

2 Way-0° 50Ω 950 to 2150 MHz

## Maximum Ratings

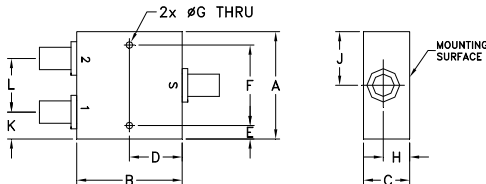
|                             |                |
|-----------------------------|----------------|
| Operating Temperature       | -40°C to 85°C  |
| Storage Temperature         | -55°C to 100°C |
| Power Input (as a splitter) | 10W max.       |
| Internal Dissipation        | 0.125W max.    |
| DC Voltage                  | 25V max.       |
| DC Current                  | 500mA max.     |

Permanent damage may occur if any of these limits are exceeded.

## Coaxial Connections

|          |                      |
|----------|----------------------|
| SUM PORT | S (RF+DC) (N Male)   |
| PORT 1   | 1 (RF+DC) (N Female) |
| PORT 2   | 2 (RF) (N Female)    |

## Outline Drawing



## Outline Dimensions (inch/mm)

| A     | B     | C     | D     | E    | F     |
|-------|-------|-------|-------|------|-------|
| 2.00  | 2.00  | .88   | 1.00  | .25  | 1.500 |
| 50.80 | 50.80 | 22.35 | 25.40 | 6.35 | 38.10 |

| G    | H     | J     | K     | L     | wt    |
|------|-------|-------|-------|-------|-------|
| .125 | .50   | 1.00  | 0.50  | 1.00  | grams |
| 3.18 | 12.70 | 25.40 | 12.70 | 25.40 | 190.0 |

## Features

- low insertion loss, 0.25 dB typ.
- good isolation, 25 dB typ.
- dc pass, 500mA current
- excellent amplitude unbalance, 0.1 dB typ.
- good phase unbalance, 2 deg. typ.
- excellent VSWR, 1.1:1 typ.
- rugged shielded case

## Applications

- GPS
- satellite distribution
- PCS/DCS
- communications systems

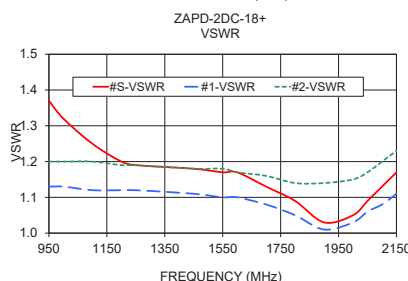
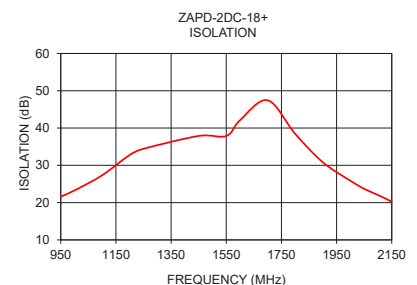
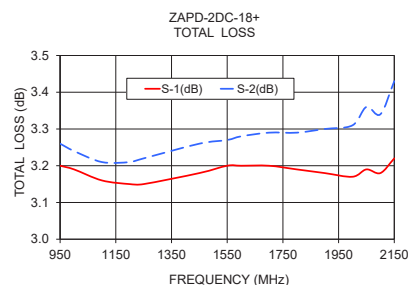
## Electrical Specifications

