

# Power Splitter/Combiner

## ZC4PD-900-S+

4 Way-0° 50Ω 800 to 900 MHz

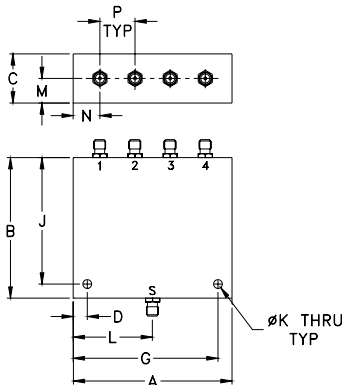
### Maximum Ratings

|                                                                 |                             |
|-----------------------------------------------------------------|-----------------------------|
| Operating Temperature                                           | -55°C to 100°C              |
| Storage Temperature                                             | -55°C to 100°C              |
| Power Input (as a splitter)                                     | 10W max.                    |
| Internal Dissipation                                            | 0.375W max.                 |
| DC Current                                                      | 1.0 A (250mA for each port) |
| Permanent damage may occur if any of these limits are exceeded. |                             |

### Coaxial Connections

|          |   |
|----------|---|
| SUM PORT | S |
| PORT 1   | 1 |
| PORT 2   | 2 |
| PORT 3   | 3 |
| PORT 4   | 4 |

### Outline Drawing



### Outline Dimensions (inch mm)

|       |       |       |      |       |       |
|-------|-------|-------|------|-------|-------|
| A     | B     | C     | D    | G     | J     |
| 2.26  | 2.00  | .70   | .200 | 2.060 | 1.800 |
| 57.40 | 50.80 | 17.78 | 5.08 | 52.32 | 45.72 |
| K     | L     | M     | N    | P     | wt    |
| .125  | 1.13  | .35   | .38  | .500  | grams |
| 3.18  | 28.70 | 8.89  | 9.65 | 12.70 | 59    |

### Features

- high isolation, 30dB typ.
- excellent VSWR
- up to 10W power input as splitters

### Applications

- cellular
- communication systems



CASE STYLE: Z184

| Connectors | Model        |
|------------|--------------|
| SMA        | ZC4PD-900-S+ |

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

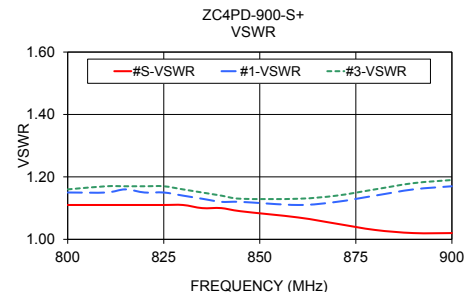
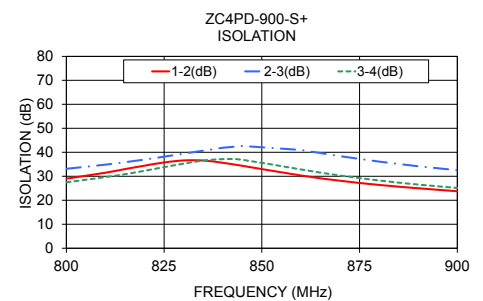
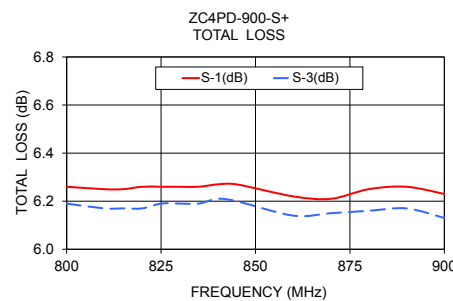
### Electrical Specifications

| FREQ. RANGE (MHz) | ISOLATION (dB) |      | INSERTION LOSS (dB) ABOVE 6.0 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. |
| 800-900           | 30             | 20   | 0.3                              | 0.6  | 3                         | 0.2                      | 1.08      | 1.25 | 1.17 | 1.30 |

