

## Engineering Development Model

# Power Splitter/Combiner ZB8PD-ED10613C/1

### 8 Way-0°

#### Important Note

This model has been designed, built and tested in our engineering department. Performance data represents model capability. At present it is a non-catalog model. On request, we can supply a final specification sheet, part number and price/delivery information.

Please click "Back", and then click "Contact Us" for Applications support.



SMA version shown

CASE STYLE : Z41

| ELECTRICAL SPECIFICATIONS 50Ω @ +25°C     |           |      |      |       |
|-------------------------------------------|-----------|------|------|-------|
| Parameter                                 | Min.      | Typ. | Max. | Units |
| Frequency                                 | 6500      |      | 8800 | MHz   |
| Isolation 6500-8800 MHz                   |           | 31   |      | dB    |
| Insertion Loss Above 9.0 dB 6500-8800 MHz |           | 1.00 |      | dB    |
| Phase Unbalance 6500-8800 MHz             |           | 5.75 |      | deg.  |
| Amplitude Unbalance 6500-8800 MHz         |           | 0.45 |      | dB    |
| VSWR                                      | SUM Port  | 1.26 |      | (:1)  |
|                                           | OUT Ports | 1.22 |      | (:1)  |

| MAXIMUM RATINGS       |                |
|-----------------------|----------------|
| Operating Temperature | -55°C to 100°C |
| Storage Temperature   | -55°C to 100°C |

| COAXIAL CONNECTIONS |   |
|---------------------|---|
| SUM PORT            | S |
| PORT 1              | 1 |
| PORT 2              | 2 |
| PORT 3              | 3 |
| PORT 4              | 4 |
| PORT 5              | 5 |
| PORT 6              | 6 |
| PORT 7              | 7 |
| PORT 8              | 8 |

