

DC Pass, High Power

# Power Splitter/Combiner ZC2PD-K5R44W+

2 Way-0° 50Ω 500 to 40000 MHz

## The Big Deal

- Super wideband, 0.5 to 40 GHz
- Low insertion loss, 1.9 dB typ.
- High Isolation, 35 dB typ.
- 20W power handling
- Low amplitude unbalance, 0.10 dB typ.



CASE STYLE: UU2624

## Product Overview

Mini-Circuits' ZC2PD-K5R44W+ is a super wideband 2-way 0° splitter/combiner providing coverage from 0.5 to 40 GHz, supporting a wide range of applications including 5G, Ku-Band, 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 ZC2PD-K5R44W+ comes housed in a case measuring 1.04 x 5.87 x 0.5".

## Key Features

| Feature  | Advantages  |
|--|---|
| Ultra-wideband, 0.5 to 40 GHz  | Extremely wide frequency range supports many broadband applications in a single model. Ideal for use in wideband instrumentation  |
| Low insertion loss, 1.9 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.   |
| High power handling: <ul style="list-style-type: none"><li>• 20W as a splitter at 25°C</li><li>• 0.45W as a combiner</li></ul> | The ZC2PD-K5R44W+ is suitable for systems with a wide range of power requirements.  |
| Low amplitude unbalance, 0.10 dB at 22 GHz   | Produces nearly equal output signals, ideal for parallel path and multichannel systems.   |
| DC Passing, 460mA  | Supports applications where DC power is needed to pass 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)



# DC Pass, High Power Power Splitter/Combiner

## ZC2PD-K5R44W+

2 Way-0° 50Ω 500 to 40000 MHz

### Maximum Ratings

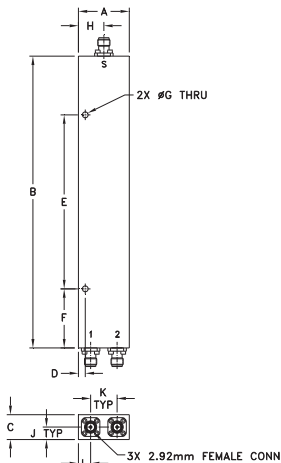
|                             |                |
|-----------------------------|----------------|
| Operating Temperature       | -55°C to 100°C |
| Storage Temperature         | -55°C to 100°C |
| Power Input (as a splitter) | 20W* max.      |
| Internal Dissipation        | 0.45W max.     |
| DC Current                  | 460 mA         |

Permanent damage may occur if any of these limits are exceeded.  
\* Derate linearly to 10W at 100°C

### Coaxial Connections

|          |   |
|----------|---|
| Sum Port | S |
| Port 1   | 1 |
| Port 2   | 2 |

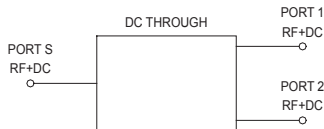
### Outline Drawing



### Outline Dimensions (inch/mm)

| A     | B      | C     | D    | E     | F     | G    |
|-------|--------|-------|------|-------|-------|------|
| 1.04  | 5.87   | .50   | .14  | 3.5   | 1.19  | .118 |
| 26.42 | 149.10 | 12.70 | 3.56 | 88.90 | 30.23 | 3.00 |
| H     | J      | K     | L    | wt    |       |      |
| .52   | .25    | .520  | .26  | grams |       |      |
| 13.21 | 6.35   | 13.21 | 6.60 | 150   |       |      |

### Electrical Schematic



### Features

- Super wideband, 500 - 40000 MHz
- Low insertion loss, 1.9 dB typ.
- Low amplitude unbalance, 0.10 dB typ.
- Excellent VSWR, 1.15:1 typ.
- High isolation, 35 dB typ.

### Applications

- 5G
- Fixed satellite
- Space research
- Mobile

### Electrical Specifications at 25°C

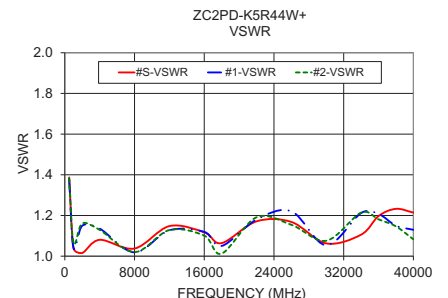
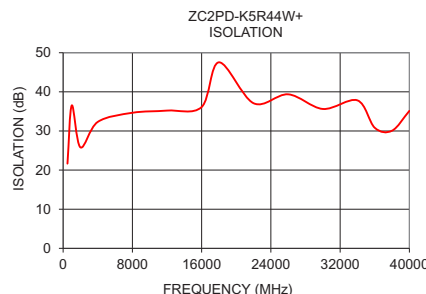
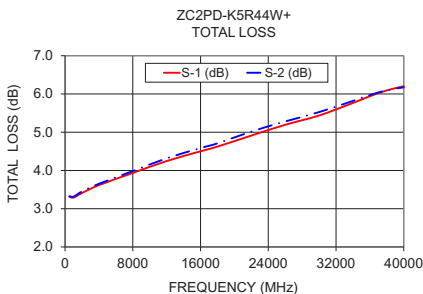
| Parameter                          | Frequency (MHz) | Min. | Typ. | Max.  | Unit   |
|------------------------------------|-----------------|------|------|-------|--------|
| <b>Frequency Range</b>             |                 | 500  |      | 40000 | MHz    |
| <b>Insertion Loss Above 3.0 dB</b> | 500 - 8000      |      | 0.6  | 1.5   | dB     |
|                                    | 8000 - 18000    |      | 1.3  | 2.1   |        |
|                                    | 18000 - 26500   |      | 1.9  | 2.6   |        |
|                                    | 26500 - 40000   |      | 2.7  | 3.5   |        |
| <b>Isolation</b>                   | 500 - 8000      | 16   | 34   |       | dB     |
|                                    | 8000 - 18000    | 18   | 36   |       |        |
|                                    | 18000 - 26500   | 18   | 35   |       |        |
|                                    | 26500 - 40000   | 18   | 36   |       |        |
| <b>Phase Unbalance (±)¹</b>        | 500 - 8000      |      | 0.2  | 3     | Degree |
|                                    | 8000 - 18000    |      | 0.5  | 4     |        |
|                                    | 18000 - 26500   |      | 1.0  | 5     |        |
|                                    | 26500 - 40000   |      | 1.6  | 6     |        |
| <b>Amplitude Unbalance (±)¹</b>    | 500 - 8000      |      | 0.05 | 0.2   | dB     |
|                                    | 8000 - 18000    |      | 0.08 | 0.3   |        |
|                                    | 18000 - 26500   |      | 0.10 | 0.4   |        |
|                                    | 26500 - 40000   |      | 0.11 | 0.5   |        |
| <b>VSWR (Port S)</b>               | 500 - 8000      |      | 1.07 | 1.6   | :1     |
|                                    | 8000 - 18000    |      | 1.1  | 1.4   |        |
|                                    | 18000 - 26500   |      | 1.13 | 1.5   |        |
| <b>VSWR (Port 1-2)</b>             | 500 - 8000      |      | 1.08 | 1.4   | :1     |
|                                    | 8000 - 18000    |      | 1.09 | 1.4   |        |
|                                    | 18000 - 26500   |      | 1.15 | 1.5   |        |
|                                    | 26500 - 40000   |      | 1.15 | 1.5   |        |

