

DC Pass, High Power

# Power Splitter/Combiner

ZC3PD-18263-S+

3 Way-0° 50Ω 18 to 26.5 GHz

## The Big Deal

- Super wideband, 18 to 26.5 GHz
- Low insertion loss, 0.9 dB typ.
- High Isolation, 35 dB typ.
- 20W power handling
- Low amplitude unbalance, 0.17 dB typ.



CASE STYLE: UU2412-2

## Product Overview

Mini-Circuits' ZC3PD-18263-S+ is a super wideband 3-way 0° splitter/combiner providing coverage from 18 to 26.5 GHz, supporting a wide range of applications including K-Band, instrumentation and many more. This model provides 20W power handling as a splitter and very low insertion loss across the entire operating frequency range, minimizing power dissipation and delivering excellent signal power transmission from input to output. The ZC3PD-18263-S+ comes housed in a case measuring 1.5 x 1.7 x 0.5" with super SMA connectors.

## Key Features

| Feature                                    | Advantages                                                                                                                                                                            |
|--------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Ultra-wideband, 18 to 26.5 GHz             | Extremely wide frequency range supports many broadband applications in a single model.                                                                                                |
| Low insertion loss, 0.9 dB typ. at 22 GHz  | The combination of 20W power handling and low insertion loss makes this model a suitable candidate for distributing signals while maintaining excellent transmission of signal power. |
| High isolation, 35 dB typ. at 22 GHz       | Minimizes interference between ports.                                                                                                                                                 |
| Low amplitude unbalance, 0.17 dB at 22 GHz | Produces nearly equal output signals, ideal for parallel path and multichannel systems.                                                                                               |
| DC Passing, 407mA                          | Supports applications where DC power is needed through the RF line.                                                                                                                   |

### 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](http://www.minicircuits.com/MCLStore/terms.jsp)



# Power Splitter/Combiner

## ZC3PD-18263-S+

3 Way-0° 50Ω 18 to 26.5 GHz

### Maximum Ratings

|                              |                |
|------------------------------|----------------|
| Operating Temperature        | -55°C to 100°C |
| Storage Temperature          | -55°C to 100°C |
| Power Input (as a splitter)* | 20W* max.      |
| Internal Dissipation         | 0.44W max.     |

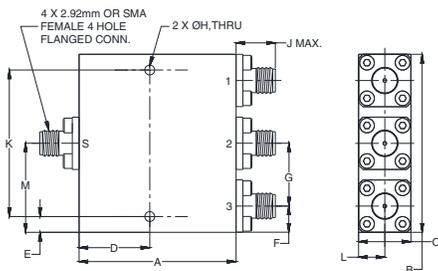
DC Current 407 mA

Permanent damage may occur if any of these limits are exceeded.  
\* Derate linearly to 8.3W at 100°C

### Coaxial Connections

|          |   |
|----------|---|
| SUM PORT | S |
| PORT 1   | 1 |
| PORT 2   | 2 |
| PORT 3   | 3 |

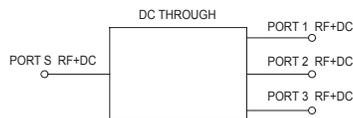
### Outline Drawing



### Outline Dimensions (inch/mm)

|       |       |       |       |       |      |       |
|-------|-------|-------|-------|-------|------|-------|
| A     | B     | C     | D     | E     | F    | G     |
| 1.50  | 1.70  | .50   | .67   | .150  | .25  | .60   |
| 38.10 | 43.18 | 12.70 | 17.02 | 3.81  | 6.35 | 15.2  |
| H     | J     | K     | L     | M     |      | wt    |
| 0.094 | .43   | 1.400 | .25   | 0.85  |      | grams |
| 2.4   | 11    | 35.56 | 6.35  | 21.59 |      | 80    |

### Electrical Schematic



### Features

- Wideband, 18000 to 26500 MHz
- Low insertion loss, 0.9 dB typ.
- Low amplitude unbalance, 0.17 dB typ.
- Excellent VSWR, 1.09 dB typ.
- High Isolation, 35 dB typ.

### Applications

- Fixed Satellite
- K-band
- Mobile
- Space research
- Test Accessory



Generic photo used for illustration purposes only

CASE STYLE: UU2412-2

|            |                |
|------------|----------------|
| Connectors | Model          |
| SMA-Female | ZC3PD-18263-S+ |

### +RoHS Compliant

The +Suffix identifies RoHS Compliance. See our web site for RoHS Compliance methodologies and qualifications

