

## 19.5 dB Bi-Directional Couplers, 0.5 - 400 MHz

Rev. V4

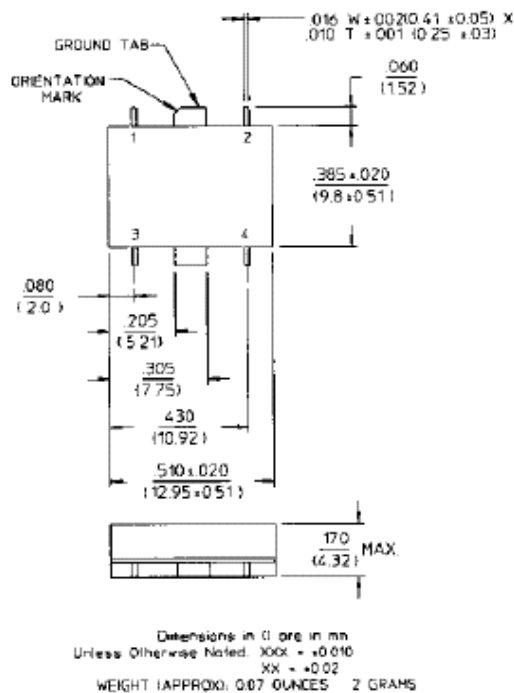
### Features

- Low Cost
- Convenient Plug-In Mounting
- Fully Hermetic Package (CHS-137)
- MIL-STD-202 Screening Available

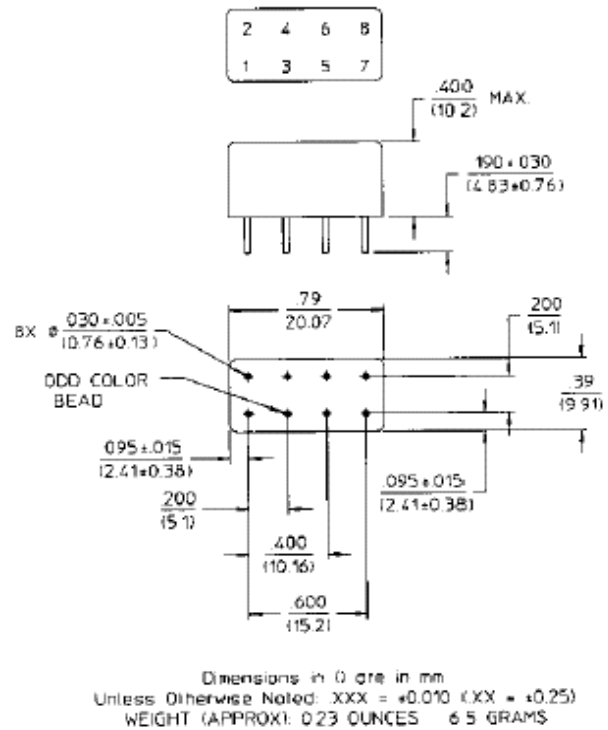
### Description

Bi-Directional Couplers offer the ability to couple the power in two directions while maintaining directivity.

### SF-1 (CHS-137)



### RH-1 (CH-137)



### Pin Configuration (CH-137)

| Pin No. | Function | Pin No. | Function |
|---------|----------|---------|----------|
| 1       |          | 5       | GND      |
| 2       | GND      | 6       |          |
| 3       |          | 7       | GND      |
| 4       |          | 8       | GND      |

### Pin Configuration (CHS-137)

| Pin No. | Function | Pin No. | Function |
|---------|----------|---------|----------|
| 1       | C        | 3       | A        |
| 2       | B        | 4       | D        |

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### Electrical Specifications<sup>1</sup>: $T_A = -55^{\circ}\text{C}$ to $+85^{\circ}\text{C}$