| FREQ. RANGE (MHz) | ISOLATION (dB) |      | INSERTION LOSS (dB) ABOVE 3.0 dB |      | PHASE UNBALANCE (Degrees) | AMPLITUDE UNBALANCE (dB) | VSWR (:1) |      |      |      |
|-------------------|----------------|------|----------------------------------|------|---------------------------|--------------------------|-----------|------|------|------|
|                   | Typ.           | Min. | Typ.                             | Max. |                           |                          | S         | OUT  | Typ. | Max. |
| $f_L$ - $f_U$     |                |      |                                  |      | Max.                      | Max.                     | Typ.      | Max. | Typ. | Max. |
| 950-2150          | 22             | 18   | 0.3                              | 0.7  | 5                         | 0.3                      | 1.3       | —    | 1.15 | —    |
| 1000-2000         | 25             | 19   | 0.25                             | 0.6  | 4                         | 0.25                     | 1.15      | —    | 1.1  | —    |
| 1200-1600         | 25             | 20   | 0.25                             | 0.6  | 4                         | 0.2                      | 1.1       | —    | 1.1  | —    |

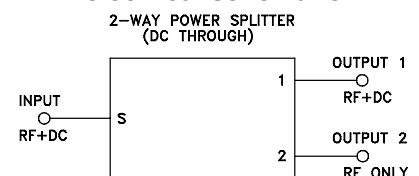
## Typical Performance Data

| Frequency (MHz) | Total Loss <sup>1</sup> (dB) |      | Amplitude Unbalance (dB) | Isolation (dB) | Phase Unbalance (deg.) | VSWR S | VSWR 1 | VSWR 2 |
|-----------------|------------------------------|------|--------------------------|----------------|------------------------|--------|--------|--------|
|                 | S-1                          | S-2  |                          |                |                        |        |        |        |
| 950.00          | 3.20                         | 3.26 | 0.05                     | 21.61          | 1.27                   | 1.37   | 1.13   | 1.20   |
| 1000.00         | 3.19                         | 3.24 | 0.05                     | 23.27          | 1.34                   | 1.32   | 1.13   | 1.20   |
| 1100.00         | 3.16                         | 3.21 | 0.05                     | 27.33          | 1.43                   | 1.25   | 1.12   | 1.20   |
| 1200.00         | 3.15                         | 3.21 | 0.06                     | 32.79          | 1.51                   | 1.20   | 1.12   | 1.19   |
| 1250.00         | 3.15                         | 3.22 | 0.08                     | 34.43          | 1.66                   | 1.19   | 1.12   | 1.19   |
| 1450.00         | 3.18                         | 3.26 | 0.08                     | 37.88          | 1.88                   | 1.18   | 1.11   | 1.18   |
| 1550.00         | 3.20                         | 3.27 | 0.08                     | 37.87          | 2.01                   | 1.17   | 1.10   | 1.18   |
| 1600.00         | 3.20                         | 3.28 | 0.08                     | 42.11          | 1.97                   | 1.17   | 1.10   | 1.17   |
| 1700.00         | 3.20                         | 3.29 | 0.09                     | 47.46          | 2.18                   | 1.13   | 1.08   | 1.16   |
| 1800.00         | 3.19                         | 3.29 | 0.10                     | 38.43          | 2.41                   | 1.09   | 1.05   | 1.14   |
| 1900.00         | 3.18                         | 3.30 | 0.11                     | 30.82          | 2.65                   | 1.03   | 1.01   | 1.14   |
| 2000.00         | 3.17                         | 3.31 | 0.14                     | 25.87          | 2.82                   | 1.05   | 1.03   | 1.15   |
| 2050.00         | 3.19                         | 3.36 | 0.16                     | 23.70          | 2.79                   | 1.09   | 1.06   | 1.17   |
| 2100.00         | 3.18                         | 3.34 | 0.16                     | 22.04          | 2.92                   | 1.13   | 1.08   | 1.20   |
| 2150.00         | 3.22                         | 3.43 | 0.21                     | 20.26          | 2.98                   | 1.17   | 1.11   | 1.23   |

1. Total Loss = Insertion Loss + 3dB splitter loss.



## electrical schematic



## Notes

- A. Performance and quality attributes and conditions not expressly stated in this specification document are intended to be excluded and do not form a part of this specification document.  
 B. Electrical specifications and performance data contained in this specification document are based on Mini-Circuit's applicable established test performance criteria and measurement instructions.  
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# 2 Way-0° Power Splitter/Combiner

