



High Precision chip attenuators (Up to 55GHz)

■ATS-FD series

Features

- Attenuation range up to 55GHz
- 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

ATS 2012 - 10DB - FD - T1

Series Code

Size : 1005, 2012

Packing quantity :
T1 (1,000pcs) , T05 (500pcs)

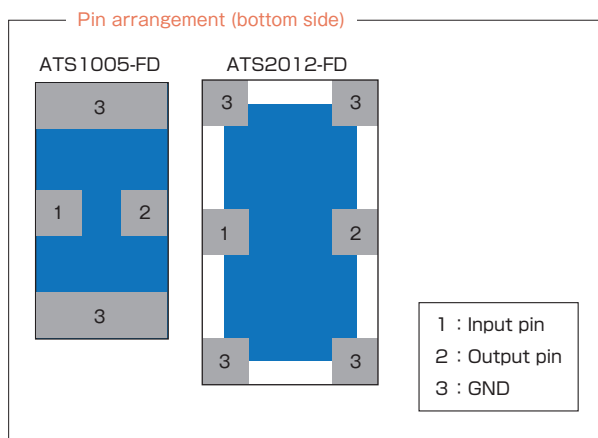
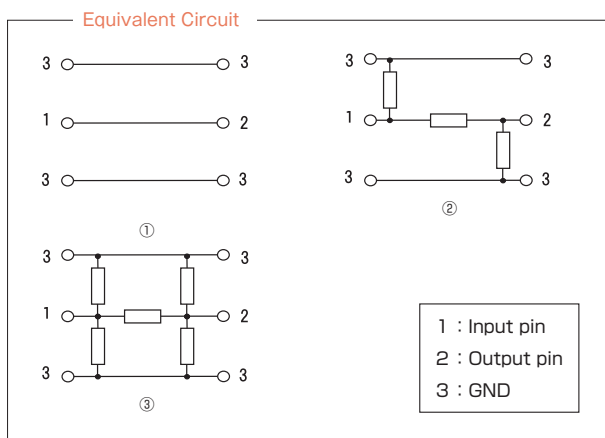
Face down mounting

Attenuation

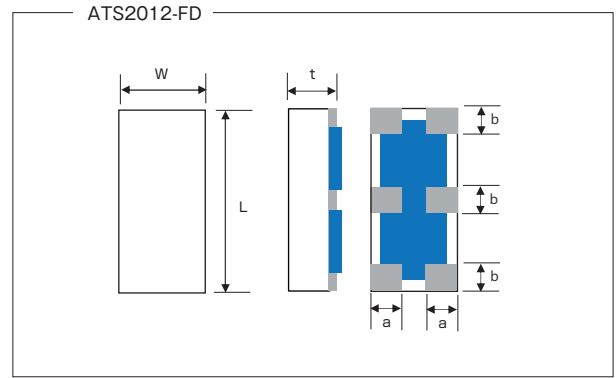
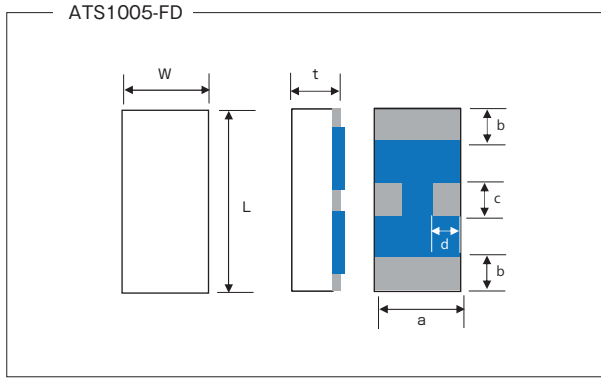
◆Electrical Specification

