

# Data Sheet

## FAC4315

50Ω Up to 1.4W DC to 25GHz



### Features

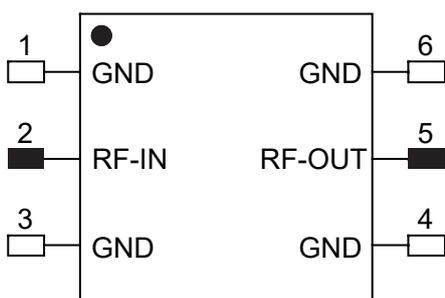
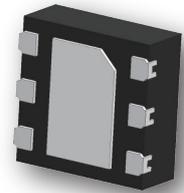
- Small Size (2×2mm DFN package)
- Super Wide bandwidth,DC-25GHz
- Excellent VSWR,1.3:1 typ.
- High Power Handling,1.4W
- Operating Temperature:-40°C to 85°C

### Typical Applications

- 5G
- Test and Measurement
- Radar
- Communication
- Defense

### General Description

FAC4315 is absorptive fixed attenuator fabricated using highly reliable GaAs MMIC process. The model operates from DC to 25GHz.It achieves outstanding attenuation accuracy and flatness while maintains excellent VSWR throughout the entire band. The model can also handle input power up to 1.4W,which makes this model an ideal choice for a wide range of applications.



TOP VIEW

Notes:

- 1.This part has passed through 100% RF test.

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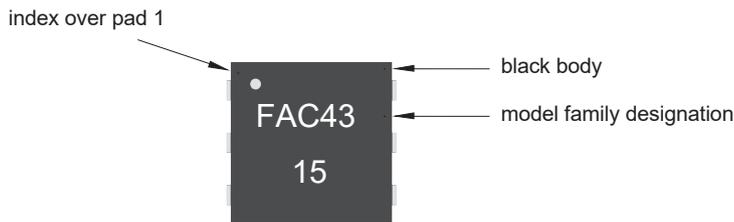


### Key Features

| Feature  | Advantages  |
|--|---|
| Wideband operation, From DC to 25 GHz  | Supports a wide array of applications including 5G, wireless infrastructure, microwave communications, satellite, defense and aerospace, medical broadband and optic applications             |
| Small Size and simple to use (2 mm x 2 mm)   | As a single chip solution, the FAC43 series occupies less board space than a lumped element approach, minimizes component count and ensures repeatable performance over wide frequency range. |
| Wide range of nominal attenuation values (0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 12, 15, 20 & 30) | Small increment offering enables circuit designer to change attenuation values without motherboard redesign making the FAC43 series ideal for select at test application.                     |
| MCLP™ Package  | Low Inductance, repeatable transitions, excellent thermal path make the FAC43 series an ideal solution as an alternative to “do it yourself” lumped element-based approach.                   |

\* IPD - Integrated Passive Device.

### Product Marking

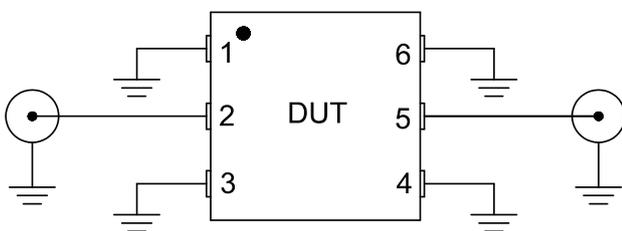


Marking may contain other features or characters for internal lot control

### ESD Rating

Human Body Model (HBM): Class 2(Pass 2000V) per ANSI/ESD STM 5.1-2001

### Characterization Test Circuit



Block diagram fo Test Circuit used for characterization.