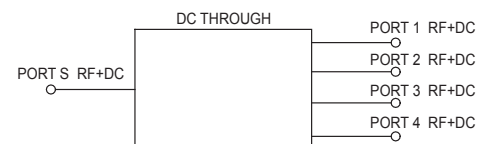
### Typical Performance Data

| Freq. (MHz) | Total Loss <sup>1</sup> (dB) |      |      |      | Amp. Unbal. (dB) | Isolation (dB) |       |       | Phase Unbal. (deg.) | VSWR S | VSWR 1 | VSWR 2 | VSWR 3 | VSWR 4 |
|-------------|------------------------------|------|------|------|------------------|----------------|-------|-------|---------------------|--------|--------|--------|--------|--------|
|             | S-1                          | S-2  | S-3  | S-4  |                  | 1-2            | 2-3   | 3-4   |                     |        |        |        |        |        |
| 800.00      | 6.26                         | 6.27 | 6.19 | 6.22 | 0.08             | 29.00          | 33.10 | 27.48 | 0.41                | 1.11   | 1.15   | 1.15   | 1.16   | 1.17   |
| 810.00      | 6.25                         | 6.25 | 6.17 | 6.19 | 0.08             | 31.49          | 34.86 | 29.66 | 0.52                | 1.11   | 1.15   | 1.16   | 1.17   | 1.17   |
| 815.00      | 6.25                         | 6.26 | 6.17 | 6.19 | 0.09             | 33.00          | 35.88 | 30.87 | 0.45                | 1.11   | 1.16   | 1.16   | 1.17   | 1.17   |
| 820.00      | 6.26                         | 6.24 | 6.17 | 6.21 | 0.08             | 34.42          | 36.97 | 32.30 | 0.47                | 1.11   | 1.15   | 1.16   | 1.17   | 1.17   |
| 825.00      | 6.26                         | 6.26 | 6.19 | 6.21 | 0.08             | 35.76          | 38.19 | 33.81 | 0.41                | 1.11   | 1.15   | 1.15   | 1.17   | 1.16   |
| 830.00      | 6.26                         | 6.27 | 6.19 | 6.21 | 0.08             | 36.60          | 39.45 | 35.27 | 0.49                | 1.11   | 1.14   | 1.15   | 1.16   | 1.16   |
| 835.00      | 6.26                         | 6.27 | 6.19 | 6.22 | 0.08             | 36.57          | 40.67 | 36.55 | 0.48                | 1.10   | 1.13   | 1.14   | 1.15   | 1.15   |
| 840.00      | 6.27                         | 6.28 | 6.21 | 6.24 | 0.06             | 35.62          | 41.88 | 37.15 | 0.55                | 1.10   | 1.12   | 1.13   | 1.14   | 1.14   |
| 845.00      | 6.27                         | 6.28 | 6.20 | 6.23 | 0.08             | 34.37          | 42.64 | 36.87 | 0.60                | 1.09   | 1.12   | 1.12   | 1.13   | 1.13   |
| 860.00      | 6.22                         | 6.24 | 6.14 | 6.18 | 0.09             | 30.33          | 40.98 | 32.84 | 0.54                | 1.07   | 1.11   | 1.11   | 1.13   | 1.13   |
| 870.00      | 6.21                         | 6.23 | 6.15 | 6.19 | 0.08             | 28.14          | 38.39 | 30.31 | 0.70                | 1.05   | 1.12   | 1.13   | 1.14   | 1.15   |
| 880.00      | 6.25                         | 6.25 | 6.16 | 6.20 | 0.09             | 26.39          | 36.10 | 28.24 | 0.63                | 1.03   | 1.14   | 1.15   | 1.16   | 1.17   |
| 890.00      | 6.26                         | 6.26 | 6.17 | 6.20 | 0.09             | 25.00          | 34.17 | 26.54 | 0.62                | 1.02   | 1.16   | 1.17   | 1.18   | 1.19   |
| 900.00      | 6.23                         | 6.24 | 6.13 | 6.17 | 0.11             | 23.76          | 32.54 | 25.13 | 0.57                | 1.02   | 1.17   | 1.17   | 1.19   | 1.19   |

1. Total Loss = Insertion Loss + 6dB 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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# 4 Way-0° Power Splitter/Combiner

