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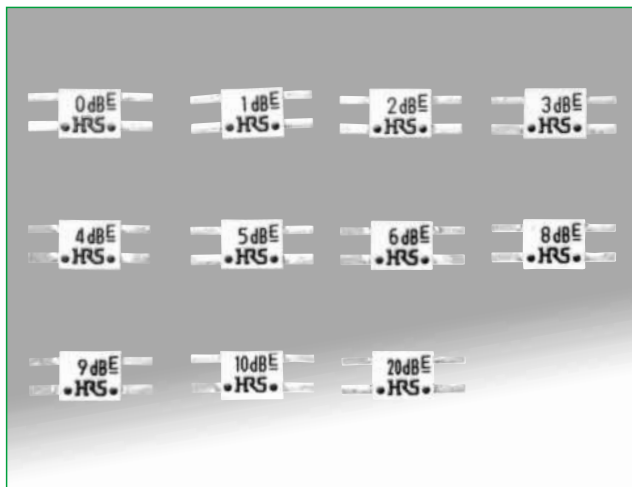
[Hirose Electric Co Ltd](#)  
[AT-2303\(40\)](#)

For any questions, you can email us directly:

[sales@integrated-circuit.com](mailto:sales@integrated-circuit.com)

# Stripline Mounting Fixed Attenuators

## AT-2300 Series



### ■Features

#### 1. Wide Range of Variations for Each Type of Attenuator

Attenuation levels available in 1 dB steps from 0 to 6 dB and from 8 to 10 dB, and 20 dB for a total of 11 types of variations.

### ■Product Specifications

Ratings	Frequency range	DC to 2.5GHz (Note)	Operating temperature	-10°C to +65°C
	Characteristic impedance	50 Ω	Operating humidity	95% max.
	Maximum input power	1W		

Note: DC to 600MHz for AT-2320.

Item	Requirement	Conditions
1.Vibration	No electrical discontinuity of 1 μ or more. No damage, cracks, or parts dislocation.	Frequency of 10 to 2000 Hz, overall amplitude of 1.5mm, acceleration of 98m/s <sup>2</sup> , 2 hours in each of the 3 directions.
2.Shock		Acceleration of 490m/s <sup>2</sup> , sine half-wave waveform, 3 cycles in each of the 3 axis.
3.Temperature cycle		Temperature : -55°C → +15°C to +35°C → +85°C → +15°C to +35°C Time : 30 → 2 to 3 → 30 → 2 to 3 (Minutes) 5 cycles

The test method conforms to MIL-STD-202.

### ■Materials / Finishes

Component	Material	Finish
Attenuation element	Metal film	—
Tab	Copper	Tin-lead plating

### ■Ordering information

## AT-23 01 (40)

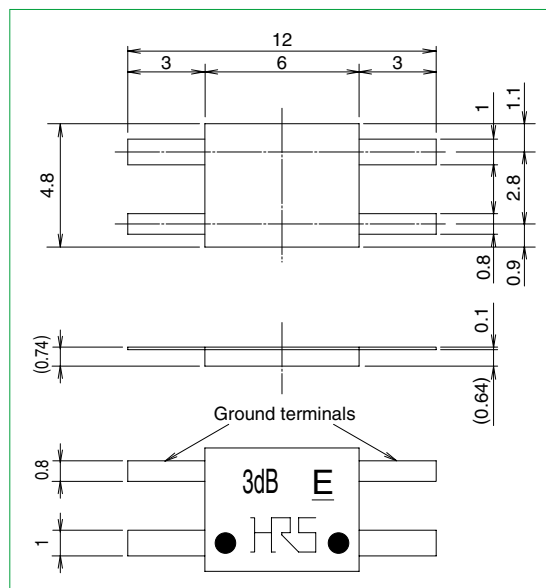
- ① ② ③ ④

\*Each attenuator is supplied in individual package

① AX:Fixed attenuator
② Series name :2300 Series
③ Attenuation 00-(0) : 0 dB (Through) 01 : 1dB 06 : 6dB
④ (40): RoHS Compliant

