



# High Precision chip attenuators (Up to 50GHz)

## ■ATS-FD series

### Features

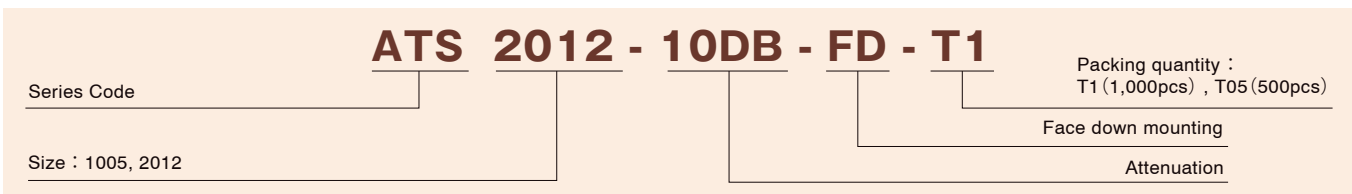
- Attenuation range up to 50GHz
- Internal circuit specially designed for 0-10dB attenuation.
- Miniature surface mount chip attenuator (1005,2012 size)
- Signal line sandwiched by ground – excellent heat dissipation and low noise.

### Applications

- Wireless communication devices and base stations
- Wireless communication modules



## ◆Part numbering system



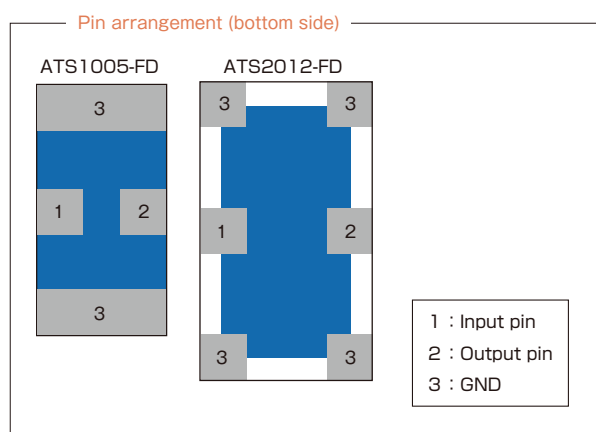
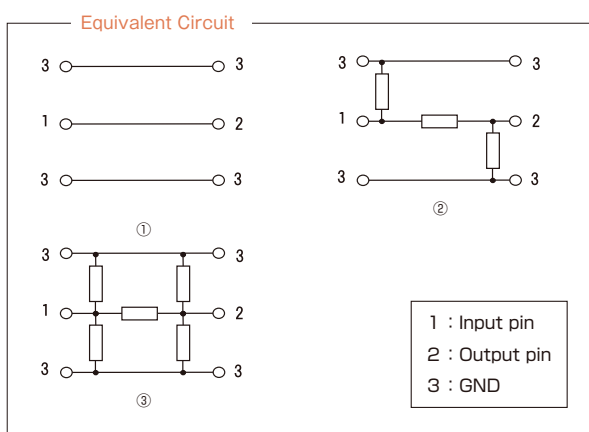
## ◆Electrical Specification

Type	ATS1005-FD		ATS2012-FD		
Attenuation	0dB	1~10dB	0dB	1~8dB	9~10dB
Circuit Type	Thru	PI( $\pi$ )	Thru	PI( $\pi$ )	Dual Pi ( Dual $\pi$ )
Equivalent circuits	①	②	①	②	③
Attenuation tolerance	$\pm 0.75$ (DC ~ 25GHz), $\pm 1.25$ dB(25 ~ 40GHz) $\pm 2.0$ dB(40 ~ 50GHz)		$\pm 1.00$ dB(DC ~ 25GHz), $\pm 2.00$ dB(25 ~ 50GHz)		
V S W R	$\leq 1.4$ (DC ~ 25GHz), $\leq 1.6$ (25 ~ 40GHz) $\leq 1.8$ (40 ~ 50GHz)		$\leq 1.4$ (DC ~ 25GHz), $\leq 1.6$ (25 ~ 50GHz)		
Impedance	50 $\Omega$				
Operating frequency	DC~50GHz		DC~50GHz		
Rated power	32mW		100mW		
Rated operating temperature	70 $^{\circ}$ C				
Operating temperature	-40 $^{\circ}$ C~+125 $^{\circ}$ C				
Packaging quantity	500pcs/reel(T05) 1,000pcs/reel(T1)				