1. With reference to average.

### Typical Performance Data

| Frequency (MHz) | Total Loss¹ (dB) |      | Amplitude Unbalance (dB) | Isolation (dB) | Phase Unbalance (deg.) | VSWR S | VSWR 1 | VSWR 2 |
|-----------------|------------------|------|--------------------------|----------------|------------------------|--------|--------|--------|
|                 | S-1              | S-2  |                          |                |                        |        |        |        |
| 500             | 3.31             | 3.33 | 0.01                     | 21.65          | 0.10                   | 1.39   | 1.38   | 1.38   |
| 1000            | 3.29             | 3.31 | 0.02                     | 36.53          | 0.00                   | 1.04   | 1.04   | 1.06   |
| 2000            | 3.41             | 3.45 | 0.04                     | 25.81          | 0.15                   | 1.02   | 1.15   | 1.16   |
| 4000            | 3.62             | 3.65 | 0.03                     | 32.32          | 0.20                   | 1.08   | 1.14   | 1.13   |
| 8000            | 3.93             | 3.98 | 0.05                     | 34.65          | 0.46                   | 1.04   | 1.02   | 1.02   |
| 12000           | 4.25             | 4.32 | 0.07                     | 35.21          | 0.80                   | 1.15   | 1.13   | 1.13   |
| 16000           | 4.50             | 4.59 | 0.08                     | 36.12          | 1.15                   | 1.12   | 1.12   | 1.10   |
| 18000           | 4.62             | 4.71 | 0.08                     | 47.55          | 1.33                   | 1.06   | 1.05   | 1.01   |
| 22000           | 4.91             | 5.02 | 0.10                     | 37.09          | 1.76                   | 1.17   | 1.18   | 1.19   |
| 26000           | 5.19             | 5.28 | 0.09                     | 39.37          | 2.34                   | 1.17   | 1.22   | 1.15   |
| 30000           | 5.44             | 5.53 | 0.09                     | 35.62          | 3.02                   | 1.06   | 1.05   | 1.08   |
| 34000           | 5.77             | 5.82 | 0.05                     | 37.82          | 3.43                   | 1.11   | 1.21   | 1.21   |
| 36000           | 5.94             | 5.97 | 0.03                     | 30.82          | 3.95                   | 1.20   | 1.21   | 1.18   |
| 38000           | 6.09             | 6.10 | 0.00                     | 30.07          | 4.16                   | 1.23   | 1.15   | 1.15   |
| 40000           | 6.20             | 6.17 | 0.03                     | 35.14          | 4.50                   | 1.21   | 1.13   | 1.08   |

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



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Generic photo used for illustration purposes only

CASE STYLE: UU2624

| Connectors | Model         |
|------------|---------------|
| 2.92mm-Fem | ZC2PD-K5R44W+ |

+RoHS Compliant

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

REV. A  
ECO-004658  
ZC2PD-K5R44W+  
GY/CP/AM  
210105  
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# 2 Way-0° Power Splitter/Combiner