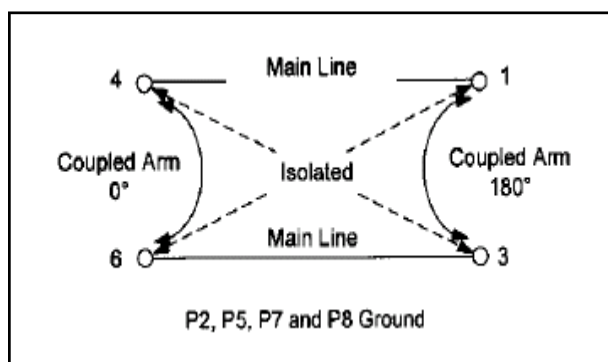
| Parameter                   | Test Conditions | Frequency     | Units | Min  | Typ  | Max   |
|-----------------------------|-----------------|---------------|-------|------|------|-------|
| Coupling                    | Input to Output | 0.5 - 200 MHz | dB    | 19.0 | 19.5 | 20.0  |
|                             |                 | 200 - 400 MHz | dB    | 19.0 | 20.0 | 21.0  |
| VSWR                        | All Ports       | 5 - 200 MHz   | Ratio | —    | —    | 1.2:1 |
|                             |                 | 0.5 - 400 MHz | Ratio | —    | —    | 1.5:1 |
| Directivity                 | Both Directions | 0.5 - 50 MHz  | dB    | 30   | —    | —     |
|                             |                 | 50 - 200 MHz  | dB    | 20   | —    | —     |
|                             |                 | 200 - 400 MHz | dB    | 15   | —    | —     |
|                             |                 |               |       |      |      |       |
| Main Line Loss <sup>2</sup> | —               | 0.5 - 50 MHz  | dB    | —    | —    | 0.5   |
|                             |                 | 50 - 200 MHz  | dB    | —    | —    | 0.4   |
|                             |                 | 200 - 400 MHz | dB    | —    | —    | 0.6   |
| Input Power                 | —               | —             | Watt  | —    | —    | 3.0   |

1. All specifications apply with 50 ohm source and load impedance.

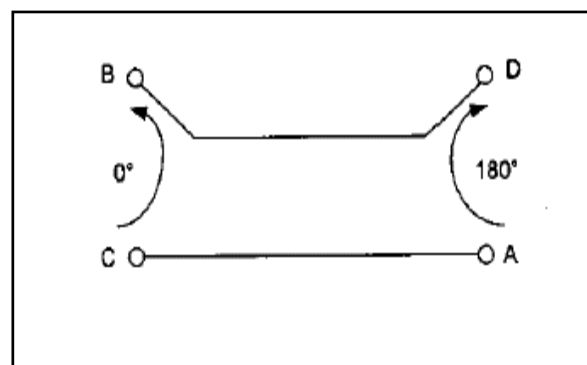
2. Includes theoretical power split.

This product contains elements protected by United States Patent number 3,426,298.

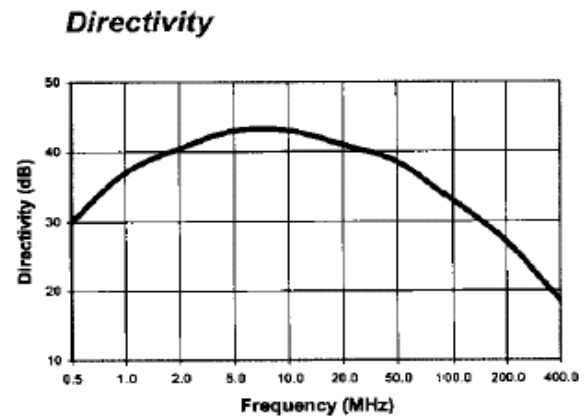
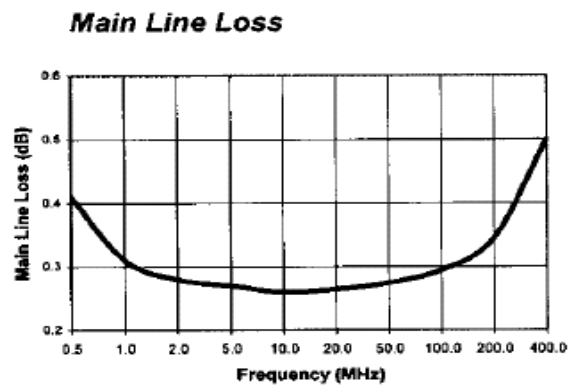
### Functional Diagram (CH-137)



### Functional Diagram (CHS-137)



## Typical Performance Curves



## Ordering Information

| Part Number | Package |
|-------------|---------|
| CH-137 PIN  | RH-1    |
| CHS-137 PIN | SF-1    |

