

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 - T1

| | | | | | |
|----------------|--|--|--|--|--|
| Series Code | | | | | Packing quantity : T05 (500pcs) T1 (1,000pcs) |
| Size : ATF1005 | | | | | Attenuation: 00dB - 10dB (2digit) |
| | | | | | Impedance |

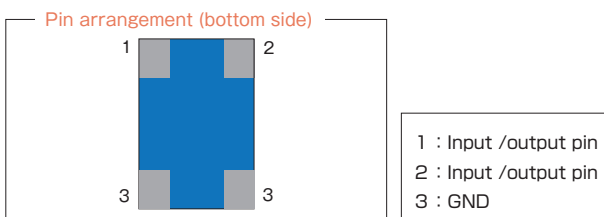
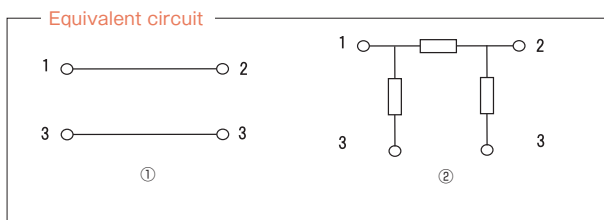
Electrical Specification

| Type | ATF1005 | | | |
|-----------------------------|---|-------------|---|---|
| Attenuation | 0dB | 01 ~ 03dB | 04 ~ 07dB | 08 ~ 10dB |
| CircuitType | Thru | Pi(π) | Pi(π) | Pi(π) |
| Equivalent circuits | ① | ② | ② | ② |
| Attenuation tolerance | ± 0.3 dB(0 ~ 10GHz), ± 0.7 dB(10 ~ 20GHz), ± 1.0 dB(20 ~ 30GHz) | | ± 0.5 dB(0 ~ 10GHz), ± 0.7 dB(10 ~ 20GHz), ± 1.0 dB(20 ~ 30GHz) | ± 0.7 dB(0 ~ 10GHz), ± 1.3 dB(10 ~ 20GHz), ± 2.0 dB(20 ~ 30GHz) |
| V S W R | ≤ 1.3 (0 ~ 10GHz), ≤ 1.4 (10 ~ 20GHz), ≤ 1.5 (20 ~ 30GHz) | | ≤ 1.3 (0 ~ 10GHz), ≤ 1.4 (10 ~ 20GHz), ≤ 1.5 (20 ~ 30GHz) | ≤ 1.3 (0 ~ 10GHz), ≤ 1.4 (10 ~ 20GHz), ≤ 1.5 (20 ~ 30GHz) |
| Impedance | 50 Ω | | | |
| Operating Frequency | DC ~ 30GHz | | | |
| Rated power | 32mW | | | |
| Rated operating temperature | 70 $^{\circ}$ C | | | |
| Operating temperature | -40 $^{\circ}$ C ~ +125 $^{\circ}$ C | | | |
| Packaging quantity | 500pcs/reel (T05) 1,000pcs/reel (T1) | | | |

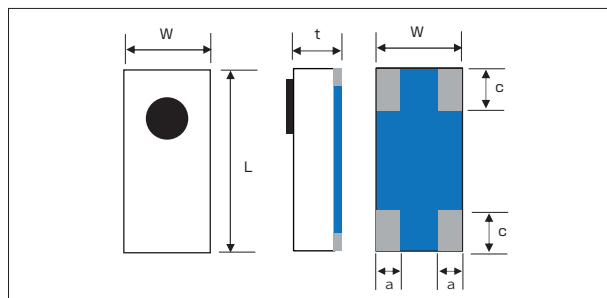
High frequency surface mount components

ATF series

Equivalent Circuit and arrangement



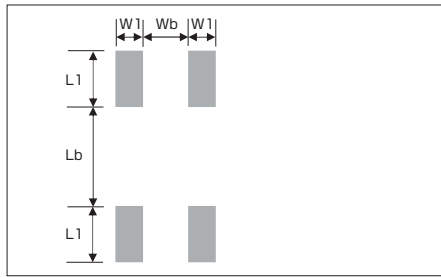
Dimensions



| Type | Size | L | W | t | a | c |
|---------|------|-----------------|-----------------|-----------------|-----------------|-----------------|
| ATF1005 | 0402 | 1.00 \pm 0.10 | 0.50 \pm 0.10 | 0.32 \pm 0.05 | 0.12 \pm 0.07 | 0.25 \pm 0.07 |

(unit : mm)

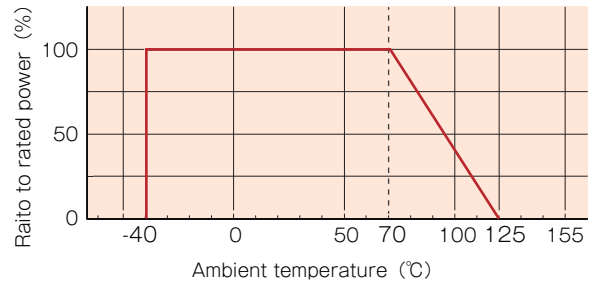
◆ Recommended land patterns(soldering footprints)



| Type | W1 | Wb | L1 | Lb |
|---------|------|------|------|------|
| ATF1005 | 0.12 | 0.20 | 0.25 | 0.44 |

(unit : mm)

◆ Derating Curve



◆ High frequency characteristics