# ZC2PD-K5R44W+

## Typical Performance Data

TEST CONDITIONS: INPUT POWER = 0 dBm @ Temperature = +25°C

| FREQUENCY<br>(MHz) | TOTAL LOSS <sup>1</sup><br>(dB) |      | AMPLITUDE<br>UNBALANCE<br>(dB) | ISOLATION<br>(dB)<br>1-2 | PHASE<br>UNBALANCE<br>(Deg) | FREQUENCY<br>(MHz) | VSWR<br>(:1) |      |      |
|--------------------|---------------------------------|------|--------------------------------|--------------------------|-----------------------------|--------------------|--------------|------|------|
|                    | S-1                             | S-2  |                                |                          |                             |                    | S            | 1    | 2    |
| 10                 | 3.57                            | 3.57 | 0.00                           | 3.59                     | 0.05                        | 10                 | 1.97         | 1.96 | 1.97 |
| 500                | 3.31                            | 3.33 | 0.01                           | 21.65                    | 0.10                        | 500                | 1.39         | 1.38 | 1.38 |
| 1000               | 3.29                            | 3.31 | 0.02                           | 36.53                    | 0.00                        | 1000               | 1.04         | 1.04 | 1.06 |
| 2000               | 3.41                            | 3.45 | 0.04                           | 25.81                    | 0.15                        | 2000               | 1.02         | 1.15 | 1.16 |
| 3000               | 3.53                            | 3.57 | 0.05                           | 39.27                    | 0.16                        | 3000               | 1.10         | 1.14 | 1.13 |
| 4000               | 3.62                            | 3.65 | 0.03                           | 32.32                    | 0.20                        | 4000               | 1.08         | 1.14 | 1.13 |
| 5000               | 3.74                            | 3.78 | 0.04                           | 30.67                    | 0.26                        | 5000               | 1.20         | 1.15 | 1.16 |
| 6000               | 3.78                            | 3.82 | 0.05                           | 44.25                    | 0.29                        | 6000               | 1.06         | 1.07 | 1.07 |
| 7000               | 3.88                            | 3.92 | 0.05                           | 30.74                    | 0.42                        | 7000               | 1.14         | 1.09 | 1.09 |
| 8000               | 3.93                            | 3.98 | 0.05                           | 34.65                    | 0.46                        | 8000               | 1.04         | 1.02 | 1.02 |
| 9000               | 4.02                            | 4.07 | 0.05                           | 40.23                    | 0.53                        | 9000               | 1.11         | 1.10 | 1.09 |
| 10000              | 4.08                            | 4.14 | 0.06                           | 32.18                    | 0.59                        | 10000              | 1.06         | 1.01 | 1.02 |
| 11000              | 4.15                            | 4.22 | 0.06                           | 34.32                    | 0.67                        | 11000              | 1.05         | 1.07 | 1.05 |
| 12000              | 4.25                            | 4.32 | 0.07                           | 35.21                    | 0.80                        | 12000              | 1.15         | 1.13 | 1.13 |
| 13000              | 4.31                            | 4.39 | 0.07                           | 46.96                    | 0.83                        | 13000              | 1.13         | 1.18 | 1.17 |
| 14000              | 4.38                            | 4.46 | 0.08                           | 37.34                    | 0.95                        | 14000              | 1.15         | 1.17 | 1.16 |
| 15000              | 4.45                            | 4.53 | 0.08                           | 35.34                    | 1.05                        | 15000              | 1.13         | 1.13 | 1.12 |
| 16000              | 4.50                            | 4.59 | 0.08                           | 36.12                    | 1.15                        | 16000              | 1.12         | 1.12 | 1.10 |
| 17000              | 4.58                            | 4.67 | 0.09                           | 32.59                    | 1.25                        | 17000              | 1.12         | 1.11 | 1.11 |
| 18000              | 4.62                            | 4.71 | 0.08                           | 47.55                    | 1.33                        | 18000              | 1.06         | 1.05 | 1.01 |
| 19000              | 4.70                            | 4.79 | 0.08                           | 37.61                    | 1.41                        | 19000              | 1.13         | 1.08 | 1.06 |
| 20000              | 4.75                            | 4.85 | 0.09                           | 39.93                    | 1.50                        | 20000              | 1.07         | 1.09 | 1.12 |
| 21000              | 4.82                            | 4.91 | 0.10                           | 32.12                    | 1.66                        | 21000              | 1.08         | 1.13 | 1.15 |
| 22000              | 4.91                            | 5.02 | 0.10                           | 37.09                    | 1.76                        | 22000              | 1.17         | 1.18 | 1.19 |
| 23000              | 4.96                            | 5.06 | 0.09                           | 36.90                    | 1.97                        | 23000              | 1.08         | 1.16 | 1.13 |
| 24000              | 5.08                            | 5.16 | 0.09                           | 35.67                    | 2.02                        | 24000              | 1.21         | 1.24 | 1.18 |
| 25000              | 5.10                            | 5.20 | 0.10                           | 52.78                    | 2.17                        | 25000              | 1.08         | 1.15 | 1.12 |
| 26000              | 5.19                            | 5.28 | 0.09                           | 39.37                    | 2.34                        | 26000              | 1.17         | 1.22 | 1.15 |
| 27000              | 5.22                            | 5.33 | 0.11                           | 48.64                    | 2.50                        | 27000              | 1.09         | 1.14 | 1.13 |
| 28000              | 5.29                            | 5.39 | 0.10                           | 35.17                    | 2.64                        | 28000              | 1.09         | 1.08 | 1.10 |
| 29000              | 5.36                            | 5.46 | 0.10                           | 53.97                    | 2.83                        | 29000              | 1.06         | 1.06 | 1.09 |
| 30000              | 5.44                            | 5.53 | 0.09                           | 35.62                    | 3.02                        | 30000              | 1.06         | 1.05 | 1.08 |
| 31000              | 5.52                            | 5.59 | 0.07                           | 39.69                    | 3.13                        | 31000              | 1.09         | 1.12 | 1.09 |
| 32000              | 5.62                            | 5.66 | 0.04                           | 36.01                    | 3.23                        | 32000              | 1.06         | 1.19 | 1.12 |
| 33000              | 5.68                            | 5.73 | 0.06                           | 37.68                    | 3.28                        | 33000              | 1.10         | 1.13 | 1.14 |
| 34000              | 5.77                            | 5.82 | 0.05                           | 37.82                    | 3.43                        | 34000              | 1.11         | 1.21 | 1.21 |
| 35000              | 5.82                            | 5.87 | 0.05                           | 42.40                    | 3.64                        | 35000              | 1.03         | 1.12 | 1.13 |
| 36000              | 5.94                            | 5.97 | 0.03                           | 30.82                    | 3.95                        | 36000              | 1.20         | 1.21 | 1.18 |
| 37000              | 5.98                            | 5.99 | 0.01                           | 36.94                    | 4.03                        | 37000              | 1.05         | 1.11 | 1.08 |
| 38000              | 6.09                            | 6.10 | 0.00                           | 30.07                    | 4.16                        | 38000              | 1.23         | 1.15 | 1.15 |
| 39000              | 6.13                            | 6.11 | 0.02                           | 36.00                    | 4.36                        | 39000              | 1.09         | 1.07 | 1.03 |
| 40000              | 6.20                            | 6.17 | 0.03                           | 35.14                    | 4.50                        | 40000              | 1.21         | 1.13 | 1.08 |
| 41000              | 6.24                            | 6.21 | 0.04                           | 37.63                    | 4.61                        | 41000              | 1.14         | 1.04 | 1.10 |
| 42000              | 6.32                            | 6.27 | 0.05                           | 36.55                    | 4.82                        | 42000              | 1.14         | 1.06 | 1.11 |
| 43000              | 6.50                            | 6.45 | 0.05                           | 29.74                    | 5.09                        | 43000              | 1.25         | 1.22 | 1.26 |
| 43500              | 6.50                            | 6.42 | 0.08                           | 30.80                    | 5.25                        | 43500              | 1.06         | 1.18 | 1.19 |

