

Stripline Mounting Fixed Attenuators for SMT

AT-1400 Series



■Features

1.Small Size and Lightweight

Small size and lightweight with dimensions of 4 x 3.6 mm and weight of 0.1 g.

2.Abundant Variations of Attenuators

Attenuation amounts are available 12 types of variation from 0 to 10 dB in 1 dB steps, and in 20 dB.

3.Suited to Automatic Mounting

Embossed tape packaging permits automatic mounting.(Individual delivery can also be accommodated.)

■Product Specifications

Rating	Frequency range (NOTE) Characteristic impedance Maximum usable power	DC to 2.5 GHz 50Ω 1 W	Operating temperature range Operating relative humidity	-10°C to +65°C 95% or less
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NOTE: AT-1420 has a frequency range of DC to 600 MHz.

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 5 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
Attenuation element	Metal film	—

■Product Number Breakdown

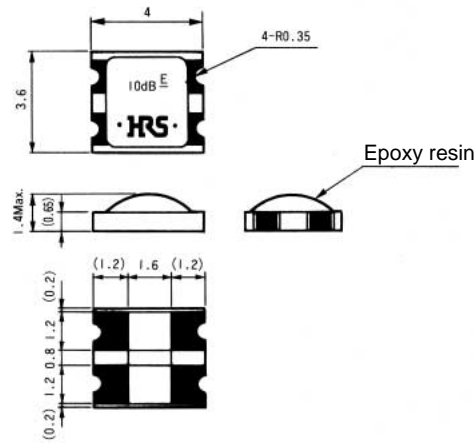
AT - 14 01

① ② ③

① AT: Indicates a fixed attenuator.
② Indicates the Series Name: AT-1400 Series
③ Amount of attenuation (Examples) 01 : 1dB 06 : 6dB 00-(0) : 0dB (Through)

■External Dimensions

Example: AT-1410



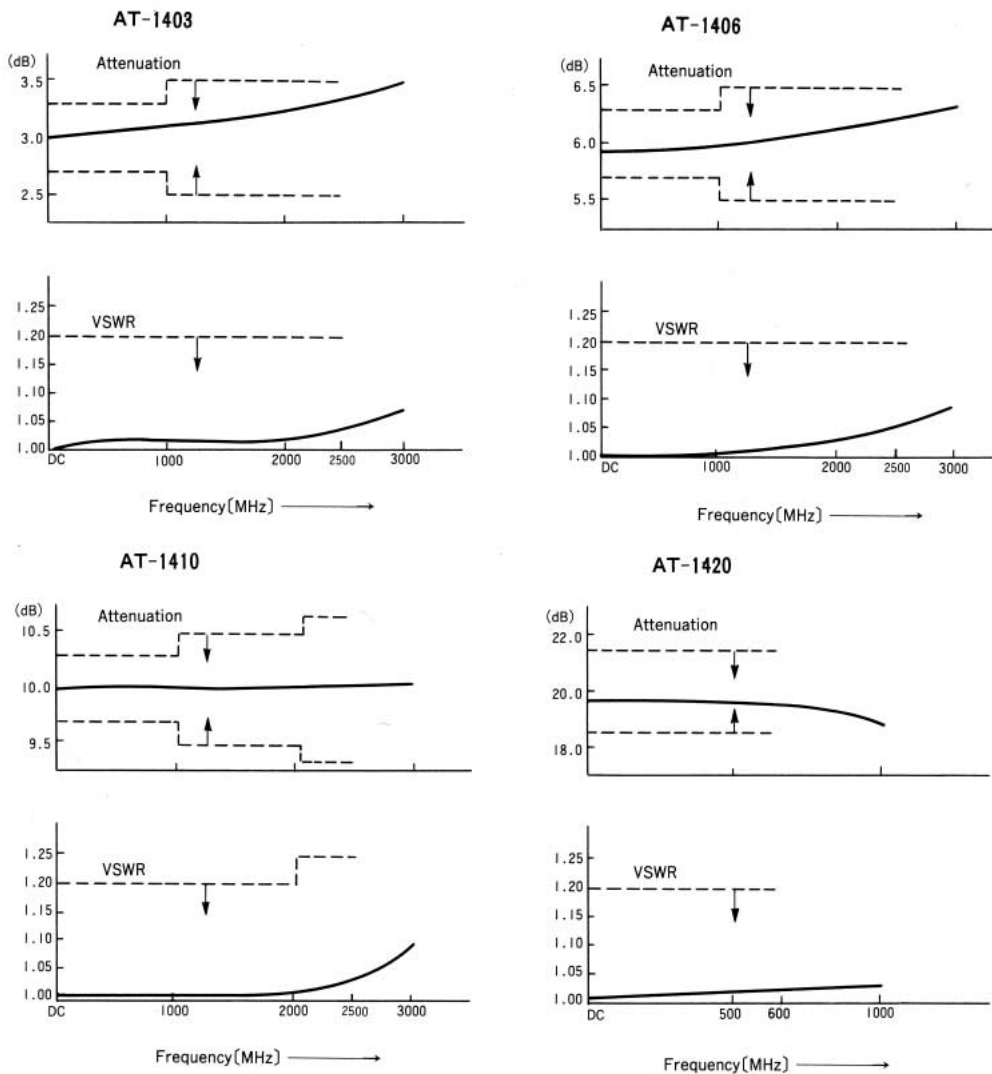
- The black areas represent the electrodes. (Silver palladium and Solder plating)
- The side marked **•HRS•** is the signal electrode. The side marked **E** is the ground electrode.