ZC4PD-900+

## Typical Performance Data

| FREQ.<br>(MHz) | TOTAL LOSS <sup>1</sup><br>(dB) |      |      |      | AMP.<br>UNBAL.<br>(dB) | ISOLATION<br>(dB) |       |       | PHASE<br>UNBAL.<br>(deg.) | FREQ.<br>(MHz) | VSWR<br>(:1) |      |      |      |      |
|----------------|---------------------------------|------|------|------|------------------------|-------------------|-------|-------|---------------------------|----------------|--------------|------|------|------|------|
|                | S-1                             | S-2  | S-3  | S-4  |                        | 1-2               | 2-3   | 3-4   |                           |                | S            | 1    | 2    | 3    | 4    |
| 800.0          | 6.26                            | 6.27 | 6.19 | 6.22 | 0.08                   | 29.00             | 33.10 | 27.48 | 0.41                      | 800.0          | 1.11         | 1.15 | 1.15 | 1.16 | 1.17 |
| 802.5          | 6.26                            | 6.25 | 6.18 | 6.20 | 0.08                   | 29.59             | 33.50 | 28.00 | 0.41                      | 802.5          | 1.11         | 1.15 | 1.16 | 1.17 | 1.17 |
| 805.0          | 6.26                            | 6.26 | 6.20 | 6.21 | 0.07                   | 30.20             | 33.95 | 28.53 | 0.34                      | 805.0          | 1.11         | 1.15 | 1.16 | 1.17 | 1.17 |
| 807.5          | 6.25                            | 6.27 | 6.21 | 6.21 | 0.06                   | 30.88             | 34.39 | 29.11 | 0.49                      | 807.5          | 1.11         | 1.15 | 1.16 | 1.17 | 1.17 |
| 810.0          | 6.25                            | 6.25 | 6.17 | 6.19 | 0.08                   | 31.49             | 34.86 | 29.66 | 0.52                      | 810.0          | 1.11         | 1.15 | 1.16 | 1.17 | 1.17 |
| 812.5          | 6.24                            | 6.24 | 6.17 | 6.18 | 0.07                   | 32.21             | 35.41 | 30.25 | 0.42                      | 812.5          | 1.11         | 1.16 | 1.16 | 1.17 | 1.17 |
| 815.0          | 6.25                            | 6.26 | 6.17 | 6.19 | 0.09                   | 33.00             | 35.88 | 30.87 | 0.45                      | 815.0          | 1.11         | 1.16 | 1.16 | 1.17 | 1.17 |
| 817.5          | 6.26                            | 6.25 | 6.18 | 6.20 | 0.08                   | 33.74             | 36.46 | 31.54 | 0.59                      | 817.5          | 1.11         | 1.15 | 1.16 | 1.17 | 1.17 |
| 820.0          | 6.26                            | 6.24 | 6.17 | 6.21 | 0.08                   | 34.42             | 36.97 | 32.30 | 0.47                      | 820.0          | 1.11         | 1.15 | 1.16 | 1.17 | 1.17 |
| 822.5          | 6.26                            | 6.26 | 6.18 | 6.21 | 0.08                   | 35.20             | 37.47 | 32.98 | 0.47                      | 822.5          | 1.11         | 1.15 | 1.16 | 1.17 | 1.17 |
| 825.0          | 6.26                            | 6.26 | 6.19 | 6.21 | 0.08                   | 35.76             | 38.19 | 33.81 | 0.41                      | 825.0          | 1.11         | 1.15 | 1.15 | 1.17 | 1.16 |
| 827.5          | 6.27                            | 6.27 | 6.20 | 6.21 | 0.07                   | 36.24             | 38.82 | 34.49 | 0.46                      | 827.5          | 1.11         | 1.14 | 1.15 | 1.16 | 1.16 |
| 830.0          | 6.26                            | 6.27 | 6.19 | 6.21 | 0.08                   | 36.60             | 39.45 | 35.27 | 0.49                      | 830.0          | 1.11         | 1.14 | 1.15 | 1.16 | 1.16 |
| 832.5          | 6.27                            | 6.28 | 6.20 | 6.23 | 0.08                   | 36.63             | 40.14 | 35.95 | 0.42                      | 832.5          | 1.10         | 1.14 | 1.14 | 1.16 | 1.15 |
| 835.0          | 6.26                            | 6.27 | 6.19 | 6.22 | 0.08                   | 36.57             | 40.67 | 36.55 | 0.48                      | 835.0          | 1.10         | 1.13 | 1.14 | 1.15 | 1.15 |
| 837.5          | 6.28                            | 6.28 | 6.22 | 6.24 | 0.06                   | 36.22             | 41.39 | 37.05 | 0.53                      | 837.5          | 1.10         | 1.13 | 1.13 | 1.15 | 1.14 |
| 840.0          | 6.27                            | 6.28 | 6.21 | 6.24 | 0.06                   | 35.62             | 41.88 | 37.15 | 0.55                      | 840.0          | 1.10         | 1.12 | 1.13 | 1.14 | 1.14 |
| 842.5          | 6.27                            | 6.29 | 6.20 | 6.23 | 0.09                   | 35.14             | 42.27 | 37.24 | 0.42                      | 842.5          | 1.10         | 1.12 | 1.12 | 1.14 | 1.14 |
| 845.0          | 6.27                            | 6.28 | 6.20 | 6.23 | 0.08                   | 34.37             | 42.64 | 36.87 | 0.60                      | 845.0          | 1.09         | 1.12 | 1.12 | 1.13 | 1.13 |