ZAPD-2DC-18+

## Typical Performance Data

| FREQUENCY<br>(MHz) | TOTAL LOSS <sup>1</sup><br>(dB) |      | AMPLITUDE<br>UNBALANCE<br>(dB) | ISOLATION<br>(dB) | PHASE<br>UNBALANCE<br>(deg.) | FREQUENCY<br>(MHz) | VSWR<br>(:1) |      |      |
|--------------------|---------------------------------|------|--------------------------------|-------------------|------------------------------|--------------------|--------------|------|------|
|                    | S-1                             | S-2  |                                |                   |                              |                    | S            | 1    | 2    |
| 950                | 3.20                            | 3.26 | 0.05                           | 21.61             | 1.27                         | 950                | 1.37         | 1.13 | 1.20 |
| 1000               | 3.19                            | 3.24 | 0.05                           | 23.27             | 1.34                         | 1000               | 1.32         | 1.13 | 1.20 |
| 1100               | 3.16                            | 3.21 | 0.05                           | 27.33             | 1.43                         | 1100               | 1.25         | 1.12 | 1.20 |
| 1200               | 3.15                            | 3.21 | 0.06                           | 32.79             | 1.51                         | 1200               | 1.20         | 1.12 | 1.19 |
| 1250               | 3.15                            | 3.22 | 0.08                           | 34.43             | 1.66                         | 1250               | 1.19         | 1.12 | 1.19 |
| 1450               | 3.18                            | 3.26 | 0.08                           | 37.88             | 1.88                         | 1450               | 1.18         | 1.11 | 1.18 |
| 1550               | 3.20                            | 3.27 | 0.08                           | 37.87             | 2.01                         | 1550               | 1.17         | 1.10 | 1.18 |
| 1600               | 3.20                            | 3.28 | 0.08                           | 42.11             | 1.97                         | 1600               | 1.17         | 1.10 | 1.17 |
| 1700               | 3.20                            | 3.29 | 0.09                           | 47.46             | 2.18                         | 1700               | 1.13         | 1.08 | 1.16 |
| 1800               | 3.19                            | 3.29 | 0.10                           | 38.43             | 2.41                         | 1800               | 1.09         | 1.05 | 1.14 |
| 1900               | 3.18                            | 3.30 | 0.11                           | 30.82             | 2.65                         | 1900               | 1.03         | 1.01 | 1.14 |
| 2000               | 3.17                            | 3.31 | 0.14                           | 25.87             | 2.82                         | 2000               | 1.05         | 1.03 | 1.15 |
| 2050               | 3.19                            | 3.36 | 0.16                           | 23.70             | 2.79                         | 2050               | 1.09         | 1.06 | 1.17 |
| 2100               | 3.18                            | 3.34 | 0.16                           | 22.04             | 2.92                         | 2100               | 1.13         | 1.08 | 1.20 |
| 2150               | 3.22                            | 3.43 | 0.21                           | 20.26             | 2.98                         | 2150               | 1.17         | 1.11 | 1.23 |

