

# POWER SPLITTERS/COMBINERS

50 & 75Ω

## 2 WAY-0° 2 kHz to 10 GHz



ZESC-2



ZFSC-2



ZMSC-2



ZSC-2

| MODEL NO.      | FREQ. RANGE MHz<br>$f_l$ - $f_u$ | ISOLATION dB |    |    |    |    |    | INSERTION LOSS, dB Above 3dB |      |      |      |      |     | PHASE UNBAL. Degrees |    |   | AMPLITUDE UNBAL. dB |      |        | VSWR (:1)    |  | CASE STYLE | CONNECTOR | PRICE \$<br>Qty. (1-9) |
|----------------|----------------------------------|--------------|----|----|----|----|----|------------------------------|------|------|------|------|-----|----------------------|----|---|---------------------|------|--------|--------------|--|------------|-----------|------------------------|
|                |                                  | L            | M* | U  | L  | M* | U  | L                            | M*   | U    | L    | M*   | U   | L                    | M* | U | S                   | OUT  | Note B |              |  |            |           |                        |
| ZESC-2-11      | 10-2000                          | 19           | 10 | 18 | 13 | 20 | 11 | 0.5                          | 0.9  | 0.5  | 1.0  | 0.6  | 1.2 | 1                    | 3  | 6 | 0.20                | 0.30 | 0.50   |              |  | V37        | ar        | 71.95                  |
| ZFSC-2-1       | 5-500                            | 30           | 25 | 28 | 20 | 25 | 20 | 0.2                          | 0.5  | 0.3  | 0.6  | 0.6  | 0.8 | 2                    | 4  | 4 | 0.15                | 0.15 | 0.30   |              |  | K18        | ar        | 44.95                  |
| ■ ZFSC-2-1-75  | 0.25-300                         | 20           | 15 | 30 | 25 | 25 | 20 | 0.4                          | 0.75 | 0.4  | 0.75 | 0.4  | 1.0 | 2                    | 3  | 5 | 0.15                | 0.20 | 0.30   |              |  | K18        | ar        | 45.95                  |
| ■ ZFSC-2-1W-75 | 5-600                            | 44           | 26 | 45 | 30 | 31 | 20 | 0.22                         | 0.6  | 0.27 | 0.7  | 0.46 | 0.9 | 1                    | 2  | 3 | 0.20                | 0.30 | 0.40   |              |  | K18        | ar        | 50.95                  |
| ZFSC-2-1W      | 1-750                            | 30           | 20 | 28 | 20 | 25 | 20 | 0.2                          | 0.5  | 0.4  | 0.8  | 0.8  | 1.0 | 2                    | 4  | 4 | 0.15                | 0.15 | 0.30   |              |  | K18        | ar        | 48.95                  |
| ZFSC-2-2       | 10-1000                          | 30           | 20 | 25 | 20 | 23 | 18 | 0.2                          | 0.5  | 0.5  | 1.0  | 0.9  | 1.2 | 2                    | 4  | 4 | 0.15                | 0.15 | 0.30   |              |  | K18        | ar        | 51.95                  |
| ZFSC-2-9G      | 3500-9000                        | 18           | 12 | 20 | 12 |    |    | 0.5                          | 1.5  | 0.6  | 1.2  |      |     | 7                    | 10 |   | 0.30                | 0.50 |        |              |  | JJJ142     | as        | 59.95                  |
| ZFSC-2-10G     | 2000-10000                       | 15           | 9  | 20 | 12 |    |    | 0.5                          | 1.5  | 0.6  | 1.6  |      |     | 7                    | 12 |   | 0.60                | 0.50 |        |              |  | JJJ142     | as        | 69.95                  |
| ZFSC-2-4       | 0.2-1000                         | 20           | 15 | 25 | 20 | 23 | 18 | 0.2                          | 0.8  | 0.5  | 1.0  | 0.9  | 1.2 | 2                    | 4  | 4 | 0.15                | 0.15 | 0.30   | see Yoni for |  | K18        | ar        | 55.95                  |
| ZFSC-2-5       | 10-1500                          | 25           | 15 | 30 | 20 | 25 | 18 | 0.25                         | 0.6  | 0.5  | 1.0  | 0.8  | 1.5 | 2                    | 3  | 4 | 0.15                | 0.20 | 0.50   |              |  | K18        | ar        | 59.95                  |