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



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IF/RF MICROWAVE COMPONENTS

REV. OR  
 ZC2PD-K5R44W+  
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# 2 Way-0° Power Splitter/Combiner

# ZC2PD-K5R44W+

## Typical Performance Data

TEST CONDITIONS: INPUT POWER =0 dBm @Temperature = -55°C

| FREQUENCY<br>(MHz) | TOTAL LOSS <sup>1</sup><br>(dB) |      | AMPLITUDE<br>UNBALANCE<br>(dB) | ISOLATION<br>(dB)<br>1-2 | PHASE<br>UNBALANCE<br>(Deg) | FREQUENCY<br>(MHz) | VSWR<br>(:1) |      |      |
|--------------------|---------------------------------|------|--------------------------------|--------------------------|-----------------------------|--------------------|--------------|------|------|
|                    | S-1                             | S-2  |                                |                          |                             |                    | S            | 1    | 2    |
| 10                 | 3.54                            | 3.57 | 0.02                           | 3.59                     | 0.06                        | 10                 | 1.99         | 1.97 | 1.97 |
| 500                | 3.29                            | 3.26 | 0.03                           | 20.86                    | 0.10                        | 500                | 1.40         | 1.37 | 1.36 |
| 1000               | 3.24                            | 3.19 | 0.06                           | 34.27                    | 0.10                        | 1000               | 1.07         | 1.04 | 1.03 |
| 2000               | 3.34                            | 3.28 | 0.06                           | 26.21                    | 0.15                        | 2000               | 1.02         | 1.14 | 1.14 |
| 3000               | 3.46                            | 3.42 | 0.04                           | 42.21                    | 0.20                        | 3000               | 1.14         | 1.16 | 1.15 |
| 4000               | 3.53                            | 3.50 | 0.03                           | 30.31                    | 0.15                        | 4000               | 1.06         | 1.13 | 1.13 |
| 5000               | 3.67                            | 3.65 | 0.02                           | 29.28                    | 0.10                        | 5000               | 1.25         | 1.17 | 1.18 |
| 6000               | 3.69                            | 3.69 | 0.00                           | 40.55                    | 0.01                        | 6000               | 1.07         | 1.08 | 1.09 |
| 7000               | 3.80                            | 3.80 | 0.00                           | 29.59                    | 0.10                        | 7000               | 1.19         | 1.12 | 1.12 |
| 8000               | 3.84                            | 3.84 | 0.00                           | 33.03                    | 0.10                        | 8000               | 1.06         | 1.03 | 1.05 |
| 9000               | 3.93                            | 3.95 | 0.01                           | 36.11                    | 0.19                        | 9000               | 1.17         | 1.13 | 1.14 |
| 10000              | 3.98                            | 4.00 | 0.02                           | 30.45                    | 0.24                        | 10000              | 1.08         | 1.01 | 1.03 |
| 11000              | 4.04                            | 4.07 | 0.02                           | 32.61                    | 0.31                        | 11000              | 1.09         | 1.05 | 1.03 |
| 12000              | 4.12                            | 4.16 | 0.03                           | 34.91                    | 0.43                        | 12000              | 1.14         | 1.11 | 1.11 |
| 13000              | 4.20                            | 4.24 | 0.04                           | 42.46                    | 0.46                        | 13000              | 1.17         | 1.19 | 1.17 |
| 14000              | 4.25                            | 4.30 | 0.05                           | 33.21                    | 0.58                        | 14000              | 1.14         | 1.16 | 1.15 |
| 15000              | 4.34                            | 4.39 | 0.06                           | 32.68                    | 0.69                        | 15000              | 1.19         | 1.15 | 1.15 |
| 16000              | 4.37                            | 4.43 | 0.06                           | 32.83                    | 0.81                        | 16000              | 1.11         | 1.12 | 1.10 |
| 17000              | 4.47                            | 4.54 | 0.06                           | 30.07                    | 0.93                        | 17000              | 1.19         | 1.15 | 1.15 |
| 18000              | 4.49                            | 4.55 | 0.05                           | 39.07                    | 0.99                        | 18000              | 1.05         | 1.06 | 1.03 |
| 19000              | 4.60                            | 4.65 | 0.06                           | 33.43                    | 1.09                        | 19000              | 1.19         | 1.14 | 1.12 |
