

## Directional Coupler\*\*

## 6RZDC-ED12504/1

\*\*6 Couplers

### 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.

CASE STYLE : 99-01-1077

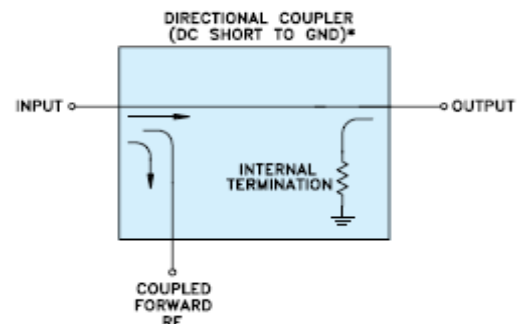
| ELECTRICAL SPECIFICATIONS 50Ω @ +25°C |              |      |        |      |       |
|---------------------------------------|--------------|------|--------|------|-------|
| Parameter                             |              | Min. | Typ.   | Max. | Units |
| Frequency                             |              | 700  |        | 2000 | MHz   |
| Coupling                              | Nominal      |      | 6.00   |      | dB    |
|                                       | Flatness     |      | ± 1.14 |      | dB    |
| Mainline Loss ***                     | 700-2000 MHz |      | 1.45   |      | dB    |
| Directivity                           | 700-2000 MHz |      | 25     |      | dB    |
| VSWR                                  | 700-2000 MHz |      | 1.22   |      | (:1)  |
| RF Power Input                        | 700-2000 MHz |      |        | 100  | mW    |

Note: \*\*\* Mainline loss includes theoretical coupled power loss of 1.256dB at 6dB coupling.

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

| COAXIAL CONNECTIONS |     |
|---------------------|-----|
| INPUT               | CDU |
| OUTPUT              | CXU |
| COUPLED FORWARD     | LMU |

### Electrical Schematic



\* ELECTRICAL SCHEMATIC IS FOR DIRECTIONAL COUPLER WITH INTERNAL TRANSFORMER(S) THAT ROUTES DC FROM RF PORTS TO GROUND.

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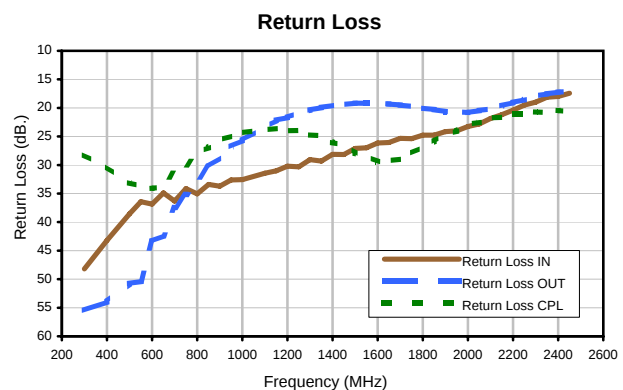
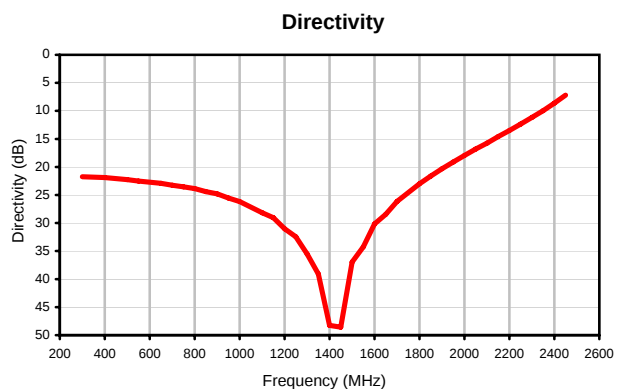
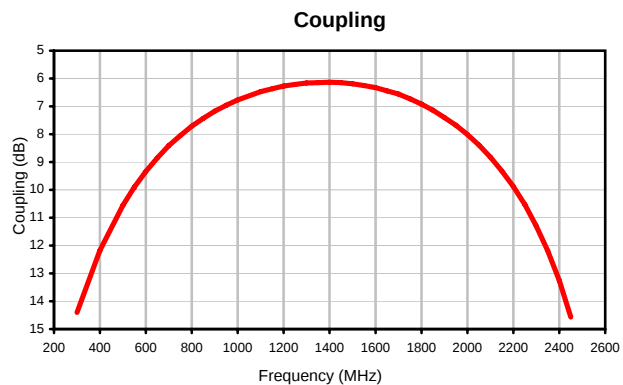
## Typical Performance Data