| Type | ATS1005-FD | | ATS2012-FD | | |
|-----------------------------|---|-------------|------------|-------------|------------------------|
| | Attenuation | 0dB | 1~10dB | 0dB | 1~8dB |
| Circuit Type | Thru | Pi(π) | Thru | Pi(π) | Dual Pi (Dual π) |
| Equivalent circuits | ① | ② | ① | ② | ③ |
| Attenuation tolerance | ± 0.75 (DC ~ 25GHz), ± 1.25 dB(25 ~ 40GHz), ± 2.50 dB(40 ~ 55GHz) | | | | |
| V S W R | ≤ 1.40 (DC ~ 25GHz), ≤ 1.60 (25 ~ 40GHz), ≤ 1.80 (40 ~ 55GHz) | | | | |
| Impedance | 50 Ω | | | | |
| Operating frequency | DC~55GHz | | DC~55GHz | | |
| Rated power | 32mW | | 100mW | | |
| Rated operating temperature | 70°C | | | | |
| Operating temperature | -40°C~+125°C | | | | |
| Packaging quantity | 500pcs/reel(T05) 1,000pcs/reel(T1) | | | | |

◆Equivalent Circuit and pin arrangement



◆ Dimensions

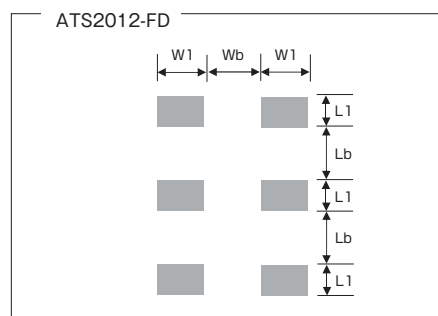
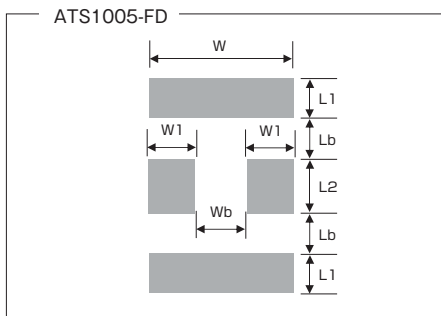


| Type | Size (inch) | L | W | t | a | b | c | d |
|------------|-------------|-----------|-----------|-----------|-----------|--------------------------|-----------|-----------|
| ATS1005-FD | 0402 | 1.00±0.10 | 0.50±0.10 | 0.32±0.05 | 0.44±0.05 | 0.15±0.05 0.10±0.05*1 | 0.20±0.05 | 0.15±0.05 |
| ATS2012-FD | 0805 | 2.00±0.20 | 1.25±0.20 | 0.22±0.05 | 0.35±0.10 | 0.25±0.10 | — | — |

(unit : mm)

*1: Applies to ATS1005-01DB-FD

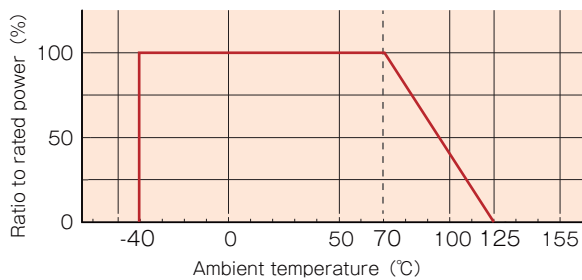
◆ Recommended land patterns(soldering footprints)



