

# High Precision Chip Attenuators (Up to 30GHz)

## ATF Series

### Features

- Attenuation to high frequency range (up to 30GHz)
- Compatible with PAT series land patterns
- Lineup of various attenuations between 0 and 10 dB (1dB step)
- Compact size and low impedance mounting (1005size、face-down mounting)

### Applications

- Wireless communication devices and base stations
- Wireless communication modules



## Part numbering system

### ATF 1005 - 50R0 - 03DB - T10

Series Code

Size : ATF1005

Packing quantity : T10(10,000pcs)

Attenuation: 00dB - 10dB (2digit)

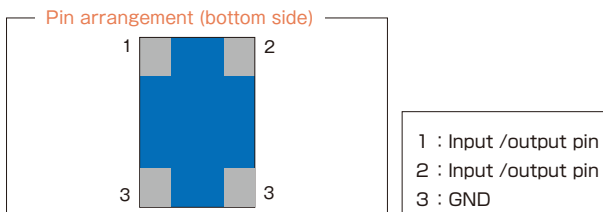
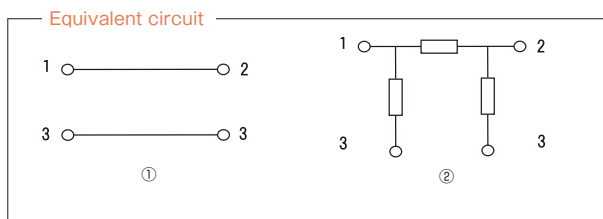
Impedance

## Electrical Specification

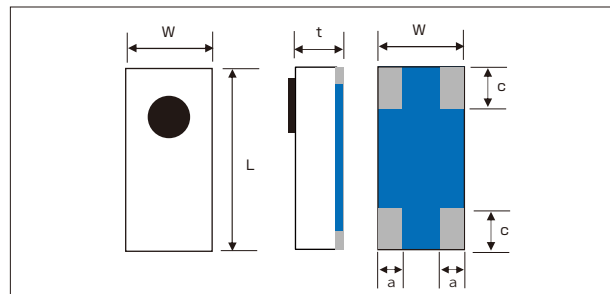
Type	ATF1005			
Attenuation	0dB	01 ~ 03dB	04 ~ 07dB	08 ~ 10dB
CircuitType	Thru	Pi( $\pi$ )	Pi( $\pi$ )	Pi( $\pi$ )
Equivalent circuits	①	②	②	②
Attenuation tolerance	$\pm 0.3\text{dB}(0 \sim 10\text{GHz})$ , $\pm 0.7\text{dB}(10 \sim 20\text{GHz})$ , $\pm 1.0\text{dB}(20 \sim 30\text{GHz})$		$\pm 0.5\text{dB}(0 \sim 10\text{GHz})$ , $\pm 0.7\text{dB}(10 \sim 20\text{GHz})$ , $\pm 1.0\text{dB}(20 \sim 30\text{GHz})$	$\pm 0.7\text{dB}(0 \sim 10\text{GHz})$ , $\pm 1.0\text{dB}(10 \sim 20\text{GHz})$ , $\pm 1.7\text{dB}(20 \sim 30\text{GHz})$
V S W R	$\leq 1.3(0 \sim 10\text{GHz})$ , $\leq 1.4(10 \sim 20\text{GHz})$ , $\leq 1.5(20 \sim 30\text{GHz})$		$\leq 1.3(0 \sim 10\text{GHz})$ , $\leq 1.4(10 \sim 20\text{GHz})$ , $\leq 1.5(20 \sim 30\text{GHz})$	$\leq 1.3(0 \sim 10\text{GHz})$ , $\leq 1.4(10 \sim 20\text{GHz})$ , $\leq 1.5(20 \sim 30\text{GHz})$
Impedance	50 $\Omega$			
Operating Frequency	DC ~ 30GHz			
Rated power	32mW			
Rated operating temperature	70 $^{\circ}\text{C}$			
Operating temperature	-40 $^{\circ}\text{C}$ ~ +125 $^{\circ}\text{C}$			
Packaging quantity	10,000pcs/reel (T10)			

High frequency surface mount components  
ATF series

## Equivalent Circuit and arrangement



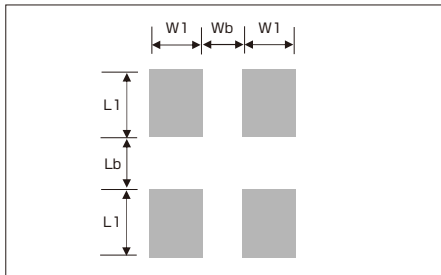
## Dimensions



Type	Size	L	W	t	a	c
ATF1005	0402	1.0 $\pm$ 0.1	0.5 $\pm$ 0.1	0.5max	0.12 $\pm$ 0.07	0.27 $\pm$ 0.07

(unit : mm)

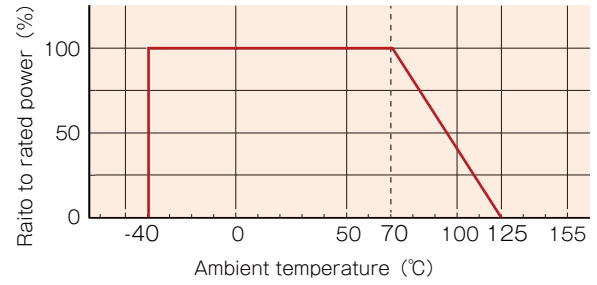
◆ Recommended land patterns(soldering footprints)



Type	W1	Wb	L1	Lb
ATF1005	0.3	0.2	0.35	0.37

(unit : mm)

◆ Derating Curve



◆ High frequency characteristics