### ■Dimensions

AT-2303 shown

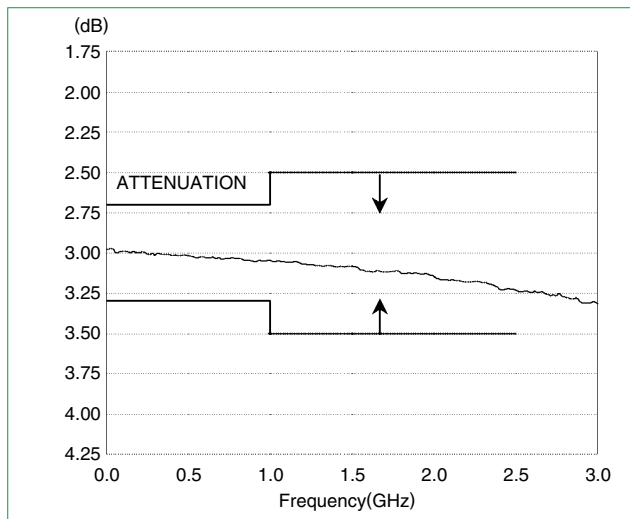


## Specifications

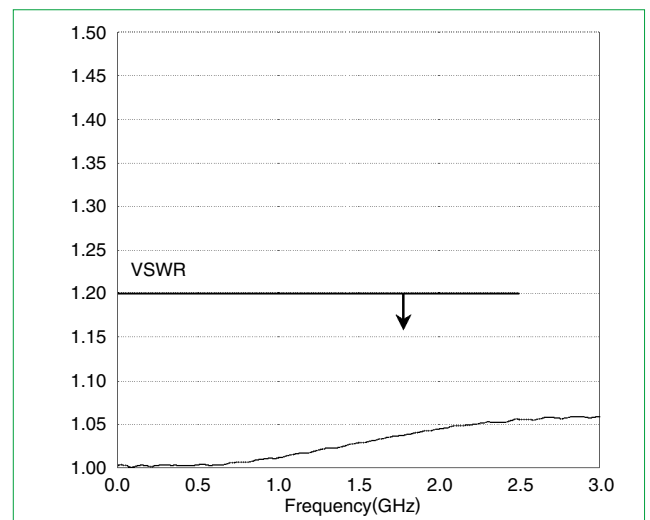
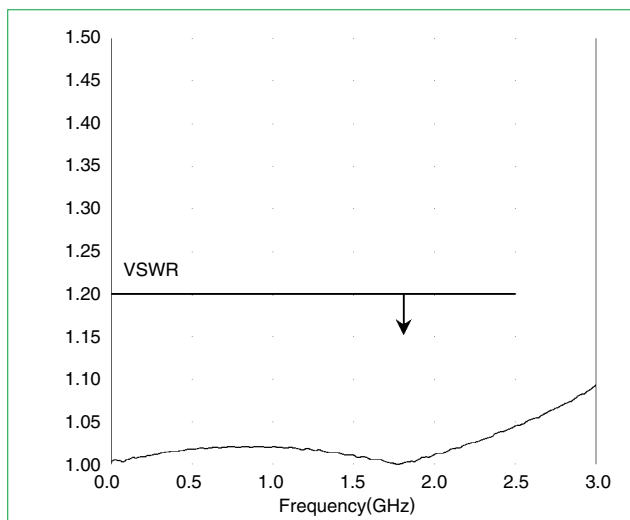
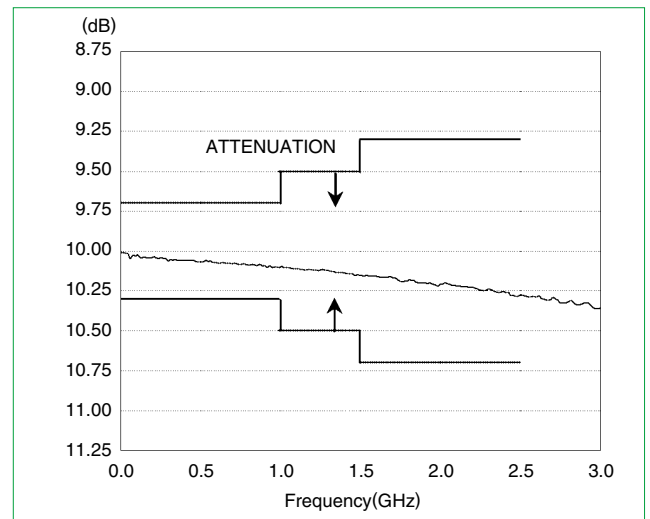
Part number	Attenuation (dB)			V.S.W.R(Max) DC~2,500MHz	Characteristic Impedance (Ω)	Power (W)	Mounting surface temperature (°C Max.) at time of maximum input power	Weight (g)
	DC~1,000MHz	1,000~1,500MHz	1,500~2,500MHz					
AT-2300-(0)(40)	0 <sup>+0.3</sup>	0 <sup>+0.5</sup>		1.2	50	1	+85	0.2
AT-2301(40)	1±0.3	1±0.5		1.2	50	1	+85	0.2
AT-2302(40)	2±0.3	2±0.5		1.2	50	1	+85	0.2
AT-2303(40)	3±0.3	3±0.5		1.2	50	1	+85	0.2
AT-2304(40)	4±0.3	4±0.5		1.2	50	1	+85	0.2
AT-2305(40)	5±0.3	5±0.5		1.2	50	1	+85	0.2
AT-2306(40)	6±0.3	6±0.5		1.2	50	1	+85	0.2
AT-2308(40)	8±0.3	8±0.5		1.2	50	1	+85	0.2
AT-2309(40)	9±0.3	9±0.5		1.2	50	1	+85	0.2
AT-2310(40)	10±0.3	10±0.5	10±0.7	1.2	50	1	+85	0.2
AT-2320(40)	20±1.5(DC~600MHz)			1.2(DC~600MHz)	50	1	+85	0.2