| ⊕ ZFSC-2-6*    | 0.002-60                         | 27           | 20 | 30 | 20 | 27 | 20 | 0.3                          | 0.6  | 0.3  | 0.6  | 0.6  | 1.0 | 2                    | 3  | 4 | 0.15                | 0.20 | 0.30   | Performance  |  | K18        | ar        | 49.95                  |
| ⊕ ZFSC-2-6-75  | 0.004-60                         | 30           | 20 | 35 | 20 | 25 | 20 | 0.5                          | 0.8  | 0.4  | 0.8  | 0.7  | 1.0 | 1                    | 2  | 3 | 0.15                | 0.20 | 0.30   |              |  | K18        | ar        | 51.95                  |
| ZFSC-2-11      | 10-2000                          | 14           | 10 | 16 | 14 | 20 | 15 | 1.2                          | 1.5  | 1.2  | 1.5  | 1.0  | 2.2 | 1                    | 2  | 4 | 0.20                | 0.30 | 0.50   | Data and     |  | K18        | ar        | 64.95                  |
| ▲ ZFSC-2-2500  | 10-2500                          | 16           | 11 | 17 | 14 | 17 | 14 | 0.5                          | 0.8  | 0.6  | 1.4  | 0.8  | 1.5 | 1                    | 4  | 8 | 0.20                | 0.30 | 0.40   | curves       |  | K18        | ar        | 74.95                  |
| ZMSC-2-1       | 0.1-400                          | 20           | 15 | 25 | 20 | 25 | 20 | 0.2                          | 0.5  | 0.4  | 0.75 | 0.6  | 1.0 | 2                    | 3  | 4 | 0.15                | 0.20 | 0.30   |              |  | M21        | at        | 49.95                  |
| ZMSC-2-1W      | 1-650                            | 25           | 20 | 35 | 20 | 25 | 20 | 0.3                          | 0.5  | 0.5  | 0.8  | 0.7  | 1.0 | 2                    | 3  | 4 | 0.15                | 0.20 | 0.30   |              |  | M21        | at        | 54.95                  |
| ⊕ ZMSC-2-2*    | 0.002-60                         | 27           | 20 | 30 | 20 | 27 | 20 | 0.3                          | 0.6  | 0.3  | 0.6  | 0.6  | 1.0 | 2                    | 3  | 4 | 0.15                | 0.25 | 0.30   |              |  | M21        | at        | 59.95                  |
| ZSC-2-1        | 0.1-400                          | 20           | 15 | 25 | 20 | 25 | 20 | 0.2                          | 0.5  | 0.4  | 0.75 | 0.6  | 1.0 | 2                    | 3  | 4 | 0.15                | 0.20 | 0.30   |              |  | M22        | at        | 47.95                  |
| ZSC-2-1W       | 1-650                            | 25           | 20 | 35 | 25 | 25 | 20 | 0.3                          | 0.5  | 0.5  | 0.8  | 0.7  | 1.0 | 2                    | 3  | 4 | 0.15                | 0.20 | 0.30   |              |  | M22        | at        | 49.95                  |
| ⊕ ZSC-2-2*     | 0.002-60                         | 25           | 20 | 30 | 20 | 27 | 20 | 0.3                          | 0.6  | 0.3  | 0.6  | 0.6  | 1.0 | 2                    | 3  | 4 | 0.15                | 0.25 | 0.30   |              |  | M22        | at        | 52.95                  |
| ⊕ ZSC-2-2-75** | 0.002-60                         | 25           | 20 | 30 | 20 | 27 | 20 | 0.3                          | 0.6  | 0.3  | 0.6  | 0.6  | 1.0 | 2                    | 3  | 4 | 0.15                | 0.25 | 0.30   |              |  | M22        | at        | 53.95                  |
| ZSC-2-4        | 10-1000                          | 25           | 20 | 35 | 20 | 25 | 20 | 0.2                          | 0.5  | 0.5  | 0.8  | 0.7  | 1.3 | 2                    | 4  | 6 | 0.15                | 0.20 | 0.30   |              |  | M22        | at        | 52.95                  |
| ■ ZSC-2375     | 55-85                            |              |    | 35 | 25 |    |    |                              |      | 0.3  | 0.5  |      |     |                      |    | 1 |                     | 0.10 |        |              |  | M22        | at        | 52.95                  |
| ■ ZSC-2-1-75   | 0.25-300                         | 20           | 15 | 30 | 20 | 20 | 15 | 0.4                          | 0.75 | 0.4  | 0.75 | 0.4  | 1.0 | 2                    | 3  | 5 | 0.15                | 0.20 | 0.30   |              |  | M22        | at        | 49.95                  |