### Electrical Specifications at 25°C

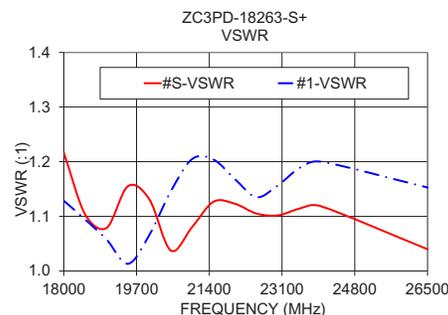
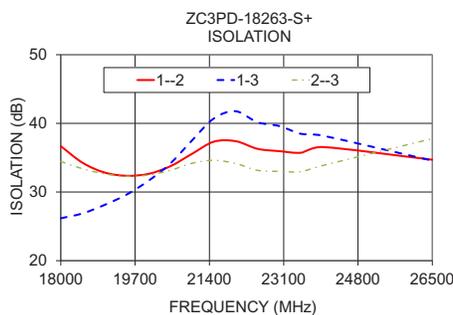
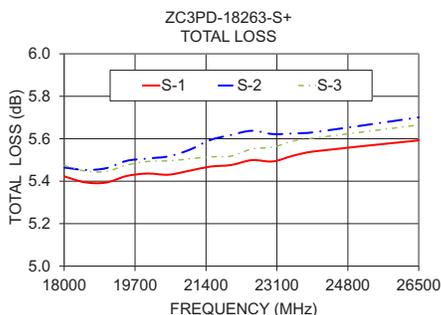
| Parameter                            | Frequency (GHz) | Min. | Typ. | Max. | Unit   |
|--------------------------------------|-----------------|------|------|------|--------|
| Frequency Range                      |                 | 18   |      | 26.5 | GHz    |
| Insertion Loss Above 4.8 dB          | 18 - 26.5       | —    | 0.9  | 1.4  | dB     |
| Isolation                            | 18 - 26.5       | 16   | 35   | —    | dB     |
| Phase Unbalance (±) <sup>1</sup>     | 18 - 26.5       | —    | 2    | 5    | Degree |
| Amplitude Unbalance (±) <sup>1</sup> | 18 - 26.5       | —    | 0.17 | 0.5  | dB     |
| VSWR (Port S)                        | 18 - 26.5       | —    | 1.09 | 1.6  | :1     |
| VSWR (Port 1-3)                      | 18 - 26.5       | —    | 1.09 | 1.6  | :1     |

1. With reference to average.

### Typical Performance Data

| Freq. (MHz) | Total Loss <sup>1</sup> (dB) |      |      | Amp. Unbal. (dB) | Isolation (dB) |       |       | Phase Unbal. (deg.) | VSWR S | VSWR 1 | VSWR 2 | VSWR 3 |
|-------------|------------------------------|------|------|------------------|----------------|-------|-------|---------------------|--------|--------|--------|--------|
|             | S-1                          | S-2  | S-3  |                  | 1-2            | 1-3   | 2-3   |                     |        |        |        |        |
| 18000       | 5.42                         | 5.46 | 5.47 | 0.05             | 36.68          | 26.17 | 34.45 | 1.94                | 1.22   | 1.13   | 1.15   | 1.11   |
| 18500       | 5.39                         | 5.45 | 5.45 | 0.06             | 34.25          | 26.89 | 33.38 | 1.81                | 1.10   | 1.09   | 1.12   | 1.09   |
| 19000       | 5.39                         | 5.46 | 5.45 | 0.07             | 32.84          | 28.12 | 32.65 | 1.68                | 1.08   | 1.06   | 1.09   | 1.07   |
| 19500       | 5.42                         | 5.50 | 5.48 | 0.07             | 32.37          | 29.60 | 32.29 | 1.55                | 1.16   | 1.01   | 1.09   | 1.02   |
| 20000       | 5.44                         | 5.51 | 5.49 | 0.07             | 32.63          | 31.61 | 32.47 | 1.32                | 1.13   | 1.07   | 1.11   | 1.06   |
| 20500       | 5.43                         | 5.52 | 5.50 | 0.09             | 33.73          | 34.11 | 33.15 | 1.04                | 1.04   | 1.15   | 1.16   | 1.15   |
| 21000       | 5.45                         | 5.55 | 5.51 | 0.10             | 35.55          | 37.50 | 34.18 | 0.89                | 1.08   | 1.20   | 1.23   | 1.21   |
| 21500       | 5.47                         | 5.59 | 5.51 | 0.13             | 37.33          | 40.70 | 34.63 | 0.88                | 1.13   | 1.20   | 1.27   | 1.19   |
| 22000       | 5.48                         | 5.62 | 5.52 | 0.14             | 37.40          | 41.77 | 34.15 | 0.79                | 1.12   | 1.17   | 1.28   | 1.15   |
| 22500       | 5.50                         | 5.64 | 5.55 | 0.14             | 36.29          | 40.16 | 33.16 | 0.75                | 1.11   | 1.13   | 1.25   | 1.15   |
| 23000       | 5.49                         | 5.62 | 5.56 | 0.13             | 35.95          | 39.61 | 33.01 | 0.82                | 1.10   | 1.16   | 1.23   | 1.19   |
| 23500       | 5.52                         | 5.63 | 5.59 | 0.10             | 35.73          | 38.47 | 32.97 | 1.25                | 1.11   | 1.19   | 1.19   | 1.22   |
| 24000       | 5.54                         | 5.63 | 5.60 | 0.09             | 36.55          | 38.20 | 33.88 | 1.78                | 1.12   | 1.20   | 1.15   | 1.21   |
| 26500       | 5.59                         | 5.70 | 5.66 | 0.11             | 34.71          | 34.57 | 37.78 | 4.34                | 1.04   | 1.15   | 1.09   | 1.18   |

1. Total Loss = Insertion Loss + 4.8dB splitter loss.



### Notes

- 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.
- Electrical specifications and performance data contained in this specification document are based on Mini-Circuit's applicable established test performance criteria and measurement instructions.
- 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](http://www.minicircuits.com/MCLStore/terms.jsp)