#### Functional Diagram



# 8 Way-0° Power Splitter/Combiner

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## 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   | S-6   | S-8   |                        | 1-2               | 1-8   | 3-4   | 6-8   |                           |                | S            | 1    | 8    |
| 6500.0         | 9.66                            | 9.76  | 9.68  | 9.79  | 10.08 | 9.93  | 0.42                   | 16.19             | 38.75 | 17.70 | 29.98 | 4.12                      | 6500.0         | 1.18         | 1.18 | 1.20 |
| 7000.0         | 9.86                            | 9.98  | 9.71  | 10.07 | 10.19 | 10.08 | 0.49                   | 18.69             | 39.24 | 20.27 | 29.95 | 6.04                      | 7000.0         | 1.48         | 1.29 | 1.38 |
| 7050.0         | 9.85                            | 9.96  | 9.68  | 10.03 | 10.17 | 10.03 | 0.49                   | 19.88             | 38.39 | 22.08 | 28.75 | 6.22                      | 7050.0         | 1.43         | 1.31 | 1.35 |
| 7100.0         | 9.82                            | 9.95  | 9.63  | 9.98  | 10.11 | 10.00 | 0.49                   | 21.31             | 37.94 | 24.20 | 27.88 | 5.94                      | 7100.0         | 1.38         | 1.30 | 1.32 |
| 7125.0         | 9.81                            | 9.94  | 9.62  | 9.96  | 10.11 | 9.98  | 0.49                   | 22.13             | 37.91 | 25.23 | 27.55 | 5.82                      | 7125.0         | 1.34         | 1.30 | 1.32 |
| 7150.0         | 9.81                            | 9.92  | 9.60  | 9.97  | 10.09 | 9.95  | 0.49                   | 23.06             | 37.97 | 26.11 | 27.31 | 5.69                      | 7150.0         | 1.31         | 1.30 | 1.30 |
| 7200.0         | 9.77                            | 9.92  | 9.58  | 9.93  | 10.06 | 9.93  | 0.49                   | 25.08             | 38.33 | 27.00 | 27.00 | 5.37                      | 7200.0         | 1.26         | 1.28 | 1.25 |
| 7280.0         | 9.76                            | 9.91  | 9.56  | 9.96  | 10.03 | 9.88  | 0.50                   | 28.70             | 39.19 | 26.82 | 27.06 | 5.18                      | 7280.0         | 1.18         | 1.25 | 1.20 |
| 7360.0         | 9.76                            | 9.90  | 9.53  | 10.02 | 9.99  | 9.84  | 0.49                   | 31.18             | 39.77 | 26.78 | 27.57 | 5.25                      | 7360.0         | 1.15         | 1.21 | 1.15 |
| 7440.0         | 9.77                            | 9.92  | 9.56  | 10.07 | 9.99  | 9.83  | 0.51                   | 31.57             | 39.84 | 27.32 | 28.41 | 5.50                      | 7440.0         | 1.15         | 1.16 | 1.11 |
| 7520.0         | 9.79                            | 9.95  | 9.60  | 10.10 | 10.02 | 9.82  | 0.50                   | 31.61             | 39.48 | 27.92 | 29.51 | 5.78                      | 7520.0         | 1.15         | 1.14 | 1.10 |
| 7600.0         | 9.82                            | 9.97  | 9.62  | 10.09 | 10.02 | 9.81  | 0.47                   | 32.15             | 38.89 | 27.92 | 30.74 | 6.11                      | 7600.0         | 1.15         | 1.12 | 1.09 |
| 7680.0         | 9.83                            | 9.97  | 9.64  | 10.02 | 9.99  | 9.81  | 0.41                   | 33.20             | 38.43 | 27.45 | 31.88 | 6.32                      | 7680.0         | 1.14         | 1.11 | 1.08 |
| 7760.0         | 9.83                            | 9.97  | 9.65  | 9.94  | 9.99  | 9.81  | 0.41                   | 34.83             | 38.38 | 27.17 | 32.88 | 6.44                      | 7760.0         | 1.16         | 1.12 | 1.08 |
| 7840.0         | 9.83                            | 9.95  | 9.67  | 9.89  | 10.03 | 9.82  | 0.41                   | 36.98             | 39.05 | 27.39 | 33.88 | 6.06                      | 7840.0         | 1.19         | 1.15 | 1.09 |
| 7920.0         | 9.84                            | 9.93  | 9.68  | 9.89  | 10.06 | 9.84  | 0.41                   | 37.49             | 40.44 | 27.74 | 34.82 | 5.46                      | 7920.0         | 1.23         | 1.18 | 1.13 |
| 8000.0         | 9.88                            | 9.94  | 9.69  | 9.95  | 10.08 | 9.87  | 0.43                   | 34.89             | 42.39 | 27.54 | 35.54 | 5.23                      | 8000.0         | 1.25         | 1.20 | 1.15 |
| 8080.0         | 9.93                            | 9.96  | 9.70  | 10.01 | 10.06 | 9.88  | 0.44                   | 32.06             | 44.99 | 26.62 | 36.13 | 5.22                      | 8080.0         | 1.26         | 1.24 | 1.19 |
| 8160.0         | 9.97                            | 9.98  | 9.75  | 10.05 | 10.07 | 9.88  | 0.36                   | 30.00             | 48.38 | 25.43 | 36.68 | 5.34                      | 8160.0         | 1.28         | 1.27 | 1.20 |
| 8240.0         | 10.01                           | 10.00 | 9.79  | 10.07 | 10.05 | 9.86  | 0.28                   | 28.53             | 53.91 | 24.39 | 37.22 | 5.46                      | 8240.0         | 1.30         | 1.28 | 1.22 |
| 8320.0         | 10.07                           | 10.01 | 9.80  | 10.10 | 10.01 | 9.85  | 0.30                   | 27.61             | 64.38 | 23.73 | 37.59 | 5.49                      | 8320.0         | 1.32         | 1.28 | 1.21 |
| 8400.0         | 10.10                           | 10.01 | 9.78  | 10.11 | 10.00 | 9.86  | 0.32                   | 27.28             | 54.24 | 23.48 | 37.49 | 6.01                      | 8400.0         | 1.33         | 1.28 | 1.21 |
| 8600.0         | 10.05                           | 9.97  | 9.77  | 10.06 | 10.11 | 10.02 | 0.36                   | 29.29             | 43.44 | 24.99 | 34.80 | 7.04                      | 8600.0         | 1.26         | 1.26 | 1.22 |
| 8800.0         | 10.19                           | 10.14 | 10.01 | 10.12 | 10.29 | 10.21 | 0.28                   | 27.38             | 39.43 | 25.63 | 29.52 | 7.01                      | 8800.0         | 1.40         | 1.32 | 1.27 |