| 20000              | 4.61                            | 4.68 | 0.06                           | 34.96                    | 1.21                        | 20000              | 1.07         | 1.07 | 1.09 |
| 21000              | 4.67                            | 4.73 | 0.06                           | 29.46                    | 1.38                        | 21000              | 1.10         | 1.09 | 1.09 |
| 22000              | 4.75                            | 4.82 | 0.07                           | 34.40                    | 1.52                        | 22000              | 1.18         | 1.15 | 1.15 |
| 23000              | 4.79                            | 4.85 | 0.05                           | 36.51                    | 1.65                        | 23000              | 1.01         | 1.09 | 1.07 |
| 24000              | 4.91                            | 4.95 | 0.04                           | 34.30                    | 1.72                        | 24000              | 1.22         | 1.21 | 1.15 |
| 25000              | 4.92                            | 4.98 | 0.06                           | 39.44                    | 1.85                        | 25000              | 1.07         | 1.11 | 1.09 |
| 26000              | 5.03                            | 5.07 | 0.04                           | 34.93                    | 2.01                        | 26000              | 1.20         | 1.22 | 1.17 |
| 27000              | 5.06                            | 5.13 | 0.06                           | 35.61                    | 2.21                        | 27000              | 1.17         | 1.18 | 1.20 |
| 28000              | 5.11                            | 5.17 | 0.06                           | 32.15                    | 2.33                        | 28000              | 1.11         | 1.11 | 1.15 |
| 29000              | 5.21                            | 5.27 | 0.06                           | 35.98                    | 2.54                        | 29000              | 1.19         | 1.14 | 1.20 |
| 30000              | 5.25                            | 5.28 | 0.03                           | 44.37                    | 2.77                        | 30000              | 1.04         | 1.06 | 1.06 |
| 31000              | 5.39                            | 5.40 | 0.01                           | 30.21                    | 2.81                        | 31000              | 1.23         | 1.18 | 1.15 |
| 32000              | 5.41                            | 5.40 | 0.01                           | 30.11                    | 2.87                        | 32000              | 1.08         | 1.09 | 1.01 |
| 33000              | 5.53                            | 5.52 | 0.01                           | 27.91                    | 3.00                        | 33000              | 1.23         | 1.13 | 1.11 |
| 34000              | 5.58                            | 5.57 | 0.01                           | 30.61                    | 3.09                        | 34000              | 1.20         | 1.14 | 1.16 |
| 35000              | 5.63                            | 5.61 | 0.02                           | 28.57                    | 3.23                        | 35000              | 1.17         | 1.08 | 1.08 |
| 36000              | 5.80                            | 5.76 | 0.03                           | 28.33                    | 3.53                        | 36000              | 1.35         | 1.24 | 1.25 |
| 37000              | 5.77                            | 5.71 | 0.07                           | 29.64                    | 3.63                        | 37000              | 1.16         | 1.10 | 1.09 |
| 38000              | 5.95                            | 5.89 | 0.07                           | 25.83                    | 3.76                        | 38000              | 1.42         | 1.22 | 1.25 |
| 39000              | 5.92                            | 5.83 | 0.09                           | 29.29                    | 3.96                        | 39000              | 1.23         | 1.10 | 1.09 |
| 40000              | 6.02                            | 5.92 | 0.11                           | 28.26                    | 4.14                        | 40000              | 1.40         | 1.22 | 1.22 |
| 41000              | 6.02                            | 5.90 | 0.12                           | 33.75                    | 4.26                        | 41000              | 1.30         | 1.05 | 1.04 |
| 42000              | 6.07                            | 5.93 | 0.14                           | 28.57                    | 4.45                        | 42000              | 1.26         | 1.05 | 1.02 |
| 43000              | 6.26                            | 6.11 | 0.15                           | 29.93                    | 4.70                        | 43000              | 1.48         | 1.21 | 1.24 |
| 43500              | 6.29                            | 6.11 | 0.18                           | 27.26                    | 4.79                        | 43500              | 1.35         | 1.19 | 1.18 |