| 847.5          | 6.26                            | 6.27 | 6.20 | 6.21 | 0.07                   | 33.71             | 42.86 | 36.44 | 0.56                      | 847.5          | 1.09         | 1.11 | 1.12 | 1.13 | 1.13 |
| 850.0          | 6.26                            | 6.27 | 6.19 | 6.21 | 0.07                   | 33.02             | 42.63 | 35.79 | 0.55                      | 850.0          | 1.09         | 1.11 | 1.12 | 1.13 | 1.13 |
| 852.5          | 6.24                            | 6.25 | 6.18 | 6.22 | 0.07                   | 32.29             | 42.34 | 35.10 | 0.57                      | 852.5          | 1.08         | 1.11 | 1.11 | 1.13 | 1.13 |
| 855.0          | 6.24                            | 6.24 | 6.17 | 6.20 | 0.07                   | 31.59             | 42.11 | 34.38 | 0.49                      | 855.0          | 1.08         | 1.11 | 1.11 | 1.13 | 1.13 |
| 857.5          | 6.22                            | 6.24 | 6.17 | 6.18 | 0.07                   | 30.96             | 41.59 | 33.61 | 0.48                      | 857.5          | 1.07         | 1.11 | 1.11 | 1.13 | 1.13 |
| 860.0          | 6.22                            | 6.24 | 6.14 | 6.18 | 0.09                   | 30.33             | 40.98 | 32.84 | 0.54                      | 860.0          | 1.07         | 1.11 | 1.11 | 1.13 | 1.13 |
| 862.5          | 6.21                            | 6.23 | 6.14 | 6.17 | 0.09                   | 29.76             | 40.29 | 32.20 | 0.58                      | 862.5          | 1.06         | 1.11 | 1.12 | 1.13 | 1.14 |
| 865.0          | 6.21                            | 6.23 | 6.14 | 6.18 | 0.09                   | 29.17             | 39.71 | 31.54 | 0.53                      | 865.0          | 1.06         | 1.11 | 1.12 | 1.13 | 1.14 |
| 867.5          | 6.21                            | 6.23 | 6.12 | 6.17 | 0.11                   | 28.62             | 39.02 | 30.87 | 0.55                      | 867.5          | 1.05         | 1.12 | 1.12 | 1.14 | 1.15 |
| 870.0          | 6.21                            | 6.23 | 6.15 | 6.19 | 0.08                   | 28.14             | 38.39 | 30.31 | 0.70                      | 870.0          | 1.05         | 1.12 | 1.13 | 1.14 | 1.15 |
| 872.5          | 6.23                            | 6.25 | 6.15 | 6.19 | 0.10                   | 27.70             | 37.75 | 29.73 | 0.59                      | 872.5          | 1.04         | 1.13 | 1.13 | 1.15 | 1.16 |
| 875.0          | 6.23                            | 6.25 | 6.17 | 6.19 | 0.09                   | 27.25             | 37.24 | 29.24 | 0.54                      | 875.0          | 1.04         | 1.13 | 1.14 | 1.15 | 1.16 |
| 877.5          | 6.25                            | 6.26 | 6.16 | 6.21 | 0.10                   | 26.86             | 36.65 | 28.71 | 0.63                      | 877.5          | 1.03         | 1.14 | 1.14 | 1.16 | 1.17 |
| 880.0          | 6.25                            | 6.25 | 6.16 | 6.20 | 0.09                   | 26.39             | 36.10 | 28.24 | 0.63                      | 880.0          | 1.03         | 1.14 | 1.15 | 1.16 | 1.17 |
| 882.5          | 6.26                            | 6.28 | 6.17 | 6.20 | 0.11                   | 26.06             | 35.58 | 27.79 | 0.56                      | 882.5          | 1.02         | 1.15 | 1.15 | 1.17 | 1.18 |
| 885.0          | 6.27                            | 6.26 | 6.17 | 6.19 | 0.10                   | 25.70             | 35.09 | 27.35 | 0.62                      | 885.0          | 1.02         | 1.15 | 1.16 | 1.17 | 1.18 |
| 887.5          | 6.26                            | 6.28 | 6.19 | 6.21 | 0.09                   | 25.33             | 34.58 | 26.95 | 0.67                      | 887.5          | 1.02         | 1.16 | 1.16 | 1.18 | 1.19 |
| 890.0          | 6.26                            | 6.26 | 6.17 | 6.20 | 0.09                   | 25.00             | 34.17 | 26.54 | 0.62                      | 890.0          | 1.02         | 1.16 | 1.17 | 1.18 | 1.19 |
| 892.5          | 6.26                            | 6.26 | 6.17 | 6.21 | 0.09                   | 24.69             | 33.76 | 26.21 | 0.52                      | 892.5          | 1.01         | 1.16 | 1.17 | 1.18 | 1.19 |
| 895.0          | 6.25                            | 6.25 | 6.15 | 6.17 | 0.10                   | 24.36             | 33.25 | 25.84 | 0.62                      | 895.0          | 1.02         | 1.16 | 1.17 | 1.19 | 1.19 |
| 897.5          | 6.24                            | 6.24 | 6.16 | 6.18 | 0.09                   | 24.06             | 32.92 | 25.47 | 0.59                      | 897.5          | 1.02         | 1.17 | 1.17 | 1.19 | 1.19 |
| 900.0          | 6.23                            | 6.24 | 6.13 | 6.17 | 0.11                   | 23.76             | 32.54 | 25.13 | 0.57                      | 900.0          | 1.02         | 1.17 | 1.17 | 1.19 | 1.19 |