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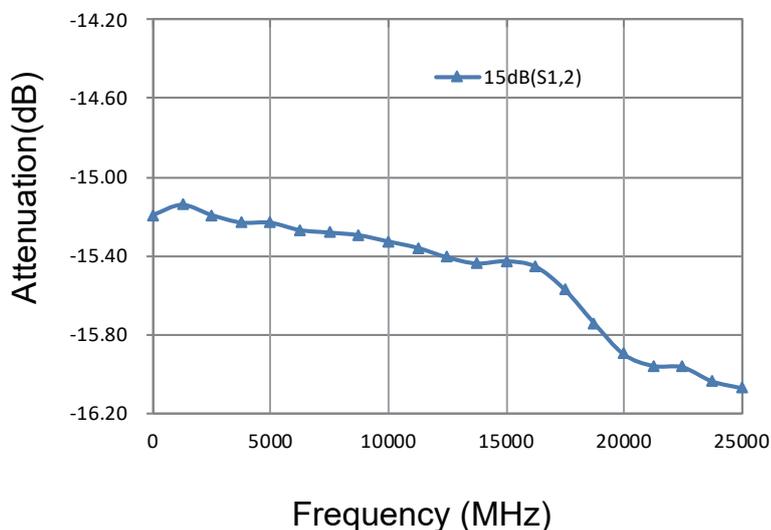
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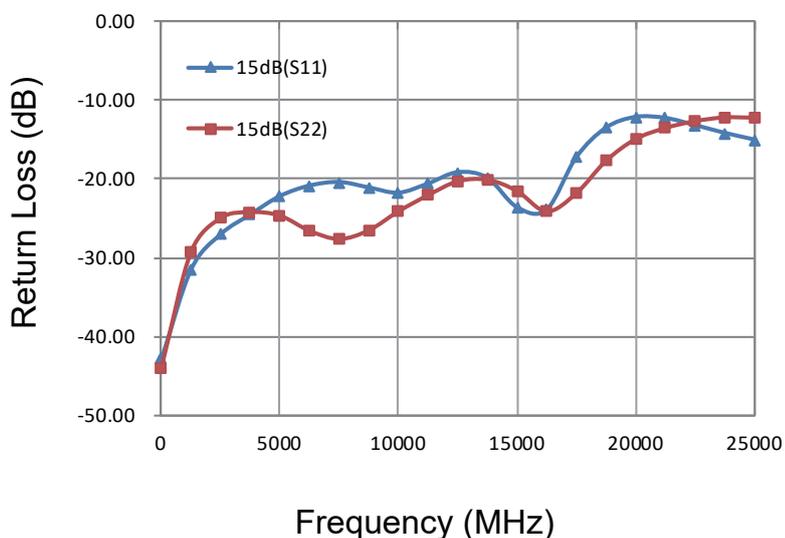
### Electrical Specifications at 25° C

| Paramter         | Freq.Range (GHz) | Min. | Typ. | Max. |
|------------------|------------------|------|------|------|
| Frequency Range  | -                | DC   | -    | 25   |
| Attenuation (dB) | DC-25            | 15.0 | 15.6 | 15.8 |
| Return Loss (dB) | DC-25            | 11   | 18   | -    |

### Test Curve



| Frequency (MHz) | S12 (dB) | Return Loss(dB) |        |
|-----------------|----------|-----------------|--------|
|                 |          | S11             | S22    |
| 0               | -15.19   | -42.87          | -43.94 |
| 1250            | -15.14   | -31.52          | -29.23 |
| 2500            | -15.19   | -27.04          | -24.95 |
| 3750            | -15.23   | -24.54          | -24.20 |
| 5000            | -15.23   | -22.21          | -24.65 |
| 6250            | -15.27   | -20.88          | -26.58 |
| 7500            | -15.28   | -20.43          | -27.62 |
| 8750            | -15.29   | -21.12          | -26.51 |
| 10000           | -15.33   | -21.78          | -24.10 |
| 11250           | -15.36   | -20.62          | -22.04 |
| 12500           | -15.41   | -19.18          | -20.28 |
| 13750           | -15.44   | -19.90          | -20.08 |
| 15000           | -15.43   | -23.62          | -21.50 |
| 16250           | -15.45   | -23.94          | -24.11 |
| 17500           | -15.57   | -17.30          | -21.82 |
| 18750           | -15.74   | -13.56          | -17.69 |
| 20000           | -15.90   | -12.18          | -14.92 |
| 21250           | -15.96   | -12.31          | -13.52 |
| 22500           | -15.96   | -13.21          | -12.64 |
| 23750           | -16.04   | -14.19          | -12.16 |
| 25000           | -16.07   | -15.04          | -12.18 |



