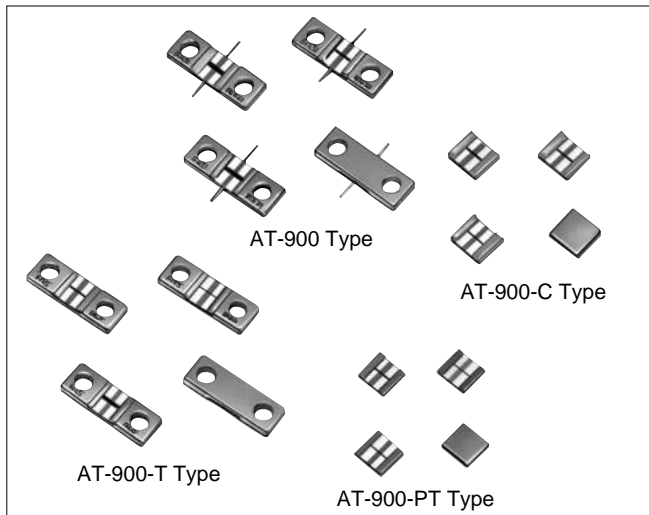


Stripline Mounting Fixed Attenuators (DC to 8 GHz)

AT-900 Series



■ Features

1. Frequency Range from DC to 8 GHz

Although these attenuators are of the surface mount type, they offer superior high frequency characteristics from DC to 8 GHz.

2. Abundant Variations of Attenuators

Attenuation amounts are available in 11 types from 0 to 10 dB in 1 dB steps.

3. Wide Variety of Mounting Styles

Products are available to complement a wide variety of mounting styles including screw mount types, solder mount types, and a type in which the center electrode has received gold plating for wire mounting.

■ Product Specifications

Rating	Frequency Range (NOTE)	DC to 8.0 GHz	Operating temperature range	-10°C to +65°C
	Characteristic impedance	50Ω	Operating relative humidity	95% or less
	Maximum usable power (NOTE)	1 W		

NOTE: The frequency range and the maximum usable power 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/s ² 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/s ² acceleration, half sine wave, in 3 axial directions, 3 times each
3. Temperature cycle	No damage, cracks, or parts looseness	(-55°C: 30 min. → 5 to 35°C: Within 15 min. → 85°C: 30 min. → 5 to 35°C: 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	Brass	Nickel plating
Attenuation element	Metal film	—
Tabs	Copper	Solder plating

■ Product Number Breakdown

AT — **9** **01** - **C**
1
 2
 3
 4

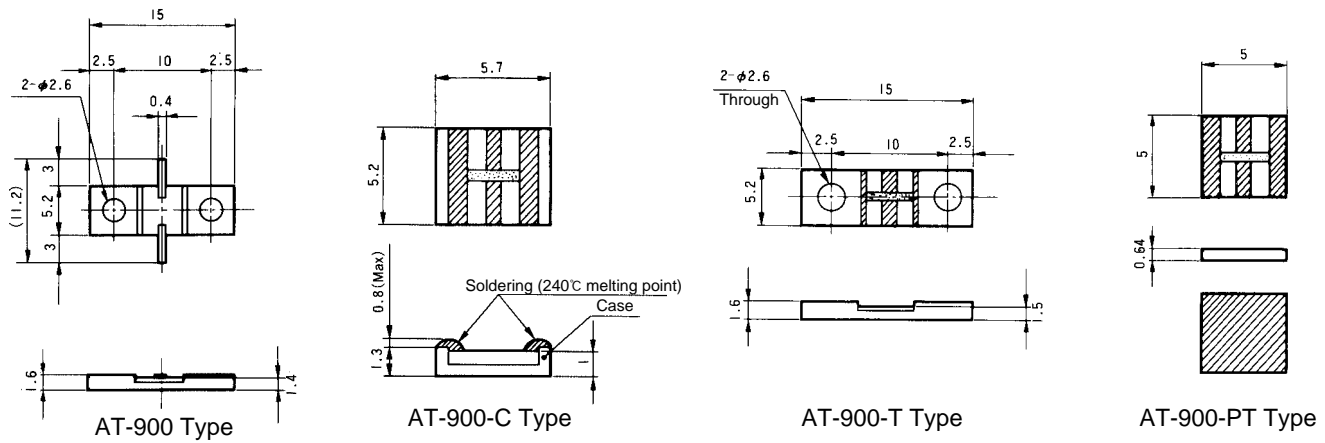
<p>① AT: Indicates a fixed attenuator.</p>	<p>③ Amount of attenuation (Examples)</p> <p>01 : 1dB 06 : 6dB 00-(0) : 0dB (Through) 00-(1.5) : 1.5dB</p>	<p>④ Form</p> <p>Blank : With plate and tabs C : With case, without tabs PT : Without plate and tabs T : With plate, without tabs</p>
<p>② Indicates the Series Name: AT-900 Series</p>		

