

DC Pass

Power Splitter/Combiner

ZAPD-2DC+

2 Way-0° 50Ω 950 to 2150 MHz

The Big Deal

- Excellent for GPS and satellite distribution
- DC pass through, 500 mA, 25V
- L Band coverage: 950 to 2150 MHz
- Low insertion loss: 0.25 dB Typ



N-Type version shown
Case Style F14



SMA version shown
Case Style F1164

Product Overview

The ZAPD-2DC+ 2way power splitter/combiner offers excellent RF performance in a small package. The DC pass through feeds DC on the coaxial center conductor from Port 1 to the Sum to support remote amplifier power. Built in a rugged shielded case, the ZAPD-2DC+ is available with three connector options: BNC, SMA and N-Type.

The ZAPD-2DC+ is well suited tower mounted amplifiers, GPS and satellite distribution or any other application where a high performance splitter with DC pass through is required.

Key Features

| Feature | Advantages |
|---------------------------------------|---|
| DC Pass through | Enables remote powering of antenna mounted amplifiers while splitting the RF signal. Eliminates additional cable runs. Designed to handle up to ½ Amp at 25 Volts, the ZAPD-2DC+ can support a wide variety of remotely powered RF equipment. |
| Wide bandwidth | Operating over the 950 to 2150 MHz Band, the ZAPD-2DC+ is ideally suited for L- Band Satellite Communications Applications. In addition, this broadband coverage supports additional applications such as GPS, Cellular PCS and DCS |
| Low Insertion Loss | With 0.25 dB typical Insertion Loss, the ZAPD-2DC+ can be used in sensitive receive paths with minimized concern for additional Signal to Noise Ratio degradation. |
| Excellent Phase and Amplitude Balance | Industry leading Phase and Amplitude balance enables this power splitter to be an ideal candidate for phase and amplitude matched or tracked systems. |

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.
C. The parts covered by this specification document are subject to Mini-Circuits standard limited warranty and terms and conditions (collectively, "Standard Terms"); Purchasers of this part are entitled to the rights and benefits contained therein. For a full statement of the Standard Terms and the exclusive rights and remedies thereunder, please visit Mini-Circuits' website at www.minicircuits.com/MCLStore/terms.jsp



Power Splitter/Combiner

2 Way-0° 50Ω 950 to 2150 MHz

ZAPD-2DC+



N-Type version shown
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| Connectors | Model |
|------------|-------------|
| BNC | ZAPD-2DC+ |
| N-TYPE | ZAPD-2DC-N+ |
| SMA | ZAPD-2DC-S+ |

Maximum Ratings

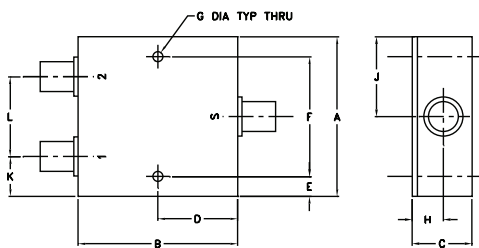
| | |
|-----------------------------|----------------|
| Operating Temperature | -40°C to 85°C |
| Storage Temperature | -55°C to 100°C |
| Power Input (as a splitter) | 10W max. |
| Internal Dissipation | 0.125W max. |
| DC Voltage | 25V max. |
| DC Current | 500mA max. |

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

Coaxial Connections

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

Outline Drawing



Case Style F14

Outline Dimensions (inch/mm)

| | | | | | | | | | | | | |
|-------|-------|-------|-------|------|-------|-------|-------|--|--|--|--|--|
| A | B | C | D | E | F | G | | | | | | |
| 2.00 | 2.00 | 0.75 | 1.00 | 0.25 | 1.500 | 0.125 | | | | | | |
| 50.80 | 50.80 | 19.05 | 25.40 | 6.35 | 38.10 | 3.18 | | | | | | |
| H | J | K | L | | | | wt | | | | | |
| 0.39 | 1.00 | 0.50 | 1.00 | | | | grams | | | | | |
| 9.91 | 25.40 | 12.70 | 25.40 | | | | | | | | | |

Case Style F1164

| | | | | | | | | | | | | |
|-------|-------|-------|-------|------|-------|-------|-------|--|--|--|--|--|
| A | B | C | D | E | F | G | | | | | | |
| 2.00 | 1.75 | 0.75 | 0.875 | 0.13 | 1.750 | 0.125 | | | | | | |
| 50.80 | 44.45 | 19.05 | 22.23 | 3.30 | 44.45 | 3.18 | | | | | | |
| H | J | K | L | | | | wt | | | | | |
| 0.38 | 1.00 | 0.50 | 1.00 | | | | grams | | | | | |
| 9.65 | 25.40 | 12.70 | 25.40 | | | | | | | | | |

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

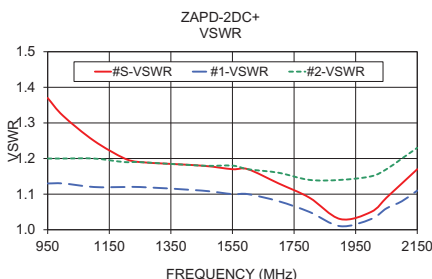
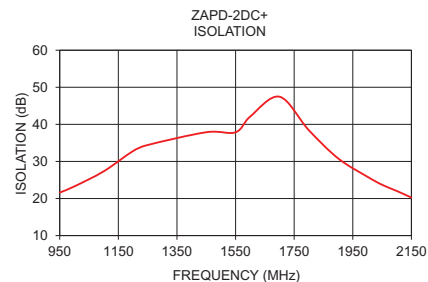
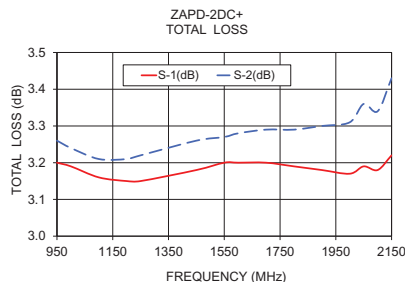
Electrical Specifications

| 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 | | | |
| 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 | — | | |

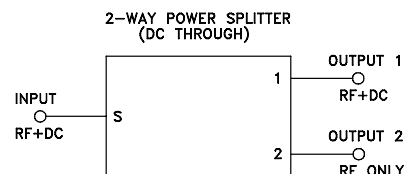
Typical Performance Data

| Frequency (MHz) | Total Loss ¹ (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



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