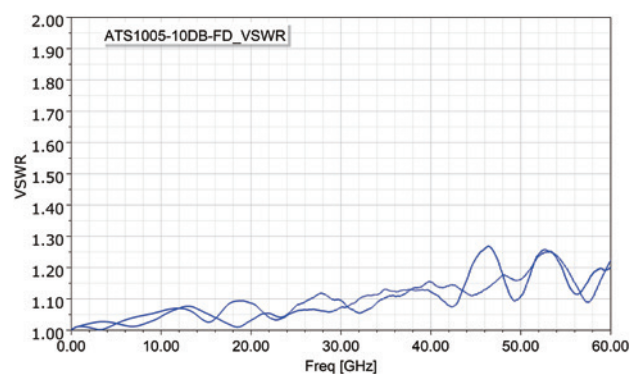
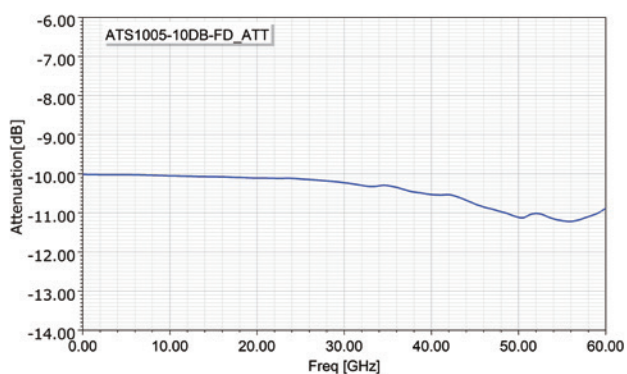
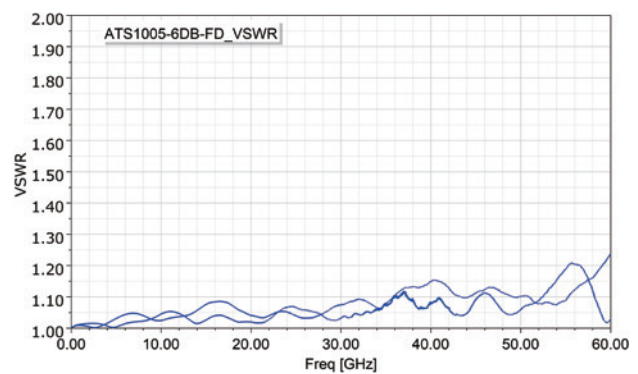
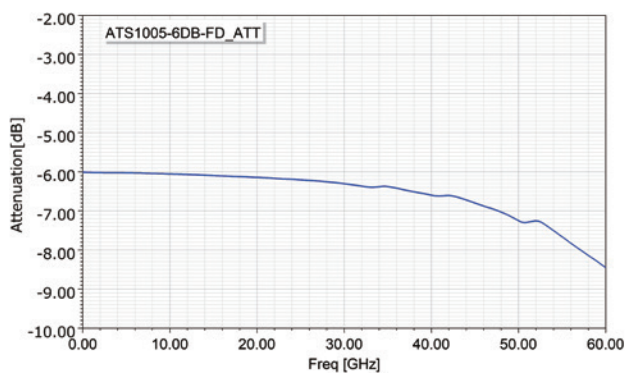
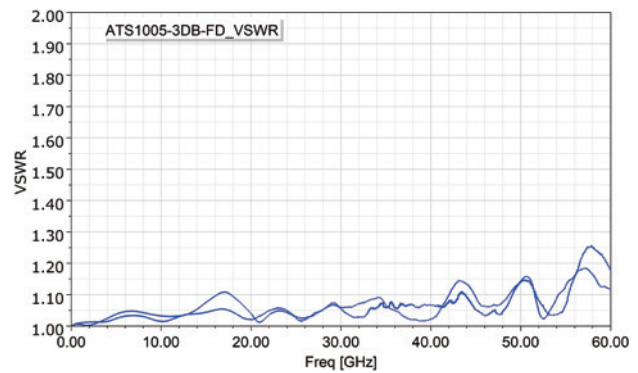
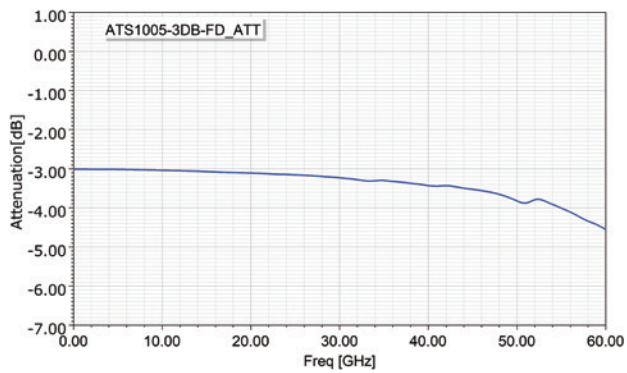
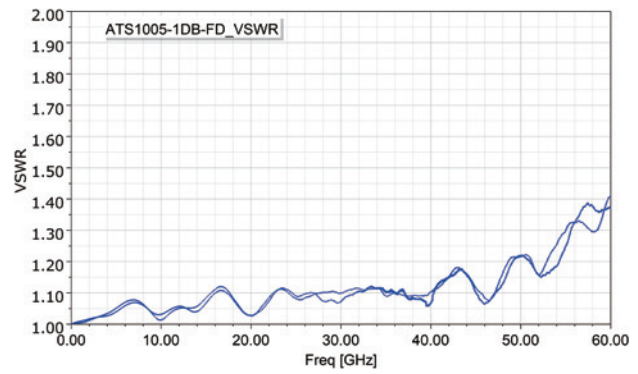
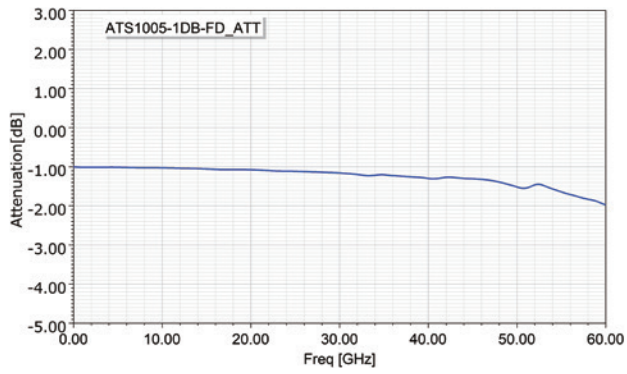
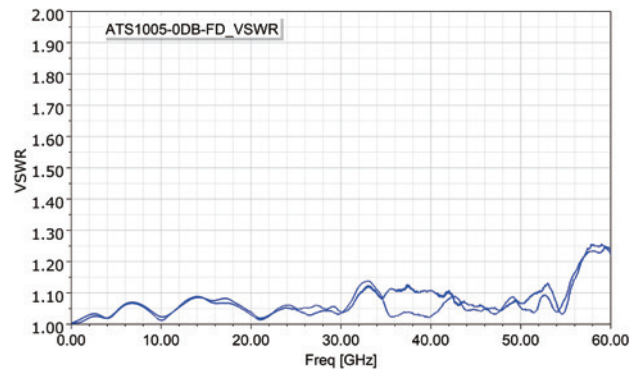
