

# Two-Way Power Divider, 10 - 2000 MHz

V 3.00

DS-/DSS-313

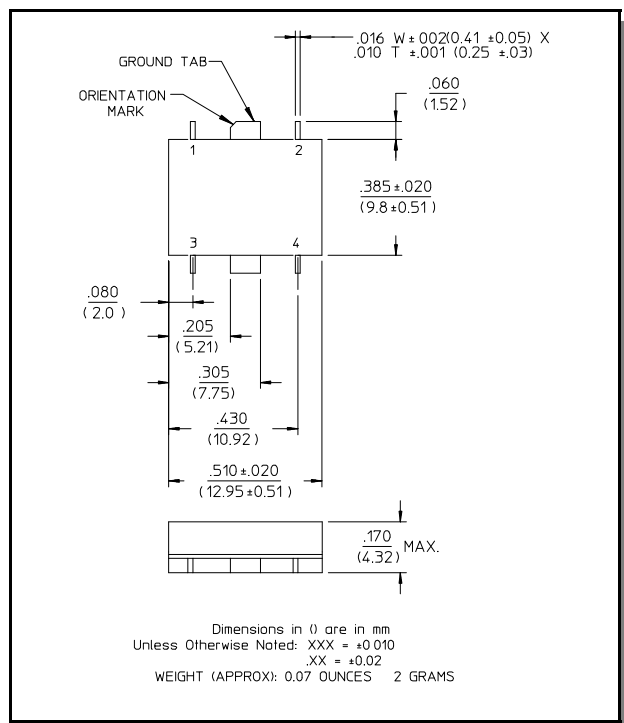
## Features

- Fully Hermetic Package
- Loss: 0.6 dB Typical Midband
- Isolation: 28 dB Typical Midband
- VSWR: 1.2:1 Typical Midband
- Impedance: 50 Ohms Nominal
- Maximum Power Rating or Input Power: 250 mW Max.
- Internal Load Dissipation: 50 mW Max.
- MIL-STD-202 Screening Available

## Description

A Power Divider is ideally a loss less reciprocal device which can also perform vector summation of two or more signals and thus is sometimes called a power combiner or summer.

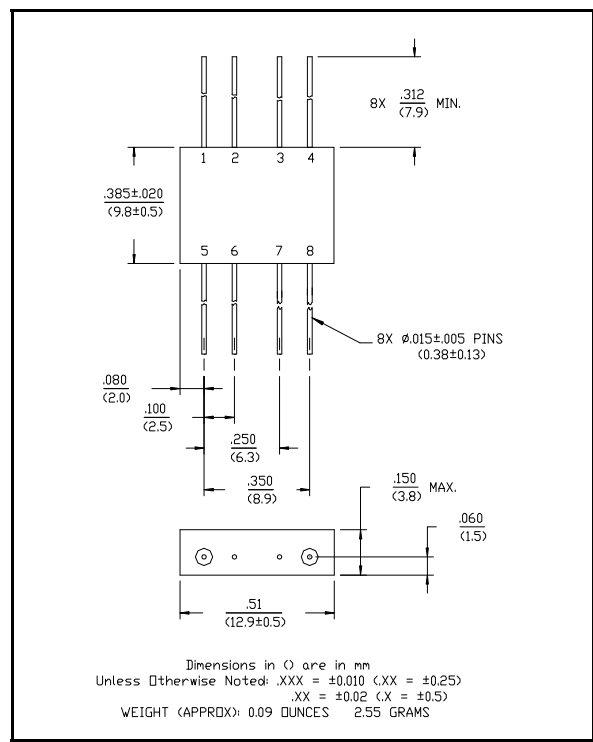
### SF-1 (DSS-313)



### Pin Configuration (DSS-313)

| Pin No. | Function | Pin No. | Function |
|---------|----------|---------|----------|
| 1       | Σ        | 3       | GND      |
| 2       | Output C | 4       | Output D |

### FP-2 (DS-313)



### Pin Configuration (DS-313)

| Pin No. | Function | Pin No. | Function |
|---------|----------|---------|----------|
| 1       | Σ        | 5       | GND      |
| 2       | GND      | 6       | GND      |
| 3       | GND      | 7       | GND      |
| 4       | Output C | 8       | Output D |

