

## Low Reflection 4-Way Power Divider **AN44187A**

AN44187A is a 4-Way Power Divider for applications in a frequency range of DC to 40 GHz. Suitable for distributing signals in the multi-channel evaluation system and during the comparative evaluation.

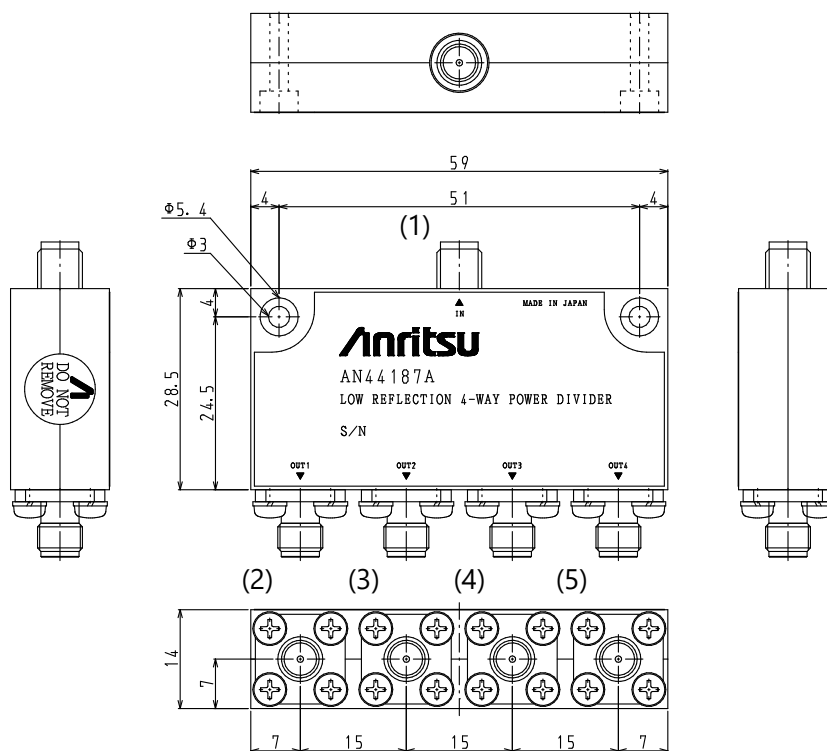
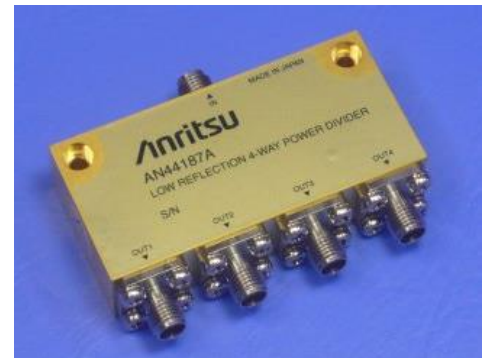
### FEATURES

- 4 branches
- Wideband: DC to 40 GHz
- Insertion Loss: 12 dB typ.
- Skew between channels: <3 ps
- Low reflection: > 15 dB
- I/O Interface: K-connector
- Small Package: 28.5 mm x 59 mm x 14 mm

### APPLICATION

- Signal distribution at the multi-channels system / Comparison with characteristics

### DIMENSIONS



Unit: mm

## PIN CONFIGURATION

| No. | Symbol | Function        | Remarks       |
|-----|--------|-----------------|---------------|
| 1   | IN     | Signal Input    | K-F connector |
| 2   | OUT1   | Signal Output 1 | K-F connector |
| 3   | OUT2   | Signal Output 2 | K-F connector |
| 4   | OUT3   | Signal Output 3 | K-F connector |
| 5   | OUT4   | Signal Output 4 | K-F connector |

## ABSOLUTE MAXIMUM RATINGS

| Item                                        | Symbol    | Ratings    | Unit |
|---------------------------------------------|-----------|------------|------|
| Input Power                                 | $P_{in}$  | +30        | dBm  |
| Operating Ambient Temperature <sup>*1</sup> | $T_a$     | 0 to +70   | °C   |
| Storage Temperature <sup>*1</sup>           | $T_{stg}$ | -40 to +85 | °C   |

\*Excess over the absolute maximum ratings may cause device failure.