**NOTES:**

- \* Isolation specified to 0.004 MHz
- \*\* Insertion loss, Isolation specified to -20°C from 0.002 to 0.004 MHz
- ⊕ When only specification for M range given, specification applies to entire frequency range.
- ⊕ At low range frequency band ( $f_l$  to  $10 f_l$ ), linearly derate maximum input power by 13 dB.
- Denotes 75 Ohm model, for coax connector models 75 Ohm BNC connectors are standard.
- ▲ Available only with SMA connectors
- A. General Quality Control Procedures, Environmental Specifications, Hi-Rel and MIL description are given in "Mini-Circuits Guarantees Quality" article.
- B. For details on Connector types, case mounted options, case finishes see "Case styles & Outline Drawings".
- C. Prices and specifications subject to change without notice.
- 1. Absolute maximum power, voltage and current ratings:
  - 1a. Matched power rating:
    - Models ZAPD, ZN2PD, ZC2PD ..... 10 Watt
    - ZAPD-900-5W, ZN2PD-20 ..... 5W(as a splitter)
    - ZAPD-30 and other models ..... 1 Watt
  - 1b. Internal load dissipation:
    - ZAPD-900-5W ..... 1W max.
    - ZN2PD-20 ..... 0.725W max.
    - ZN2PD-9G, ZAPD-2-22-75 ..... 0.25W max.
    - All other models ..... 0.125 Watt

**coaxial connections**

see case style outline drawing for pin locations

| PORT     | ar | as | at |
|----------|----|----|----|
| SUM PORT | 3  | 5  | 2  |
| PORT 1   | 1  | 1  | 1  |
| PORT 2   | 2  | 2  | 3  |
| GND EXT. | —  | —  | —  |
| CASE GND | —  | —  | —  |
| NOT USED | —  | —  | —  |