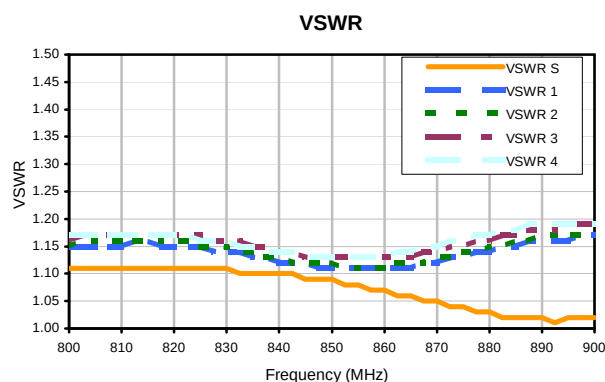
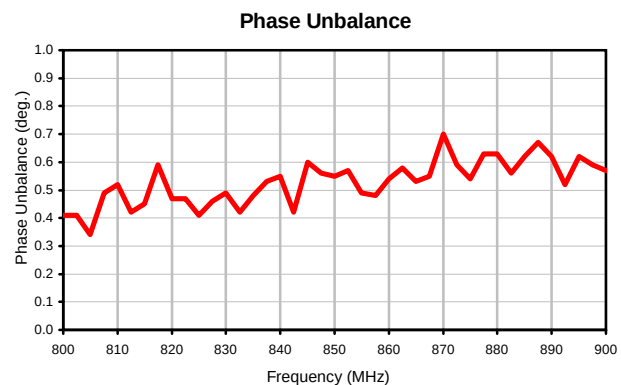
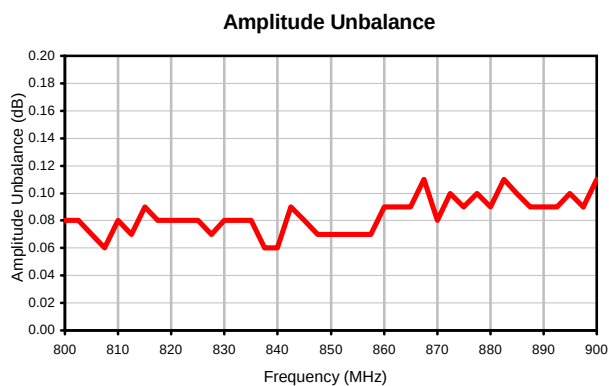
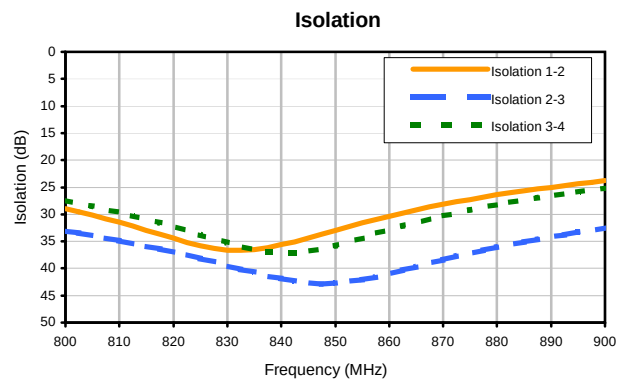
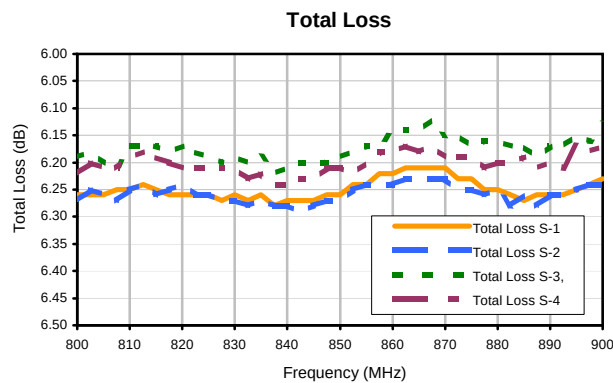
<sup>1</sup> Total Loss = Insertion Loss+ 6dB Splitter Loss