**DS-313 Electrical Specifications<sup>1</sup>:  $T_A = -55^{\circ}\text{C}$  to  $+85^{\circ}\text{C}$** 

| Parameter         | Test Conditions | Frequency       | Units | Min | Typ | Max   |
|-------------------|-----------------|-----------------|-------|-----|-----|-------|
| Insertion Loss    | Less Coupling   | 20 - 1000 MHz   | dB    | —   | —   | 1.1   |
|                   |                 | 10 - 1500 MHz   | dB    | —   | —   | 1.3   |
|                   |                 | 1500 - 2000 MHz | dB    | —   | —   | 1.8   |
| Isolation         | —               | 20 - 1000 MHz   | dB    | 23  | —   | —     |
|                   |                 | 10 - 1500 MHz   | dB    | 18  | —   | —     |
|                   |                 | 1500 - 2000 MHz | dB    | 12  | —   | —     |
| Amplitude Balance | —               | 20 - 1000 MHz   | dB    | —   | —   | 0.3   |
|                   |                 | 10 - 1500 MHz   | dB    | —   | —   | 0.4   |
|                   |                 | 1500 - 2000 MHz | dB    | —   | —   | 0.6   |
| Phase Balance     | —               | 20 - 1000 MHz   | °     | —   | —   | 4     |
|                   |                 | 10 - 1500 MHz   | °     | —   | —   | 6     |
|                   |                 | 1500 - 2000 MHz | °     | —   | —   | 8     |
| VSWR              | All Ports       | 20 - 1000 MHz   | Ratio | —   | —   | 1.5:1 |
|                   |                 | 10 - 1500 MHz   | Ratio | —   | —   | 1.6:1 |
|                   |                 | 1500 - 2000 MHz | Ratio | —   | —   | 1.8:1 |

**DSS-113 Electrical Specifications<sup>1</sup>:  $T_A = -55^{\circ}\text{C}$  to  $+85^{\circ}\text{C}$** 

| Parameter         | Test Conditions | Frequency       | Units | Min | Typ | Max   |
|-------------------|-----------------|-----------------|-------|-----|-----|-------|
| Insertion Loss    | Less Coupling   | 20 - 1000 MHz   | dB    | —   | —   | 1.1   |
|                   |                 | 10 - 1500 MHz   | dB    | —   | —   | 1.3   |
|                   |                 | 1500 - 2000 MHz | dB    | —   | —   | 1.8   |
| Isolation         | —               | 20 - 1000 MHz   | dB    | 22  | —   | —     |
|                   |                 | 10 - 1500 MHz   | dB    | 18  | —   | —     |
|                   |                 | 1500 - 2000 MHz | dB    | 12  | —   | —     |
| Amplitude Balance | —               | 20 - 1000 MHz   | dB    | —   | —   | 0.3   |
|                   |                 | 10 - 1500 MHz   | dB    | —   | —   | 0.4   |
|                   |                 | 1500 - 2000 MHz | dB    | —   | —   | 0.6   |
| Phase Balance     | —               | 20 - 1000 MHz   | °     | —   | —   | 5     |
|                   |                 | 10 - 1500 MHz   | °     | —   | —   | 8     |
|                   |                 | 1500 - 2000 MHz | °     | —   | —   | 11    |
| VSWR              | All Ports       | 20 - 1000 MHz   | Ratio | —   | —   | 1.5:1 |
|                   |                 | 10 - 1500 MHz   | Ratio | —   | —   | 1.6:1 |
|                   |                 | 1500 - 2000 MHz | Ratio | —   | —   | 1.8:1 |

1. All specifications apply with 50 ohm source and load impedance.

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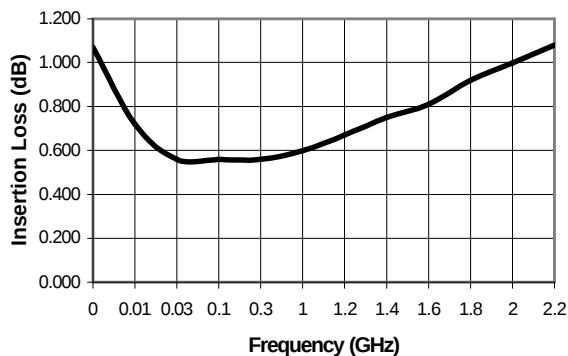
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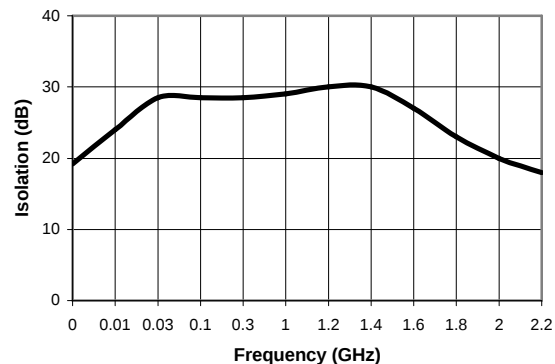
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## Typical Performance Curves

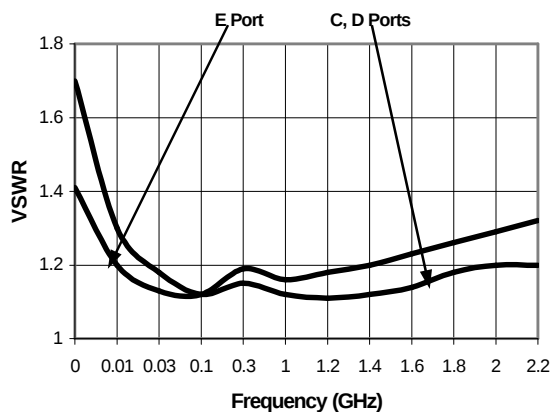
Insertion Loss - Ports S-C, S-D



Isolation - Ports C-D



VSWR



## Ordering Information

| Part Number | Package |
|-------------|---------|
| DS-313 PIN  | FP-2    |
| DSS-313 PIN | SF-1    |

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