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020320

# Coaxial



| MODEL NO.            | FREQ. RANGE MHz<br>$f_L$ - $f_U$ | ISOLATION dB        |                             |                | INSERTION LOSS, dB Above 3dB |                             |                | PHASE UNBAL. Degrees |                        |           | AMPLITUDE UNBAL. dB |                        |             | VSWR (:1)                                |                  | CASE STYLE<br>Note B | CONNECTOR | PRICE \$<br>Qty. (1-9) |       |
|----------------------|----------------------------------|---------------------|-----------------------------|----------------|------------------------------|-----------------------------|----------------|----------------------|------------------------|-----------|---------------------|------------------------|-------------|--|------------------|----------------------|-----------|------------------------|-------|
|                      |                                  | L<br>Typ. Min.      | M <sup>0</sup><br>Typ. Min. | U<br>Typ. Min. | L<br>Typ. Max.               | M <sup>0</sup><br>Typ. Max. | U<br>Typ. Max. | L<br>Max.            | M <sup>0</sup><br>Max. | U<br>Max. | L<br>Max.           | M <sup>0</sup><br>Max. | U<br>Max.   | S<br>Typ. Max.                           | OUT<br>Typ. Max. |                      |           |                        |       |
| ZC2PD-900            | 800-900                          |                     | 30                          | 20             |                              | 0.1                         | 0.4            |                      | 2                      |           | 0.20                | 1.10                   | 1.30        | 1.10                                     | 1.30             | F183                 | as        | 64.95                  |       |
| ZN2PD-20             | 750-2000                         | 18 <sup>L0</sup> 15 | 25                          | 20             | 18 <sup>U0</sup> 15          |                             | 0.2            | 0.5                  |                        | 4         |                     | 0.30                   | 1.16        | 1.5                                      | 1.10             | 1.35                 | VVV180    | as                     | 67.95 |
| ZN2PD-920            | 800-920                          |                     | 30                          | 20             |                              |                             | 0.15           | 0.4                  |                        | 2         |                     | 0.20                   | 1.10        | 1.20                                     | 1.04             | 1.20                 | VVV180    | as                     | 59.95 |
| ZN2PD-920W           | 700-1050                         |                     | 22                          | 15             |                              |                             | 0.15           | 0.5                  |                        | 3         |                     | 0.30                   | 1.20        | 1.50                                     | 1.04             | 1.20                 | VVV180    | as                     | 54.95 |
| ZN2PD-1900           | 1600-1900                        |                     | 30                          | 20             |                              |                             | 0.18           | 0.4                  |                        | 2         |                     | 0.20                   | 1.20        | 1.35                                     | 1.04             | 1.20                 | VVV180    | as                     | 69.95 |
| ZN2PD-1900W          | 1500-2000                        |                     | 24                          | 15             |                              |                             | 0.2            | 0.5                  |                        | 3         |                     | 0.30                   | 1.20        | 1.50                                     | 1.04             | 1.20                 | VVV180    | as                     | 64.95 |
| ZN2PD-9G             | 1700-9000                        |                     | 22                          | 15             |                              |                             | 0.5            | 1.4                  |                        | 4         |                     | 0.60                   |             |  |                  |                      | VVV180    | as                     | 69.95 |
| <b>NEW</b> ZN2PD2-50 | <b>500-5000</b>                  |                     | <b>25</b>                   | <b>15</b>      |                              |                             | <b>0.8</b>     | <b>1.4</b>           |                        | <b>4</b>  |                     | <b>0.5</b>             | <b>1.20</b> | <b>—</b>                                 | <b>1.10</b>      | <b>—</b>             | VVV845    | as                     | 74.95 |
|                      | 600-1600                         |                     | 24                          | 17             |                              |                             | 0.7            | 1.1                  |                        | 2         |                     | 0.3                    | 1.20        | —  | 1.10             | —                    |           |                        |       |
|                      | 1600-2700                        |                     | 26                          | 18             |                              |                             | 0.8            | 1.2                  |                        | 3         |                     | 0.3                    | 1.20        | —  | 1.10             | —                    |           |                        |       |
|                      | 2700-3600                        |                     | 28                          | 19             |                              |                             | 0.9            | 1.3                  |                        | 3         |                     | 0.4                    | 1.20        | —  | 1.10             | —                    |           |                        |       |
|                      | 3700-4800                        |                     | 22                          | 18             |                              |                             | 0.9            | 1.4                  |                        | 4         |                     | 0.5                    | 1.20        | —  | 1.10             | —                    |           |                        |       |
|                      | <b>GHz</b>                       |                     |                             |                |                              |                             |                |                      |                        |           |                     |                        |             |  |                  |                      |           |                        |       |
| IZY2PD-64            | 5.8-6.4                          |                     | 35                          | 24             |                              |                             | 0.2            | 0.5                  |                        | 5         |                     | 0.30                   | 1.05        | 1.30                                     | 1.20             | 1.35                 | JJJ245    | as                     | 89.95 |
| IZY2PD-86            | 7.0-8.6                          |                     | 30                          | 18             |                              |                             | 0.1            | 0.5                  |                        | 6         |                     | 0.25                   | 1.10        | 1.45                                     | 1.10             | 1.40                 | JJJ245    | as                     | 94.95 |
| ZAPD-1               | 0.5-1.0                          |                     | 25                          | 19             |                              |                             | 0.25           | 0.6                  |                        | 2         |                     | 0.20                   |             |  |                  |                      | F14       | as                     | 54.95 |
| ZAPD-2               | 1.0-2.0                          |                     | 25                          | 19             |                              |                             | 0.25           | 0.6                  |                        | 2         |                     | 0.20                   |             |  |                  |                      | F14       | as                     | 54.95 |
| ■ ZAPD-2-22-75       | 0.91-2.15                        |                     | 30                          | 20             |                              |                             | 0.2            | 0.7                  |                        | 2         |                     | 0.40                   | 1.15        | 1.60                                     | 1.10             | 1.30                 | F14       | as                     | 58.95 |
| ZAPD-20              | 0.7-2.0                          |                     | 30                          | 20             |                              |                             | 0.30           | 0.7                  |                        | 3         |                     | 0.40                   | 1.15        | 1.35                                     | 1.10             | 1.30                 | F53       | as                     | 59.95 |
| ZAPD-21              | 0.5-2.0                          |                     | 25                          | 18             |                              |                             | 0.25           | 1.0                  |                        | 3         |                     | 0.20                   |             |  |                  |                      | F53       | as                     | 59.95 |
| ▲ ZAPD-30            | 0.02-3.0                         | 14 12               | 16                          | 12             | 20 14                        | 1.1 1.5                     | 1.1            | 1.8                  | 1.4 2.3                | 3 5 9     | 0.30 0.40 0.80      | 1.50 1.95              | 1.55 2.10   | see Yoni for Performance Data and curves |                  |                      | F14       | as                     | 79.95 |
| ZAPD-4               | 2.0-4.2                          |                     | 25                          | 19             |                              |                             | 0.4            | 0.8                  |                        | 6         |                     | 0.40                   |             |  |                  |                      | F14       | as                     | 59.95 |
| ZAPD-50              | 4.4-5.0                          |                     | 26                          | 20             |                              |                             | 0.3            | 0.8                  |                        | 5         |                     | 0.50                   |             |  |                  |                      | F14       | as                     | 54.95 |
| ZAPD-50W             | 4.2-6.0                          |                     | 26                          | 16             |                              |                             | 0.3            | 0.8                  |                        | 5         |                     | 0.70                   |             |  |                  |                      | F14       | as                     | 64.95 |
| ZAPD-900-5W          | 0.1-0.9                          |                     | 23                          | 18             |                              |                             | 0.3            | 1.0                  |                        | 3         |                     | 0.30                   | 1.15        | 1.50                                     | 1.22             | 1.50                 | F14       | as                     | 59.95 |
| ZAPD-1750            | 0.95-1.75                        |                     | 30                          | 22             |                              |                             | 0.2            | 0.4                  |                        | 4         |                     | 0.50                   | 1.15        | 1.50                                     | 1.22             | 1.50                 | F14       | as                     | 54.95 |