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



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# 2 Way-0° Power Splitter/Combiner

# ZC2PD-K5R44W+

## Typical Performance Data

TEST CONDITIONS: INPUT POWER =0 dBm @Temperature = +100°C

| FREQUENCY<br>(MHz) | TOTAL LOSS <sup>1</sup><br>(dB) |      | AMPLITUDE<br>UNBALANCE<br>(dB) | ISOLATION<br>(dB)<br>1-2 | PHASE<br>UNBALANCE<br>(Deg) | FREQUENCY<br>(MHz) | VSWR<br>(:1) |      |      |
|--------------------|---------------------------------|------|--------------------------------|--------------------------|-----------------------------|--------------------|--------------|------|------|
|                    | S-1                             | S-2  |                                |                          |                             |                    | S            | 1    | 2    |
| 10                 | 3.53                            | 3.58 | 0.05                           | 3.58                     | 0.32                        | 10                 | 1.99         | 1.98 | 1.97 |
| 500                | 3.24                            | 3.18 | 0.06                           | 21.16                    | 0.13                        | 500                | 1.39         | 1.57 | 1.53 |
| 1000               | 3.21                            | 3.07 | 0.14                           | 27.81                    | 0.21                        | 1000               | 1.05         | 1.13 | 1.12 |
| 2000               | 3.32                            | 3.12 | 0.21                           | 24.05                    | 0.35                        | 2000               | 1.01         | 1.17 | 1.17 |
| 3000               | 3.46                            | 3.28 | 0.17                           | 32.07                    | 0.51                        | 3000               | 1.11         | 1.17 | 1.19 |
| 4000               | 3.54                            | 3.40 | 0.14                           | 35.62                    | 0.62                        | 4000               | 1.08         | 1.12 | 1.14 |
| 5000               | 3.66                            | 3.54 | 0.12                           | 29.52                    | 0.59                        | 5000               | 1.20         | 1.17 | 1.16 |
| 6000               | 3.70                            | 3.62 | 0.08                           | 44.04                    | 0.62                        | 6000               | 1.07         | 1.07 | 1.08 |
| 7000               | 3.80                            | 3.74 | 0.06                           | 30.18                    | 0.51                        | 7000               | 1.14         | 1.08 | 1.09 |
| 8000               | 3.85                            | 3.81 | 0.04                           | 32.66                    | 0.50                        | 8000               | 1.05         | 1.02 | 1.03 |
| 9000               | 3.93                            | 3.91 | 0.02                           | 38.34                    | 0.43                        | 9000               | 1.11         | 1.09 | 1.09 |
| 10000              | 3.99                            | 4.00 | 0.00                           | 31.21                    | 0.40                        | 10000              | 1.06         | 1.01 | 1.03 |
| 11000              | 4.06                            | 4.08 | 0.01                           | 34.75                    | 0.28                        | 11000              | 1.07         | 1.07 | 1.06 |
| 12000              | 4.15                            | 4.18 | 0.03                           | 34.99                    | 0.12                        | 12000              | 1.14         | 1.11 | 1.12 |
| 13000              | 4.23                            | 4.27 | 0.04                           | 50.92                    | 0.03                        | 13000              | 1.16         | 1.20 | 1.18 |
| 14000              | 4.28                            | 4.34 | 0.06                           | 38.62                    | 0.13                        | 14000              | 1.13         | 1.16 | 1.16 |
| 15000              | 4.36                            | 4.43 | 0.07                           | 34.35                    | 0.24                        | 15000              | 1.15         | 1.14 | 1.14 |
| 16000              | 4.41                            | 4.48 | 0.07                           | 38.09                    | 0.40                        | 16000              | 1.09         | 1.11 | 1.10 |
| 17000              | 4.49                            | 4.58 | 0.08                           | 32.51                    | 0.52                        | 17000              | 1.13         | 1.11 | 1.11 |
| 18000              | 4.54                            | 4.62 | 0.08                           | 55.52                    | 0.61                        | 18000              | 1.04         | 1.04 | 1.01 |
| 19000              | 4.61                            | 4.70 | 0.09                           | 37.86                    | 0.75                        | 19000              | 1.12         | 1.07 | 1.05 |
| 20000              | 4.68                            | 4.77 | 0.10                           | 36.81                    | 0.88                        | 20000              | 1.09         | 1.10 | 1.13 |
| 21000              | 4.73                            | 4.83 | 0.10                           | 32.88                    | 1.11                        | 21000              | 1.06         | 1.13 | 1.15 |
| 22000              | 4.83                            | 4.94 | 0.11                           | 35.78                    | 1.26                        | 22000              | 1.17         | 1.18 | 1.19 |
| 23000              | 4.89                            | 4.98 | 0.09                           | 41.40                    | 1.45                        | 23000              | 1.09         | 1.16 | 1.14 |
| 24000              | 4.99                            | 5.08 | 0.09                           | 36.13                    | 1.58                        | 24000              | 1.19         | 1.23 | 1.18 |
| 25000              | 5.02                            | 5.12 | 0.10                           | 42.72                    | 1.75                        | 25000              | 1.11         | 1.15 | 1.13 |
| 26000              | 5.10                            | 5.19 | 0.09                           | 41.45                    | 1.90                        | 26000              | 1.13         | 1.20 | 1.15 |
| 27000              | 5.15                            | 5.26 | 0.11                           | 42.23                    | 2.12                        | 27000              | 1.12         | 1.14 | 1.15 |
| 28000              | 5.21                            | 5.31 | 0.10                           | 37.49                    | 2.28                        | 28000              | 1.07         | 1.09 | 1.11 |
| 29000              | 5.28                            | 5.38 | 0.10                           | 48.82                    | 2.45                        | 29000              | 1.07         | 1.06 | 1.10 |
| 30000              | 5.38                            | 5.46 | 0.08                           | 33.58                    | 2.71                        | 30000              | 1.09         | 1.07 | 1.08 |
| 31000              | 5.45                            | 5.51 | 0.06                           | 38.30                    | 2.84                        | 31000              | 1.08         | 1.11 | 1.07 |
| 32000              | 5.56                            | 5.60 | 0.03                           | 32.92                    | 2.96                        | 32000              | 1.11         | 1.20 | 1.12 |
| 33000              | 5.60                            | 5.64 | 0.05                           | 39.85                    | 3.00                        | 33000              | 1.07         | 1.11 | 1.10 |
| 34000              | 5.71                            | 5.74 | 0.04                           | 34.80                    | 3.14                        | 34000              | 1.14         | 1.22 | 1.21 |
| 35000              | 5.76                            | 5.79 | 0.03                           | 40.24                    | 3.33                        | 35000              | 1.05         | 1.13 | 1.14 |
| 36000              | 5.86                            | 5.91 | 0.04                           | 29.84                    | 3.72                        | 36000              | 1.19         | 1.20 | 1.19 |
| 37000              | 5.93                            | 5.95 | 0.02                           | 32.37                    | 3.83                        | 37000              | 1.15         | 1.13 | 1.11 |
| 38000              | 6.02                            | 6.02 | 0.00                           | 30.67                    | 3.94                        | 38000              | 1.22         | 1.14 | 1.16 |
| 39000              | 6.07                            | 6.05 | 0.02                           | 33.24                    | 4.12                        | 39000              | 1.16         | 1.09 | 1.09 |
| 40000              | 6.14                            | 6.10 | 0.04                           | 38.97                    | 4.23                        | 40000              | 1.24         | 1.13 | 1.11 |
| 41000              | 6.17                            | 6.12 | 0.05                           | 32.75                    | 4.35                        | 41000              | 1.15         | 1.03 | 1.06 |
| 42000              | 6.27                            | 6.21 | 0.06                           | 41.81                    | 4.56                        | 42000              | 1.23         | 1.09 | 1.15 |
| 43000              | 6.39                            | 6.32 | 0.08                           | 28.06                    | 4.81                        | 43000              | 1.17         | 1.19 | 1.23 |
| 43500              | 6.41                            | 6.31 | 0.10                           | 33.79                    | 4.99                        | 43500              | 1.08         | 1.16 | 1.18 |