■ Specifications

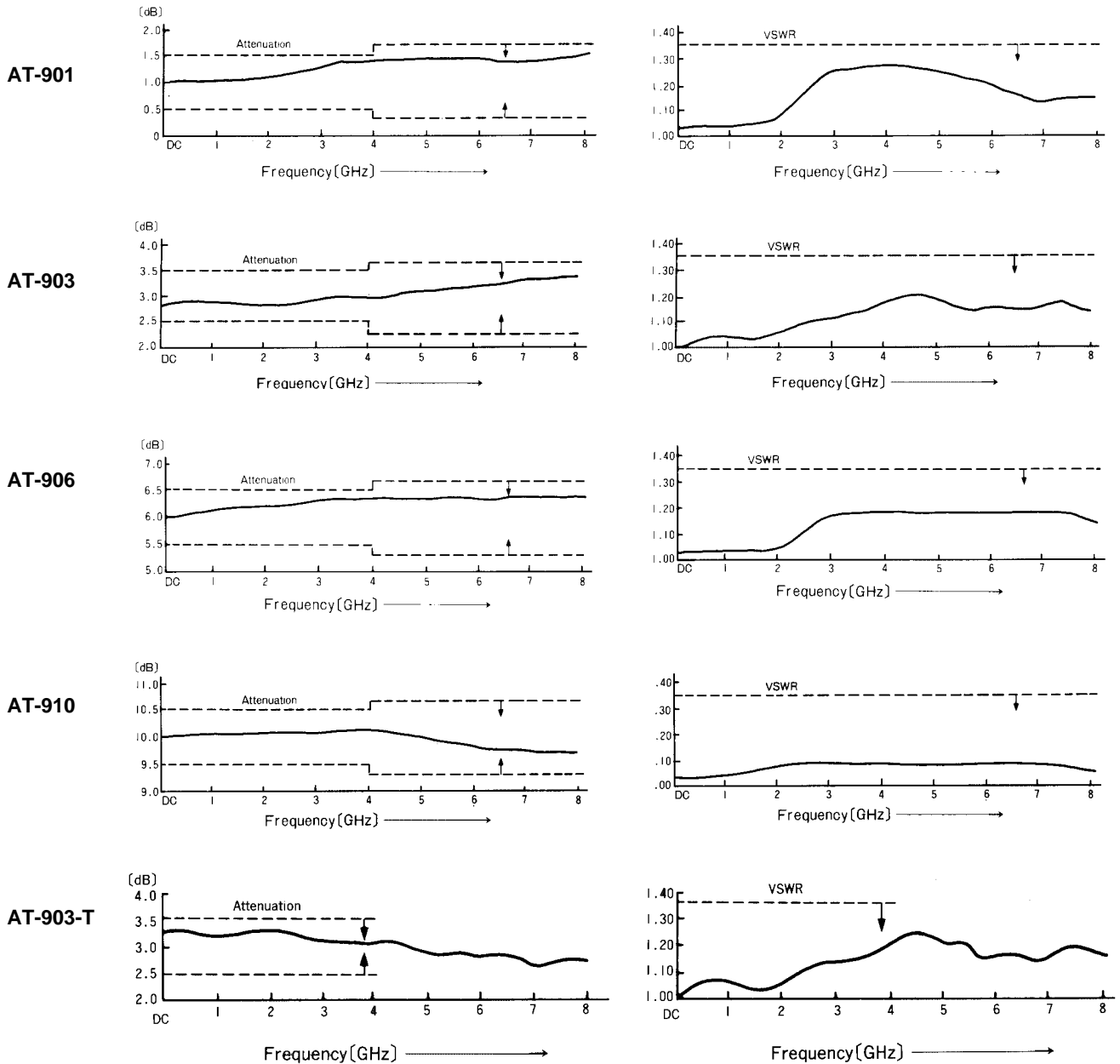
Model No.	(dB) Attenuation		V.S.W.R. (Max) DC~8GHz	(W) Power	(°C Max) Surface Temperature at Maximum Load	(g) Weight
	DC~4GHz	4~8GHz				
AT-900-(0)	0 ^{+0.5} / ₀	0 ^{+0.7} / ₀	1.35	1	+85	1
AT-901	1±0.5	1±0.7	1.35	1	+85	1
AT-902	2±0.5	2±0.7	1.35	1	+85	1
AT-903	3±0.5	3±0.7	1.35	1	+85	1
AT-904	4±0.5	4±0.7	1.35	1	+85	1
AT-905	5±0.5	5±0.7	1.35	1	+85	1
AT-906	6±0.5	6±0.7	1.35	1	+85	1
AT-907	7±0.5	7±0.7	1.35	1	+85	1
AT-908	8±0.5	8±0.7	1.35	1	+85	1
AT-909	9±0.5	9±0.7	1.35	1	+85	1
AT-910	10±0.5	10±0.7	1.35	1	+85	1

