6±1.2	1.15	1.20	1.30	1	HRM-P・P	9
AT-210	10±1.0	10±1.25	1.15	1.20	1.30	1	HRM-P・P	9
AT-220	20±1.2	20±1.3	1.15	1.20	1.30	1	HRM-P・P	9
AT-303	3±0.5	3±1.0	1.15	1.20	1.30	1	HRM-J・J	7
AT-306	6±0.7	6±1.2	1.15	1.20	1.30	1	HRM-J・J	7
AT-310	10±1.0	10±1.25	1.15	1.20	1.30	1	HRM-J・J	7
AT-320	20±1.2	20±1.3	1.15	1.20	1.30	1	HRM-J・J	7

■External Dimensions



AT-100 Type



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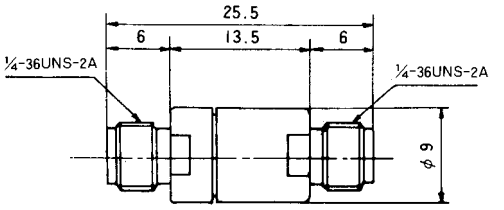
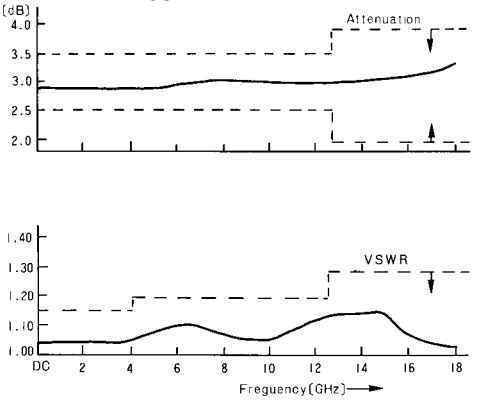


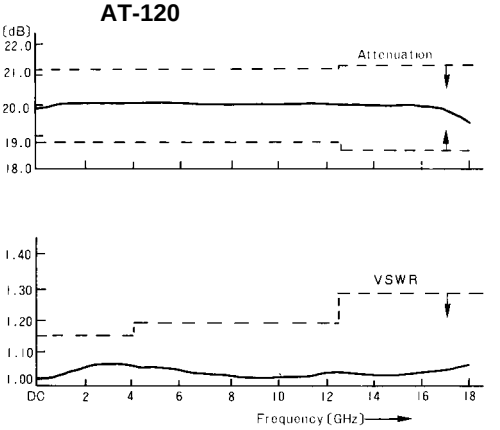
AT-300 Type

■Typical Data

AT-103



AT-120



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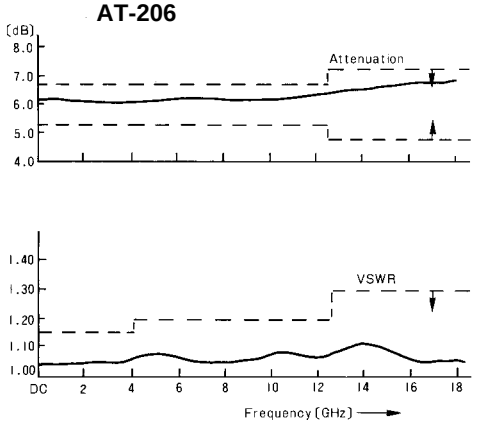
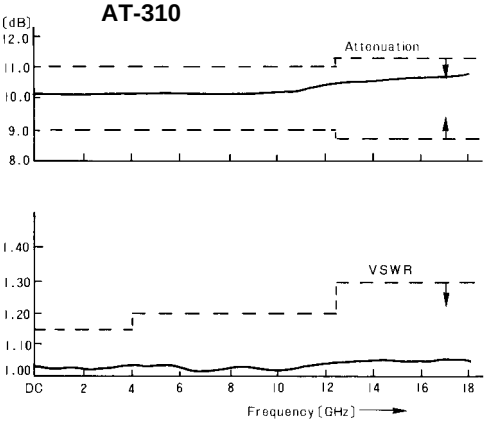


AT-310



Allowable Power Characteristics