## Typical data

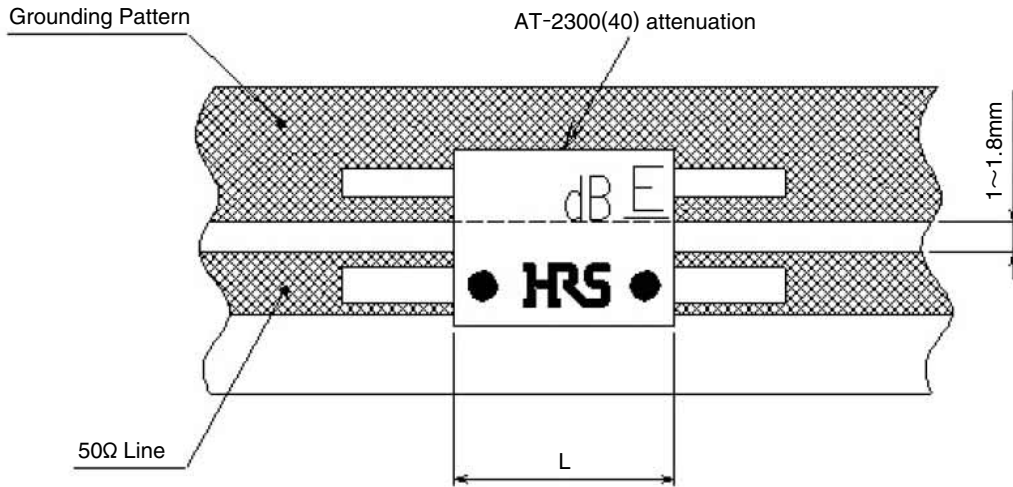
AT-2303(40)



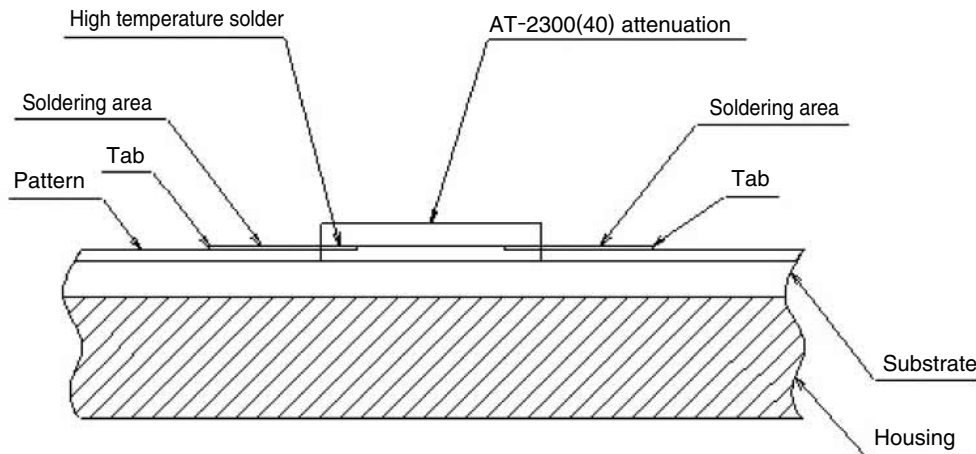
AT-2310(40)



## Recommended Mounting Pattern



\* The dotted line portion indicates the position of the pattern.



\* Set interval L of the signal pattern to 6 mm and interval S of the signal pattern and ground pattern to 1 to 1.8 mm.

\* Press the red seal onto the microstrip line surface and solder the tab.

\* Tab Soldering Conditions

Soldering iron tip temperature: 260 to 290°C

Time: Within 5 seconds

\* Note that although the high frequency characteristics will be somewhat degraded, please attach the tab with some slack in order to improve the thermal reliability.