Model No.	(GHz) Frequency Range	(dB) Attenuation	V.S.W.R. (Max)	(W) Power	(°C Max) Surface Temperature at Maximum Load	(g) Weight
AT-900-(0)-C	DC~4	0 ^{+0.5} / ₀	1.3	1	+85	0.5
AT-900-(0.5)-C	DC~4	0.5±0.5	1.3	1	+85	0.5
AT-901-C	DC~4	1±0.5	1.3	1	+85	0.5
AT-900-(1.5)-C	DC~4	1.5±0.5	1.3	1	+85	0.5
AT-902-C	DC~4	2±0.5	1.3	1	+85	0.5
AT-903-C	DC~4	3±0.5	1.3	1	+85	0.5
AT-904-C	DC~4	4±0.5	1.3	1	+85	0.5
AT-900-(0)-T	DC~4	0 ^{+0.5} / ₀	1.3	1	+85	1
AT-901-T	DC~4	1±0.5	1.3	1	+85	1
AT-902-T	DC~4	2±0.5	1.3	1	+85	1
AT-903-T	DC~4	3±0.5	1.3	1	+85	1
AT-904-T	DC~4	4±0.5	1.3	1	+85	1
AT-905-T	DC~4	5±0.5	1.3	1	+85	1
AT-906-T	DC~4	6±0.5	1.3	1	+85	1
AT-907-T	DC~4	7±0.5	1.3	1	+85	1
AT-908-T	DC~4	8±0.5	1.3	1	+85	1
AT-909-T	DC~4	9±0.5	1.3	1	+85	1
AT-910-T	DC~4	10±0.5	1.3	1	+85	1
AT-900-(0)-PT	DC~4	0 ^{+0.5} / ₀	1.3	1	+85	0.1
AT-901-PT	DC~4	1±0.5	1.3	1	+85	0.1
AT-902-PT	DC~4	2±0.5	1.3	1	+85	0.1
AT-903-PT	DC~4	3±0.5	1.3	1	+85	0.1
AT-904-PT	DC~4	4±0.5	1.3	1	+85	0.1
AT-906-PT	DC~4	6±0.5	1.3	1	+85	0.1
AT-907-PT	DC~4	7±0.5	1.3	1	+85	0.1