■ Specifications

Model No.	(dB)			V.S.W.R. (Max)		Impedance (Ω)	Power (W)	($^{\circ}$ C Max) Surface Temperature at Maximum Load	(g) Weight
	Attenuation								
	DC~1,000MHz	1,000~2,000MHz	2,000~2,500MHz	DC~2,000MHz	2,000~2,500MHz				
AT-1400-(0)	$0^{+0.3}_0$	$0^{+0.5}_0$		1.2		50	1	+85	0.1
AT-1401	1 ± 0.3	1 ± 0.5		1.2		50	1	+85	0.1
AT-1402	2 ± 0.3	2 ± 0.5		1.2		50	1	+85	0.1
AT-1403	3 ± 0.3	3 ± 0.5		1.2		50	1	+85	0.1
AT-1404	4 ± 0.3	4 ± 0.5		1.2		50	1	+85	0.1
AT-1405	5 ± 0.3	5 ± 0.5		1.2		50	1	+85	0.1
AT-1406	6 ± 0.3	6 ± 0.5		1.2		50	1	+85	0.1
AT-1407	7 ± 0.3	7 ± 0.5		1.2		50	1	+85	0.1
AT-1408	8 ± 0.3	8 ± 0.5		1.2	1.25	50	1	+85	0.1
AT-1409	9 ± 0.3	9 ± 0.5		1.2	1.25	50	1	+85	0.1
AT-1410	10 ± 0.3	10 ± 0.5	10 ± 0.7	1.2	1.25	50	1	+85	0.1
AT-1420	20 ± 1.5 (DC~600MHz)			1.2(DC~600MHz)		50	1	+85	0.1

NOTE: When ordering embossed tape packaged items, affix (06) to the end of the product number. One reel contains 1,000 pieces.

■ Typical Data

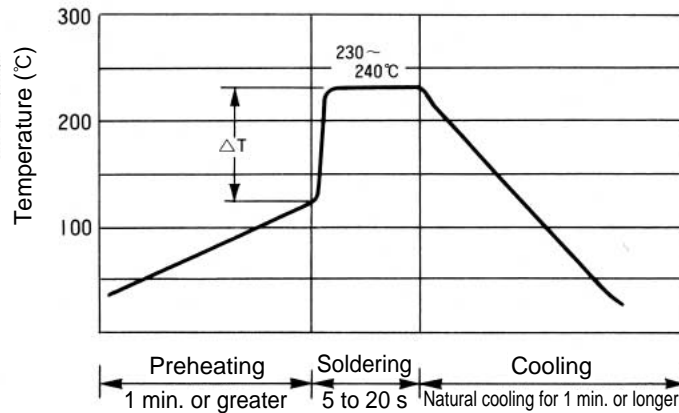


■Mounting Method

The AT-1400 Series is designed to accept reflow soldering or hand soldering. Please perform soldering taking into consideration the following points for the mounting process.

Examples of Soldering Recommendations

●Reflow Soldering (Example of Temperature Recommendation)



Preheat so that ΔT becomes 120°C or less.

●Hand Soldering (Recommendation Example)

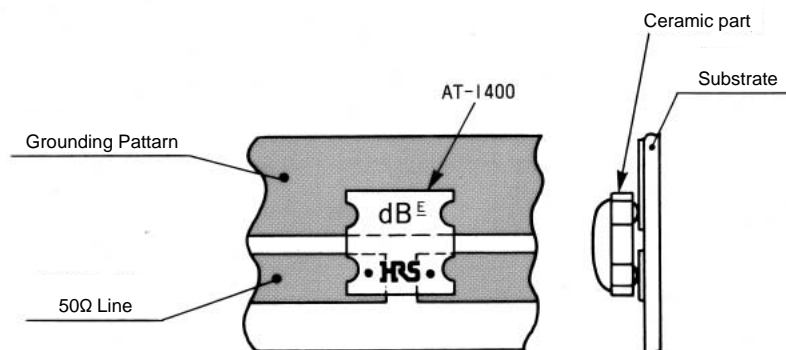
Soldering iron rating : 30 W or less

Tip temperature : 280°C Max.

Tip form : 1.2 mm dia.

※Be careful that the soldering iron does not come into direct contact with the ceramic part. Please mount quickly so that electrode damage does not occur.

Example of Mounting Recommendation



※The broken line portion indicates the position of the pattern.

NOTE: Do not reuse a product that has been previously mounted.