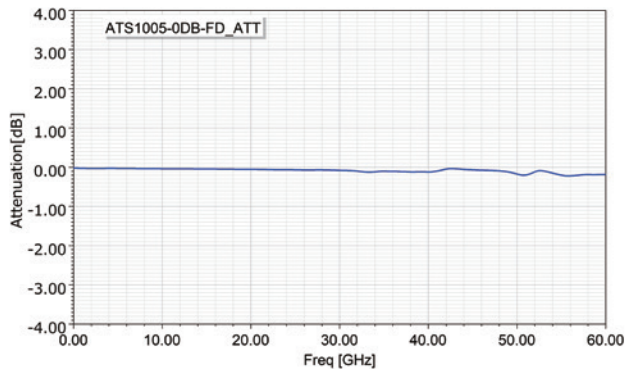
| Type | W | W1 | Wb | L1 | Lb | L2 |
|------------|------|------|------|------|------|------|
| ATS1005-FD | 0.44 | 0.15 | 0.14 | 0.15 | 0.22 | 0.20 |
| ATS2012-FD | — | 0.35 | 0.49 | 0.25 | 0.60 | — |

(unit : mm)

◆ Derating Curve



◆ High frequency characteristics



High frequency surface mount components

ATS-FD series

◆ High frequency characteristics