REV. X2  
ZC4PD-900+  
100627  
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# 4 Way-0° Power Splitter/Combiner

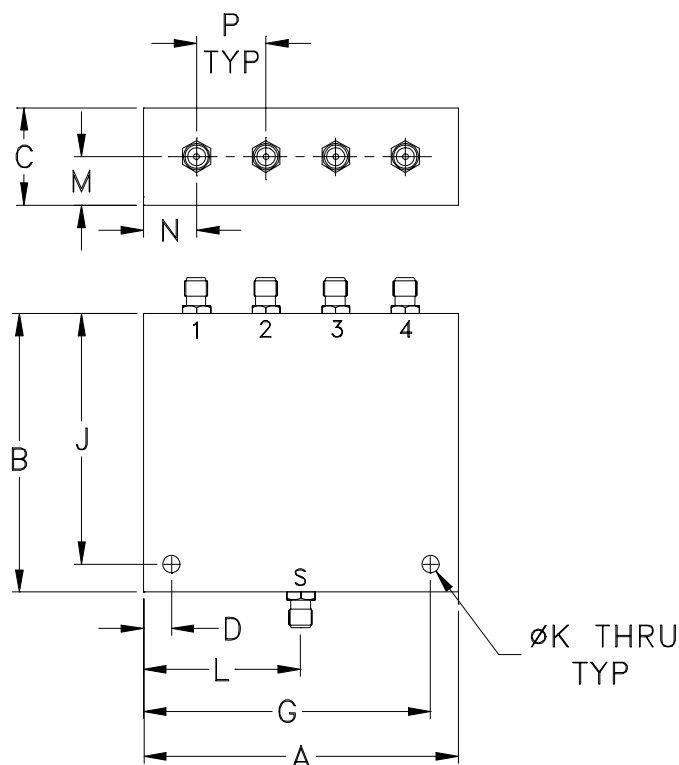
ZC4PD-900+

## Typical Performance Curves



REV. X2  
ZC4PD-900+  
100627  
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### Outline Dimensions



| CASE# | A               | B               | C              | D              | E  | F  | G                | H  | J                | K              | L               | M             | N             |
|-------|-----------------|-----------------|----------------|----------------|----|----|------------------|----|------------------|----------------|-----------------|---------------|---------------|
| Z184  | 2.26<br>(57.40) | 2.00<br>(50.80) | .70<br>(17.78) | .200<br>(5.08) | -- | -- | 2.060<br>(52.32) | -- | 1.800<br>(45.72) | .125<br>(3.17) | 1.13<br>(28.70) | .35<br>(8.89) | .38<br>(9.65) |

| CASE# | P               | WT.GRAMS |
|-------|-----------------|----------|
| Z184  | .500<br>(12.70) | 59       |

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

#### Notes:

- Case material: Aluminum alloy.
- Case finish:  
For RoHS Case Styles: Clear chemical conversion coating, non-chrome or trivalent chrome based.



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| 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 |