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



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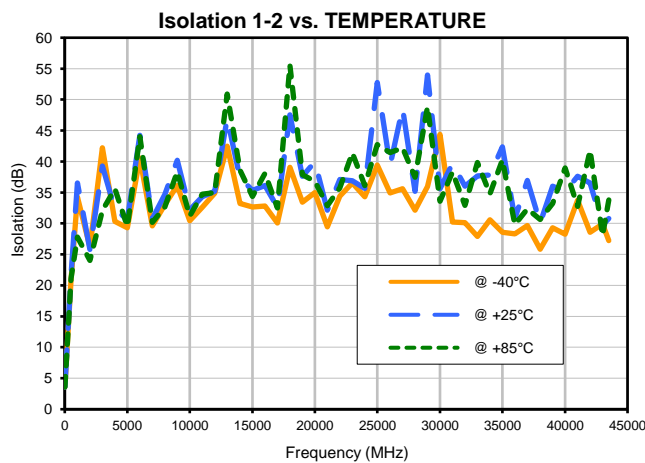
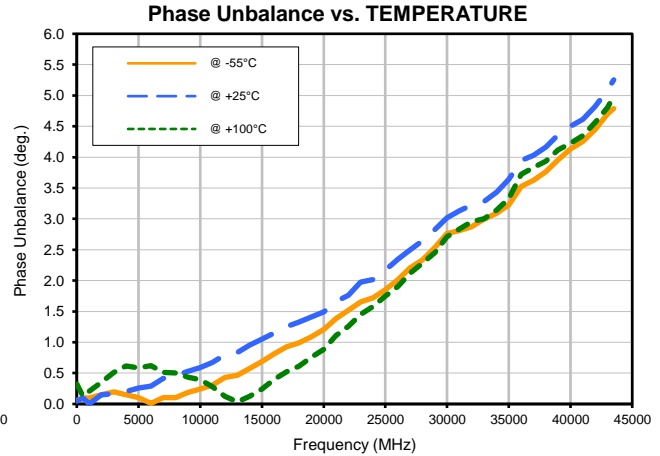
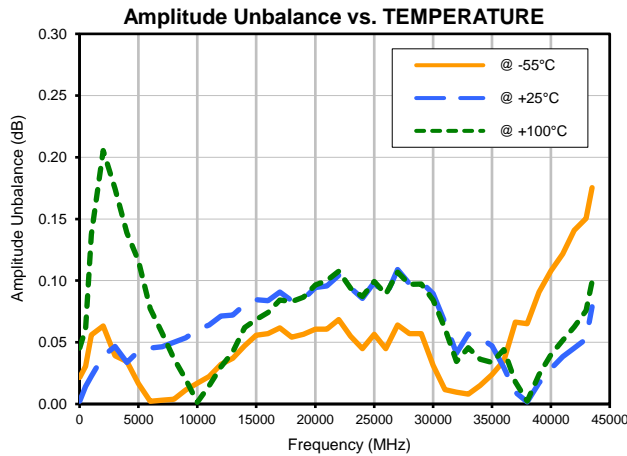
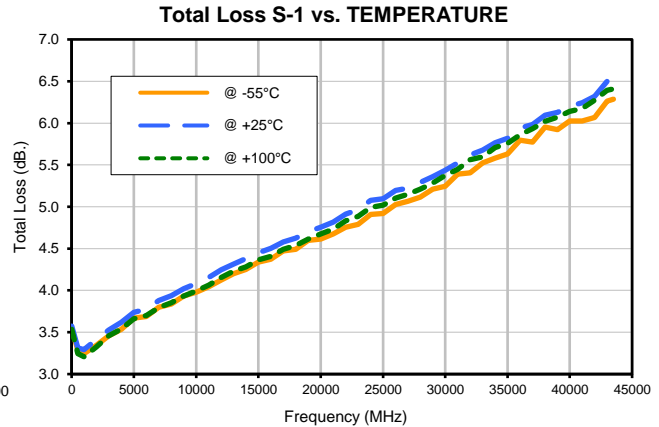
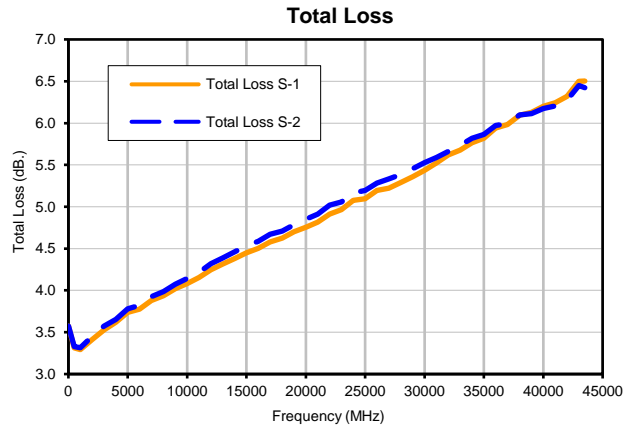
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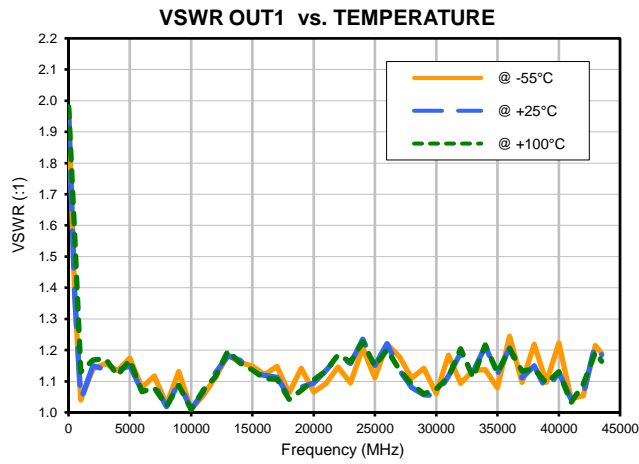
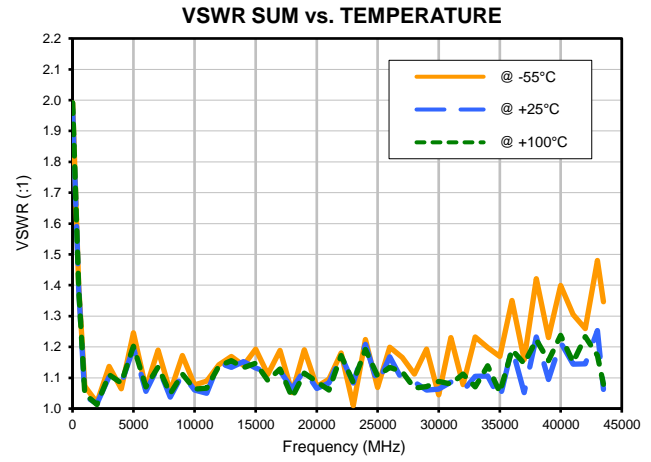
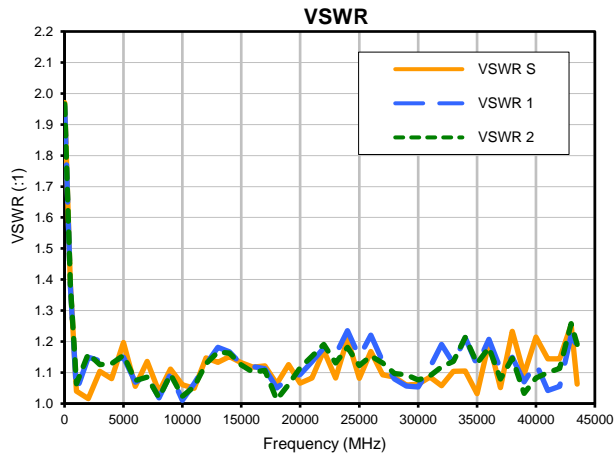
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## Typical Performance Curves