\*1 No Condensation

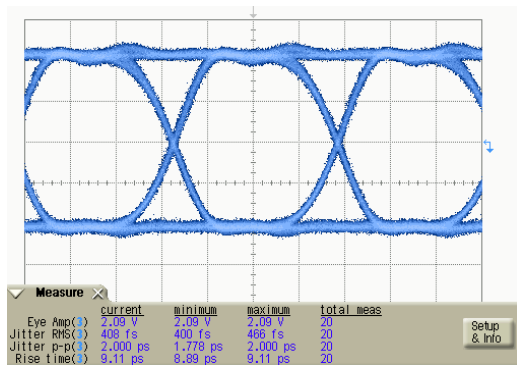
## SPECIFICATIONS

( $T_a = 25^{\circ}\text{C}$ ,  $Z_{in} = 50\ \Omega$ ,  $Z_{out} = 50\ \Omega$ )

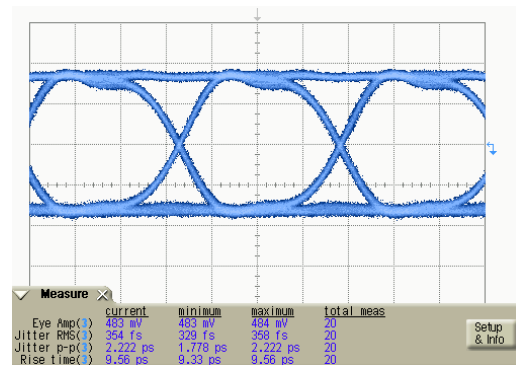
| Item                  | Test Condition                 | Min. | Typ.     | Max. | Unit |
|-----------------------|--------------------------------|------|----------|------|------|
| Frequency Range       | –                              | DC   | –        | 40   | GHz  |
| Insertion Loss        | @DC                            | –    | 12       | 14   | dB   |
|                       | @40 GHz                        | –    | 13       | 15   | dB   |
| Input Return Loss     | DC to 20 GHz                   | 15   | 20       | –    | dB   |
|                       | 20 GHz to 40 GHz               | 10   | 15       | –    | dB   |
| Output Return Loss    | DC to 20 GHz                   | 15   | 20       | –    | dB   |
|                       | 20 GHz to 40 GHz               | 10   | 15       | –    | dB   |
| Group Delay           | DC to 40 GHz                   | –    | $\pm 50$ | –    | ps   |
| Isolation             | OUT1(3) – OUT2(4)              | –    | 6        | –    | dB   |
|                       | Between ports other than above | –    | 18       | –    | dB   |
| Skew Between Channels | –                              | –    | 3        | –    | ps   |

## PULSE RESPONSE

28 Gbit/s

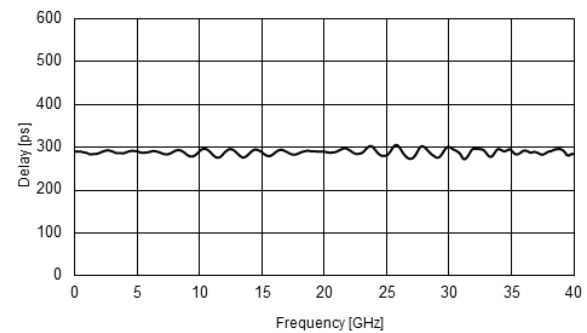
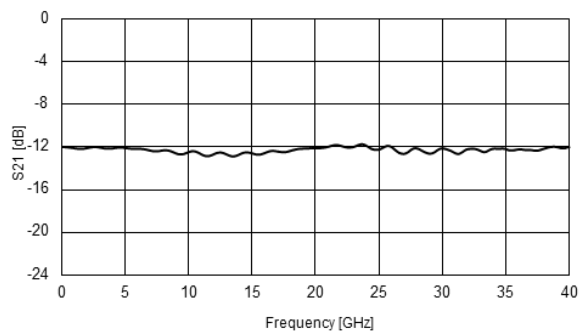
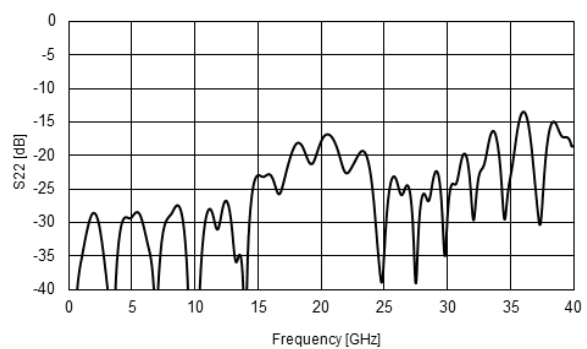
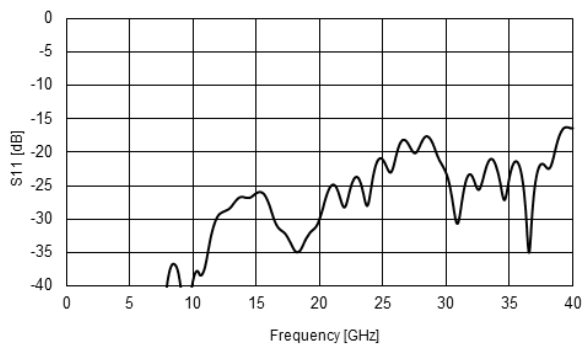


V:0.5 V/div H:10 ps/div  
Input Waveform



V:0.15 V/div H:10 ps/div  
Output Waveform

## FREQUENCY RESPONSE





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