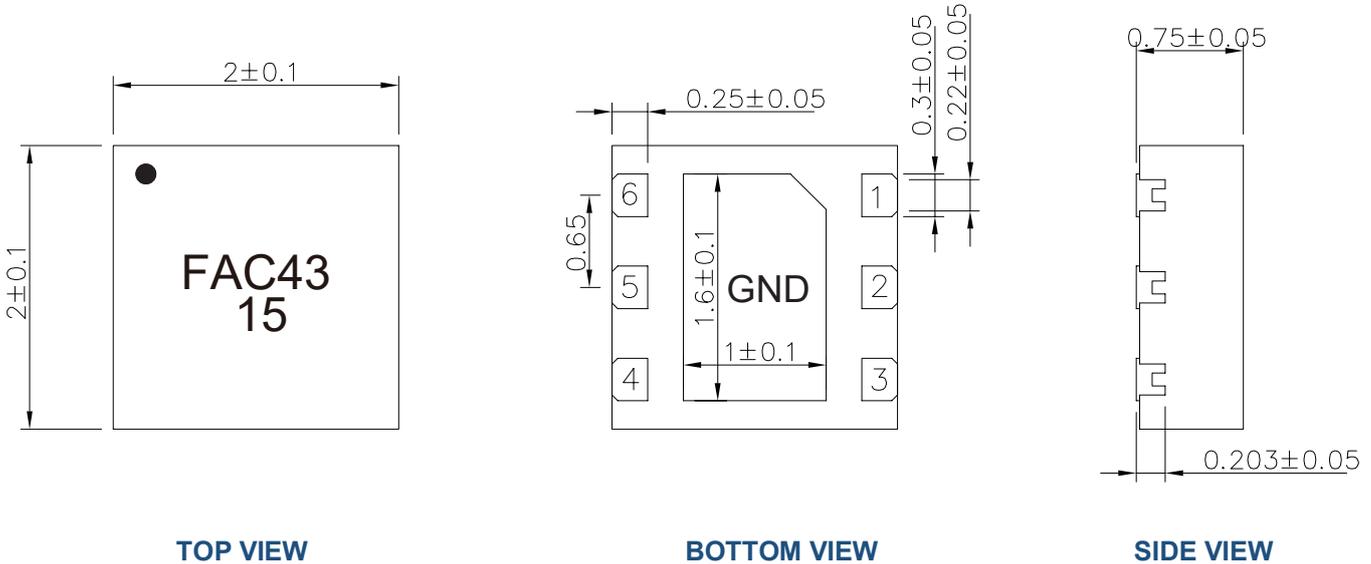
# Data Sheet

## FAC4315

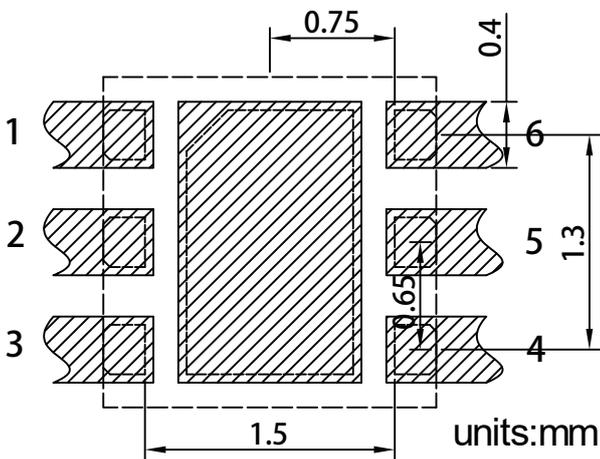
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### Outline Drawing



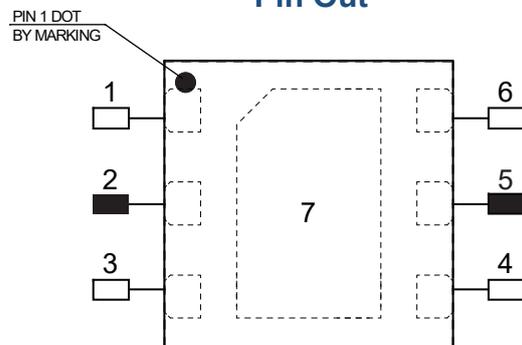
### Land Pattern



### Recommended Land Pattern Top View

Notes: All dimensions show in millimeters

### Pin Out



### TOP VIEW

Notes:

1. Require to add Capacitors of DC Blocker between Pins (with black color) and external circuit to prevent DC signal entry to guarantee parts normal work.
2. This part has passed through 100% RF test.

| Pin # | Connection |
|-------|------------|
| 1     | GND        |
| 2     | IN         |
| 3     | GND        |
| 4     | GND        |
| 5     | OUT        |
| 6     | GND        |
| 7     | GND        |