External Dimensions Diagrams

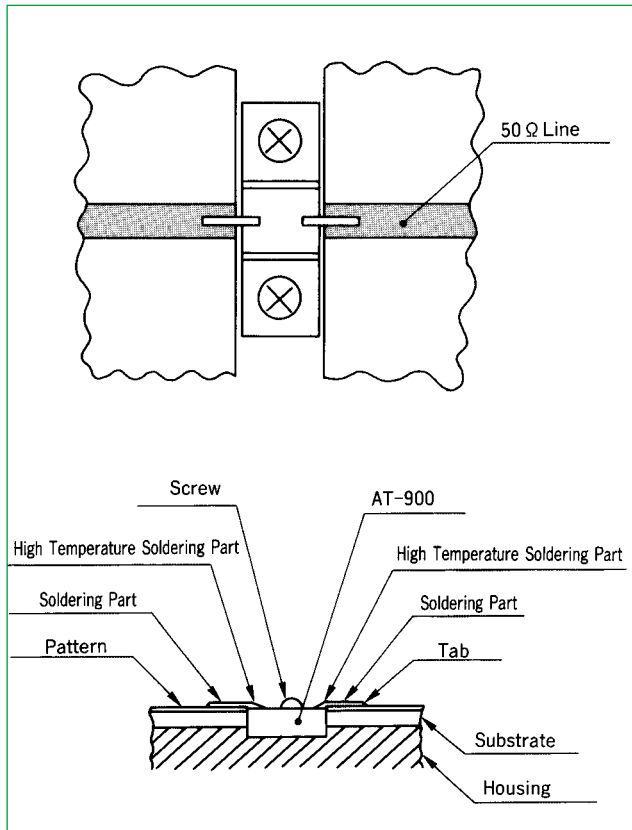


Typical Data



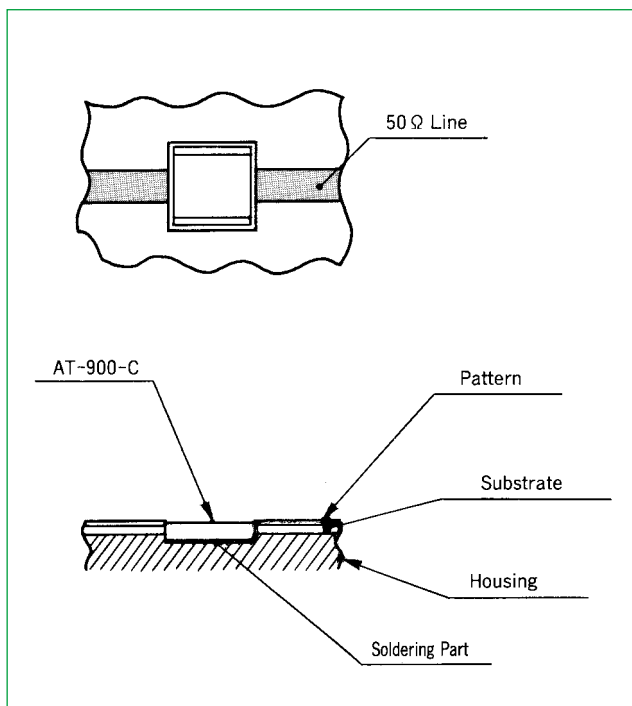
■Mounting Method

AT-900 Type



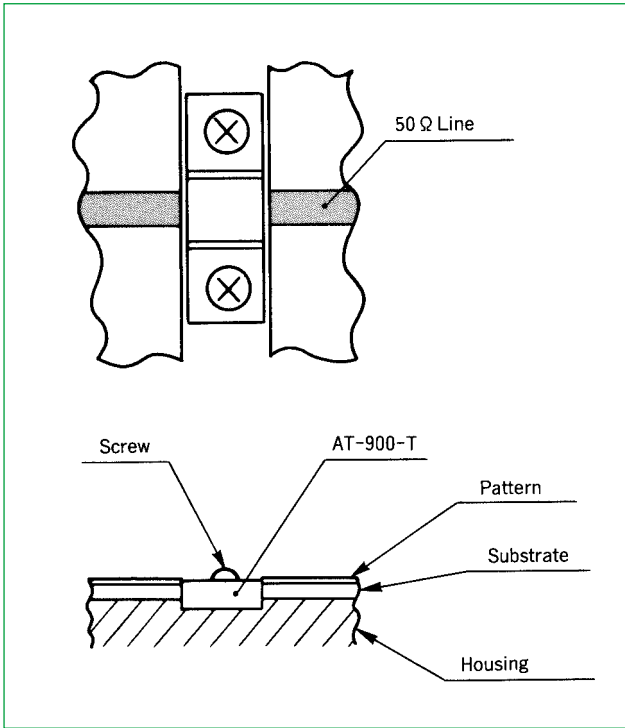
- Make the AT-900 tab height from the housing and the thickness of the microstrip board the same amount.
- The tabs are attached with high temperature solder (having a melting point of 280°C). The soldering temperature to the microstrip board must be less than this.

AT-900-C Type



- The case and ground electrodes are attached with high temperature solder (having a melting point of 240°C). The soldering temperature to the housing (ground) must be less than this.
- The 50Ω line and the center electrode of the AT-900-C are soldered with the tabs, and mounting is by bonding using gold wire, etc.