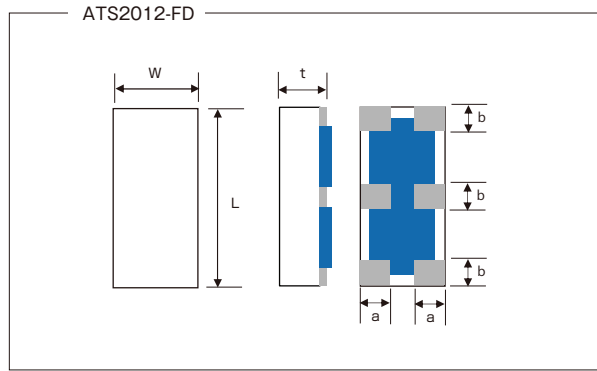
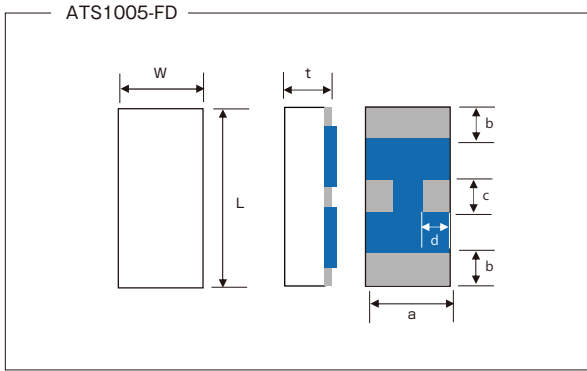
High frequency surface mount components

ATS-FD series

## ◆Equivalent Circuit and pin arrangement



## ◆ Dimensions

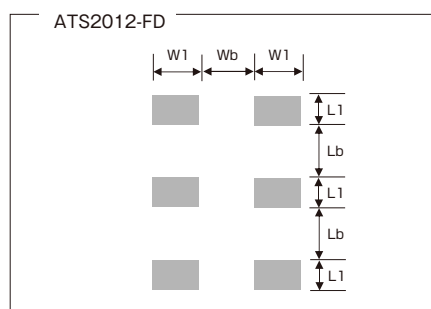
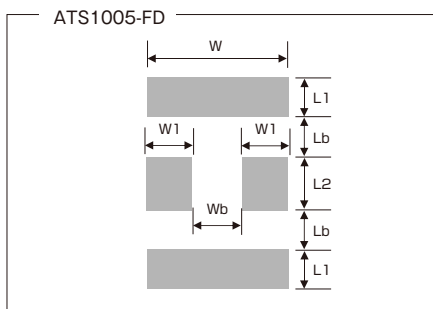


Type	Size (inch)	L	W	t	a	b	c	d
ATS1005-FD	0402	1.0±0.20	0.5±0.15	max0.35	0.46±0.05	0.15±0.05 0.10±0.05 <sup>*1</sup>	0.20±0.05	0.15±0.05
ATS2012-FD	0805	2.00±0.20	1.25±0.20	max 0.40	0.35±0.10	0.25±0.10	—	—

(unit : mm)

\*1: Applies to ATS1005-01DB-FD

## ◆ Recommended land patterns(soldering footprints)



Type	W	W1	Wb	L1	Lb	L2
ATS1005-FD	0.46	0.15	0.16	0.15	0.23	0.20
ATS2012-FD	—	0.35	0.51	0.25	0.61	—

(unit : mm)

## ◆ Derating Curve