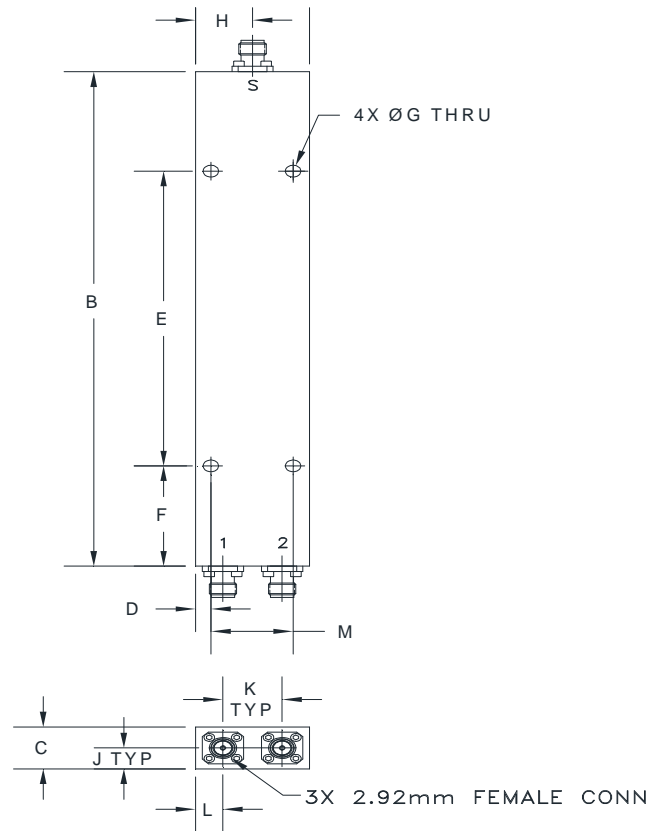


## Typical Performance Curves



## Outline Dimensions

UU2624



| CASE#  | A               | B                | C              | D             | E                | F               | G             | H              | J             | K               | L             | M               | WT GRAMS |
|--------|-----------------|------------------|----------------|---------------|------------------|-----------------|---------------|----------------|---------------|-----------------|---------------|-----------------|----------|
| UU2624 | 1.04<br>(26.42) | 5.87<br>(149.10) | .50<br>(12.70) | .14<br>(3.56) | 3.500<br>(88.90) | 1.19<br>(30.23) | .140<br>(3.6) | .52<br>(13.20) | .25<br>(6.40) | .520<br>(13.20) | .26<br>(6.60) | .750<br>(19.05) | 150      |

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

### Notes:

1. Case material: Aluminum alloy.
2. Case finish: Painting. Color: Blue.
3. 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  |
| Thermal Shock              | -55° to 100°C, 25 cycles  | MIL-STD-202, Method 107, Condition A-1 except +100°C instead of 85°C |
| 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                                 |
| Connector Durability       | 500 mating/unmating cycles  | MIL-PRF-39012E, PARAGRAPH 4.6.12                                     |