| FREQUENCY<br>(MHz) | INSERTION<br>LOSS<br>(dB) | COUPLING<br>(dB) | DIRECTIVITY<br>(dB) | RETURN LOSS |       |       |
|--------------------|---------------------------|------------------|---------------------|-------------|-------|-------|
|                    |                           |                  |                     | IN          | OUT   | CPL   |
| 300.0              | 0.19                      | 14.40            | 21.74               | 48.21       | 55.45 | 28.24 |
| 400.0              | 0.32                      | 12.17            | 21.90               | 43.22       | 53.95 | 30.29 |
| 500.0              | 0.46                      | 10.55            | 22.25               | 38.55       | 50.74 | 33.11 |
| 550.0              | 0.55                      | 9.90             | 22.51               | 36.44       | 50.40 | 33.71 |
| 600.0              | 0.62                      | 9.34             | 22.71               | 36.85       | 43.36 | 34.10 |
| 650.0              | 0.70                      | 8.85             | 22.92               | 34.88       | 42.38 | 33.88 |
| 700.0              | 0.78                      | 8.41             | 23.26               | 36.32       | 37.45 | 31.04 |
| 750.0              | 0.86                      | 8.05             | 23.54               | 34.12       | 35.16 | 30.03 |
| 800.0              | 0.93                      | 7.71             | 23.87               | 35.06       | 32.67 | 27.73 |
| 850.0              | 1.00                      | 7.43             | 24.40               | 33.40       | 30.27 | 26.93 |
| 900.0              | 1.07                      | 7.17             | 24.79               | 33.70       | 28.70 | 25.61 |
| 950.0              | 1.13                      | 6.96             | 25.54               | 32.61       | 26.75 | 24.95 |
| 1000.0             | 1.19                      | 6.77             | 26.18               | 32.55       | 25.67 | 24.36 |
| 1100.0             | 1.29                      | 6.47             | 28.17               | 31.44       | 23.40 | 23.83 |
| 1150.0             | 1.33                      | 6.37             | 29.05               | 31.01       | 22.16 | 23.63 |
| 1200.0             | 1.37                      | 6.27             | 31.02               | 30.22       | 21.66 | 23.98 |
| 1250.0             | 1.38                      | 6.21             | 32.44               | 30.32       | 20.82 | 23.96 |
| 1300.0             | 1.42                      | 6.16             | 35.54               | 29.06       | 20.38 | 24.73 |
| 1350.0             | 1.43                      | 6.15             | 39.09               | 29.31       | 19.92 | 24.88 |
| 1400.0             | 1.44                      | 6.13             | 48.25               | 28.12       | 19.55 | 26.07 |
| 1450.0             | 1.45                      | 6.15             | 48.58               | 28.17       | 19.41 | 26.52 |
| 1500.0             | 1.44                      | 6.19             | 36.97               | 27.09       | 19.16 | 27.94 |
| 1550.0             | 1.43                      | 6.25             | 34.24               | 26.99       | 19.20 | 28.45 |
| 1600.0             | 1.40                      | 6.33             | 30.17               | 26.13       | 19.20 | 29.41 |
| 1650.0             | 1.38                      | 6.44             | 28.44               | 26.05       | 19.31 | 29.23 |
| 1700.0             | 1.34                      | 6.56             | 26.14               | 25.34       | 19.51 | 28.97 |
| 1750.0             | 1.31                      | 6.73             | 24.56               | 25.38       | 19.75 | 27.94 |
| 1800.0             | 1.25                      | 6.92             | 23.00               | 24.76       | 20.07 | 26.85 |
| 1850.0             | 1.21                      | 7.14             | 21.63               | 24.78       | 20.29 | 25.84 |
| 1900.0             | 1.16                      | 7.40             | 20.33               | 24.14       | 20.65 | 24.62 |
| 1950.0             | 1.10                      | 7.68             | 19.13               | 24.01       | 20.64 | 24.05 |
| 2000.0             | 1.04                      | 8.01             | 17.96               | 23.26       | 20.82 | 22.85 |
| 2050.0             | 0.99                      | 8.39             | 16.81               | 22.80       | 20.45 | 22.54 |
| 2100.0             | 0.93                      | 8.82             | 15.75               | 21.86       | 20.16 | 21.73 |
| 2150.0             | 0.87                      | 9.32             | 14.58               | 21.17       | 19.62 | 21.67 |
| 2200.0             | 0.81                      | 9.88             | 13.51               | 20.40       | 19.04 | 21.13 |
| 2250.0             | 0.76                      | 10.53            | 12.35               | 19.50       | 18.54 | 21.12 |
| 2300.0             | 0.71                      | 11.30            | 11.17               | 19.00       | 17.89 | 20.71 |
| 2350.0             | 0.66                      | 12.19            | 9.96                | 18.14       | 17.55 | 20.81 |
| 2400.0             | 0.62                      | 13.25            | 8.62                | 18.00       | 17.23 | 20.43 |
| 2450.0             | 0.58                      | 14.57            | 7.20                | 17.44       | 17.12 | 20.64 |

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## Typical Performance Curves

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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          |
| 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 |