<sup>1</sup>Total Loss = Insertion Loss + 3dB Splitter Loss



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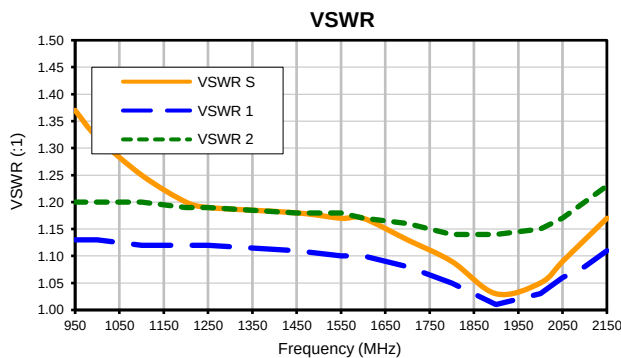
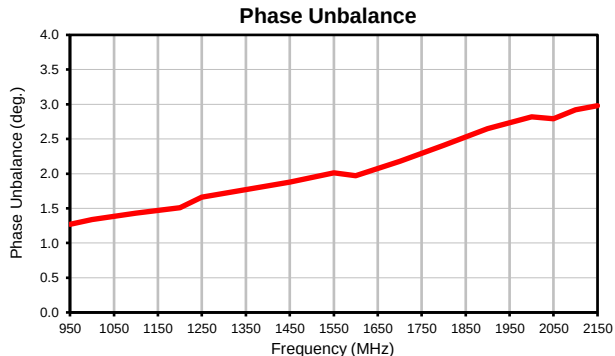
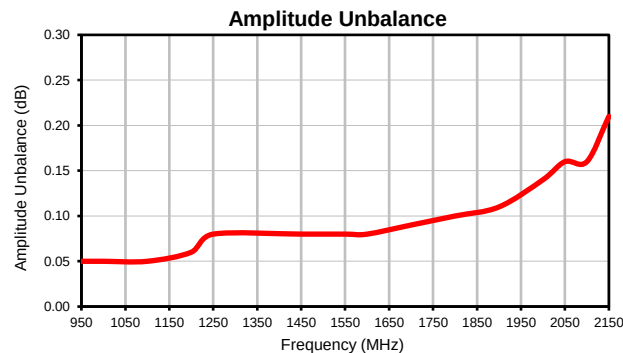
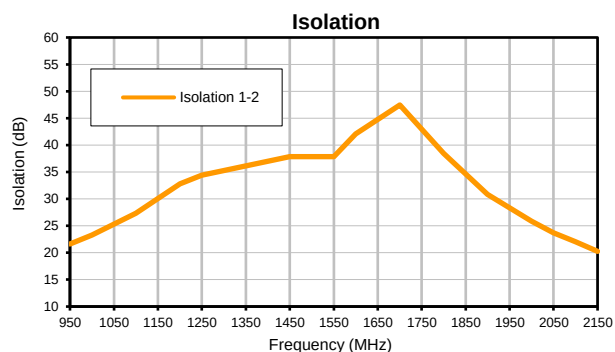
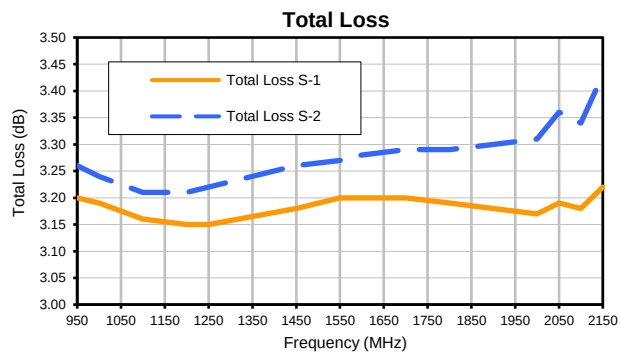
IF/RF MICROWAVE COMPONENTS