<sup>1</sup>Total Loss = Insertion Loss + 9dB Splitter Loss



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IF/RF MICROWAVE COMPONENTS

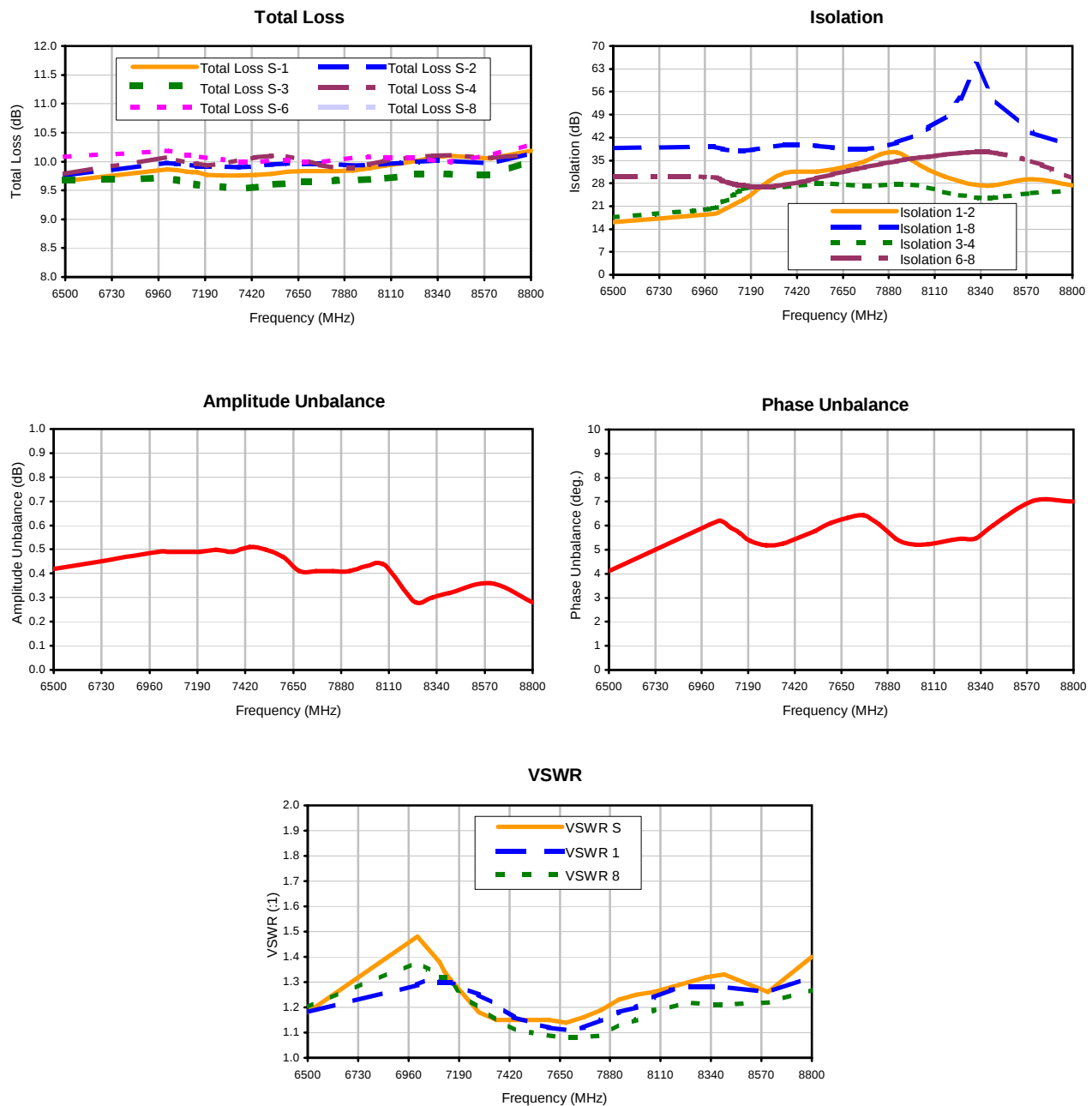
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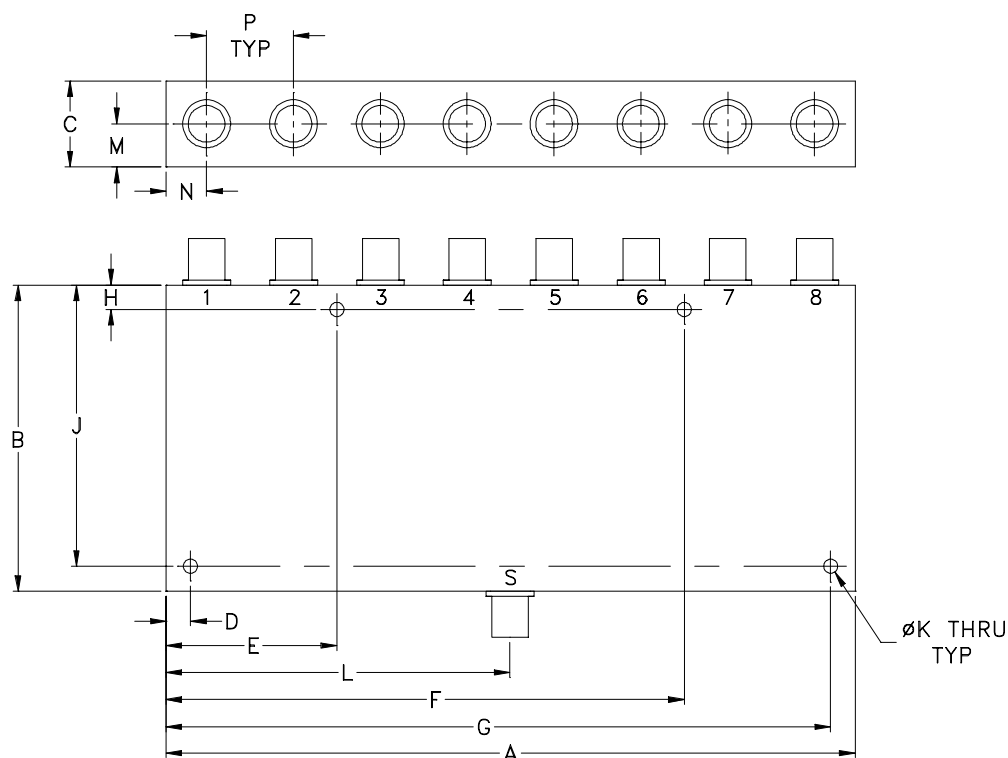
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## Typical Performance Curves



### Outline Dimensions



| CASE# | A                | B               | C              | D              | E                | F                 | G                 | H              | J                | K              | L               | M              | N               |
|-------|------------------|-----------------|----------------|----------------|------------------|-------------------|-------------------|----------------|------------------|----------------|-----------------|----------------|-----------------|
| Z41   | 7.06<br>(179.32) | 3.13<br>(79.50) | .88<br>(22.35) | .250<br>(6.35) | 1.750<br>(44.45) | 5.310<br>(134.87) | 6.810<br>(172.97) | .250<br>(6.35) | 2.875<br>(73.03) | .144<br>(3.66) | 3.53<br>(89.66) | .44<br>(11.18) | .415<br>(10.54) |

| CASE# | P              | WT.GRAMS |
|-------|----------------|----------|
| Z41   | .89<br>(22.61) | 800      |

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 |