L = low range [ $f_L$  to  $10 f_L$ ]  
 L<sup>1</sup> =  $f_L$  to 6 GHz  
 L<sup>0</sup> = 750 to 875 MHz

M = mid range [ $10 f_L$  to  $f_U/2$ ]  
 U<sup>1</sup> = 6 GHz to  $f_U$   
 U<sup>0</sup> = 1850 to 2000 MHz

U = upper range [ $f_U/2$  to  $f_U$ ]

### NSN GUIDE

| MCL NO.        | NSN              | MCL NO.        | NSN              | MCL NO.       | NSN              |
|----------------|------------------|----------------|------------------|---------------|------------------|
| ZAPD-1(TNC)    | 5985-01-250-4883 | ZFSC-2-2(SMA)  | 6625-01-333-1127 | ZSC-2-1(TNC)  | 6625-01-310-2129 |
| ZAPD-2 (BNC)   | 5895-01-476-0831 | ZFSC-2-2B      | 5895-01-330-4416 | ZSC-2-1       | 5895-01-214-6032 |
| ZAPD-2(SMA)    | 5895-01-229-7431 | ZFSC-2-4       | 6625-01-291-3346 | ZSC-2-1B      | 6625-01-018-1066 |
| ZAPD-4         | 6625-01-173-1887 | ZFSC-2-4(TNC)  | 5985-01-250-4882 | ZSC-2-1B(TNC) | 6625-01-109-3706 |
| ZAPD-4(SMA)    | 5985-01-383-0636 | ZFSC-2-5       | 6625-01-253-2444 | ZSC-2-1(BNC)  | 5895-01-036-6254 |
| ZESC-2-11      | 5985-01-381-9081 | ZFSC-2-6       | 6625-01-419-4241 | ZSC-2-1B(BNC) | 6625-00-270-3055 |
| ZFSC-2-1       | 6625-01-139-3499 | ZFSC-2-6(BNC)  | 5895-01-408-6857 | ZSC-2-1W      | 5895-01-283-0850 |
| ZFSC-2-1(SMA)  | 6625-01-213-6490 | ZFSC-2-6B      | 5985-01-315-2869 | ZSC-2-1WB     | 6625-01-264-8985 |
| ZFSC-2-1(BNC)  | 5985-01-176-4551 | ZFSC-2-10G     | 5895-01-467-5372 | ZSC-2-1-75B   | 5895-01-136-8182 |
| ZFSC-2-1-75    | 5895-01-325-4795 | ZFSC-2-11(SMA) | 6625-01-415-2183 | ZSC-2-2B      | 5820-01-136-7245 |
| ZFSC-2-1W(SMA) | 6625-01-200-5094 | ZMSC-2-1       | 5985-01-333-1128 | ZSC-2-2-75B   | 5915-01-012-8162 |
| ZFSC-2-1W      | 5895-01-348-3534 | ZMSC-2-1B      | 5895-01-253-2445 | ZSC-2375      | 5895-01-229-0157 |
| ZFSC-2-2B(SMA) | 6625-01-362-1801 | ZMSC-2-1BR     | 5985-01-338-9329 |               |                  |
|                |                  | ZMSC-2-1W      | 5895-01-127-0232 |               |                  |



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