REV. OR  
ZAPD-2DC-18+  
6/10/2016  
Page 1 of 1

# 2 Way-0° Power Splitter/Combiner

ZAPD-2DC-18+

## Typical Performance Curves



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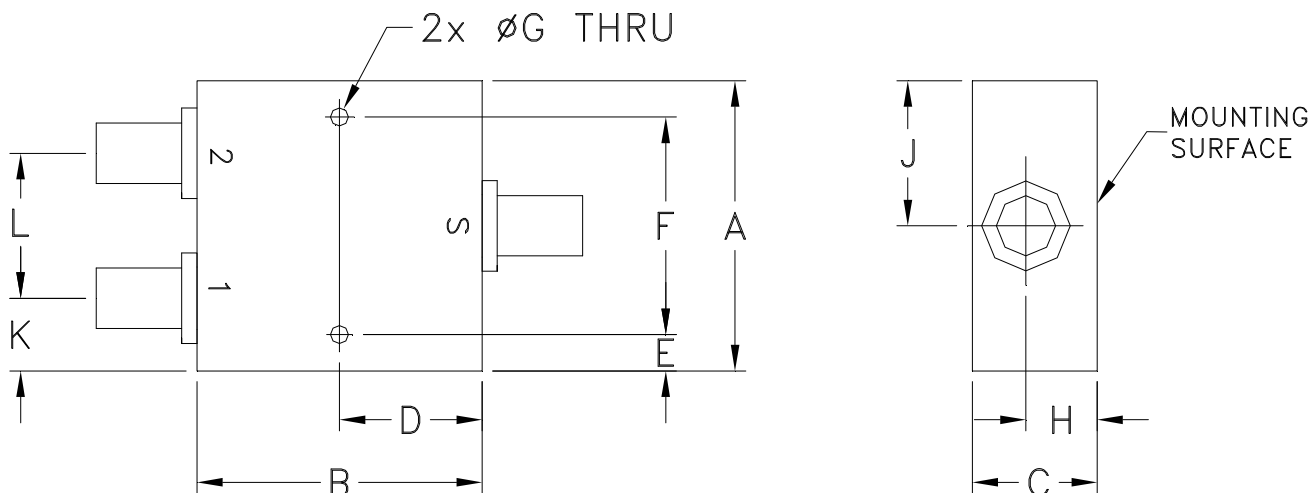
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Page 1 of 1

## Outline Dimensions

**F1295**



| CASE # | A               | B               | C             | D               | E             | F                | G              | H             | J               | K              | L               | WT.<br>GRAM |
|--------|-----------------|-----------------|---------------|-----------------|---------------|------------------|----------------|---------------|-----------------|----------------|-----------------|-------------|
| F1295  | 2.00<br>(50.80) | 2.00<br>(50.80) | .88<br>(22.2) | 1.00<br>(25.40) | .25<br>(6.35) | 1.500<br>(38.10) | .125<br>(3.18) | .50<br>(12.7) | 1.00<br>(25.40) | .50<br>(12.70) | 1.00<br>(25.40) | 190.0       |

Dimensions are in inches (mm). Tolerances: 2Pl.  $\pm .03$ ; 3Pl.  $\pm .015$

### Notes:

- Case material: Aluminum alloy.
- Case finish:  
For RoHS Case Styles: Clear chemical conversion coating, non-chrome or trivalent chrome based.
- Refer to the individual model data sheet for the type of connectors available.



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All Mini-Circuits products are manufactured under exacting quality assurance and control standards, and are capable of meeting published specifications after being subjected to any or all of the following physical and environmental test.

| Specification              | Test/Inspection Condition                                                              | Reference/Spec                       |
|----------------------------|----------------------------------------------------------------------------------------|--------------------------------------|
| Operating Temperature      | -55° to 100°C<br>Ambient Environment                                                   | Individual Model Data Sheet          |
| Storage Temperature        | -55° to 100° C<br>Ambient Environment                                                  | Individual Model Data Sheet          |
| Barometric Pressure        | 100,000 Feet                                                                           | MIL-STD-202, Method 105, Condition D |
| Humidity                   | 90% RH, 65°C<br>Units may require bake-out after humidity to restore full performance. | MIL-STD-202, Method 103              |
| Thermal Shock              | -65° to 125°C, 5 cycles                                                                | MIL-STD-202, Method 107, Condition B |
| Vibration (High Frequency) | 20g peak, 10-2000 Hz, 12 times in each of three perpendicular directions (total 36)    | MIL-STD-202, Method 204, Condition D |
| Mechanical Shock           | 100g, 6ms sawtooth, 3 shocks each direction 3 axes (total 18)                          | MIL-STD-202, Method 213, Condition I |