- Soldering should be performed quickly so that diffusion of the center (gold) electrode does not occur.

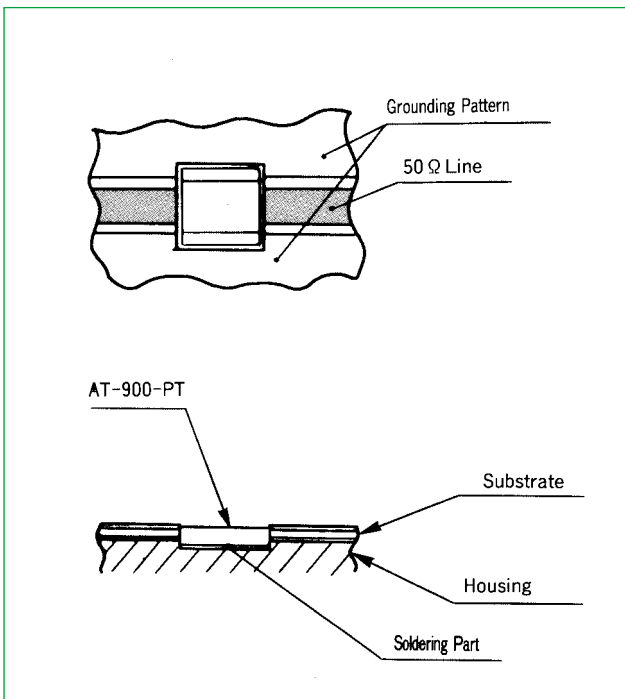
AT-900-T Type



●The 50Ω line and the center electrode of the AT-900-T are soldered with the tabs, and mounting is by bonding using gold wire, etc.

●Soldering should be performed quickly so that diffusion of the center (gold) electrode does not occur.

AT-900-PT Type



●The ground of the resistor surface and the ground of the rear surface are not connected when a single AT-900-PT is used. To maintain the high frequency characteristics, the board should be processed or a mounting arrangement provided so that the ground of the resistor surface and the housing (ground) conduct.

●When making connection by soldering with the tabs, soldering should be performed quickly so that diffusion of the (gold) electrode does not occur.