

4 Way 0° Power divider  
5-1000MHz

MAPDCT0028  
V2P

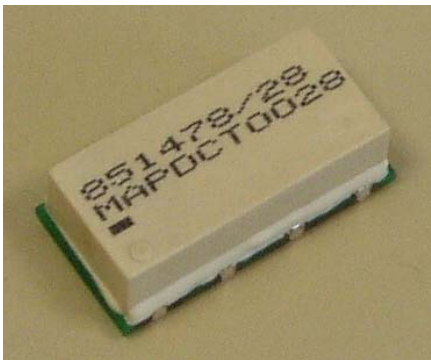
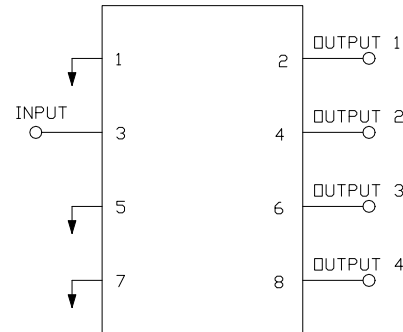
## Features

- Surface Mount
- 4 Way 0 degree
- 260°C Reflow Compatible
- RoHS\* Compliant
- RoHS version of ESJ-4-2-75
- Available on Tape and Reel. Reel quantity 300

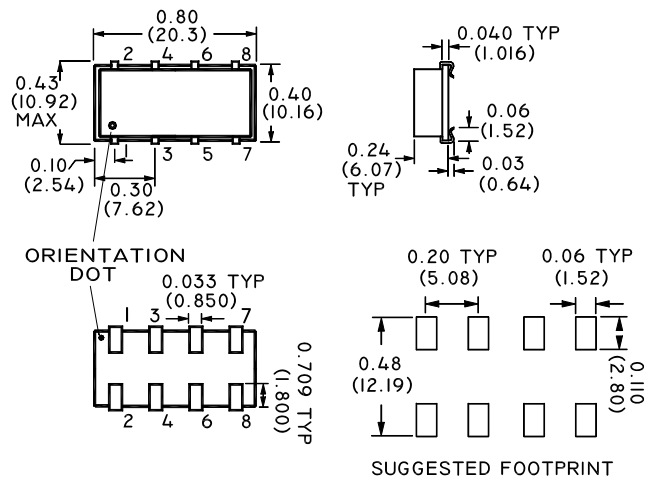
## Description

M/A-COM's MAPDCT0028 is a 4 way, high performance 0 degree, RF power divider in a low cost, surface mount package. Ideally suited for high volume CATV/Broadband applications.

## Functional Block Diagram



## Case Style: SM-46



## Pin Configuration

| Pin No. | Function |
|---------|----------|
| 1       | Ground   |
| 2       | Output 1 |
| 3       | Input    |
| 4       | Output 2 |
| 5       | Ground   |
| 6       | Output 3 |
| 7       | Ground   |
| 8       | Output 4 |

Dimensions in inches [mm].  
Tolerance where not specified: .xx ± .02, .xxx ± .010

## Ordering Information

| Part Number  | Package        |
|--------------|----------------|
| MAPDCT0028TR | 300 piece reel |

Note: Reference Application Note **M513** for reel size information.

\* Restrictions on Hazardous Substances, European Union Directive 2002/95/EC.

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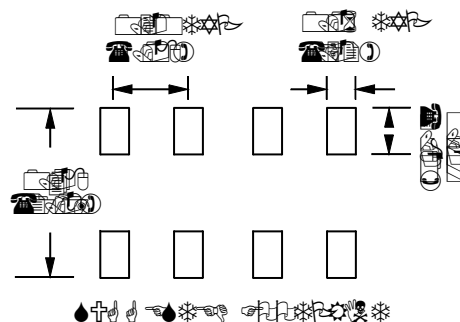
## Electrical Specifications: $T_A = 25^\circ\text{C}$ , $Z_0 = 75\Omega$ <sup>1</sup>

| Parameter                                       | Test Conditions | Frequency      | Units | Min | Typ | Max       |
|-------------------------------------------------|-----------------|----------------|-------|-----|-----|-----------|
| Insertion Loss                                  | -               | 5 - 80 MHz     | dB    | -   | 0.6 | 0.7       |
|                                                 |                 | 80 - 870 MHz   | dB    | -   | 0.7 | 1.2       |
|                                                 |                 | 870 - 1000 MHz | dB    | -   | 1.1 | 1.4       |
| Isolation (between outputs 1&2 and outputs 3&4) | -               | 5-10 MHz       | dB    | 17  | 25  | -         |
| Isolation (between all outputs)                 | -               | 5 - 800 MHz    | dB    | 20  | 40  | -         |
|                                                 |                 | 800 - 1000 MHz | dB    | 18  | 21  | -         |
| Amplitude Unbalance (Nominal 0dB)               | -               | 5 - 80 MHz     | dB    | -   | 0.0 | $\pm 0.1$ |
|                                                 |                 | 80 - 1000 MHz  | dB    | -   | 0.3 | $\pm 0.5$ |
| Phase Unbalance (Nominal 0°)                    | -               | 5 - 80 MHz     | °     | -   | 0.1 | $\pm 1.0$ |
|                                                 |                 | 80 - 500 MHz   | °     | -   | 0.5 | $\pm 3.0$ |
|                                                 |                 | 500 - 870 MHz  | °     | -   | 1.0 | $\pm 6.0$ |
|                                                 |                 | 870 - 1000 MHz | °     | -   | 1.0 | $\pm 8.0$ |
| Return Loss: Input                              | -               | 5 - 80 MHz     | dB    | 21  | 25  | -         |
|                                                 |                 | 80 - 870 MHz   | dB    | 17  | 21  | -         |
|                                                 |                 | 870 - 1000 MHz | dB    | 15  | 17  | -         |
| Return Loss: Output                             | -               | 5 - 10 MHz     | dB    | 13  | 18  | -         |
|                                                 |                 | 10 - 1000 MHz  | dB    | 16  | 19  | -         |

## Absolute Maximum Ratings <sup>1,2</sup>

| Parameter             | Absolute Maximum |
|-----------------------|------------------|
| Max Input Power       | 1W               |
| DC current            | 240mA            |
| Operating Temperature | -40°C to +85°C   |
| Storage Temperature   | -55°C to +100°C  |

## Recommended PCB Configuration



- Exceeding any one or combination of these limits may cause permanent damage to this device.
- M/A-COM does not recommend sustained operation near these survivability limits.

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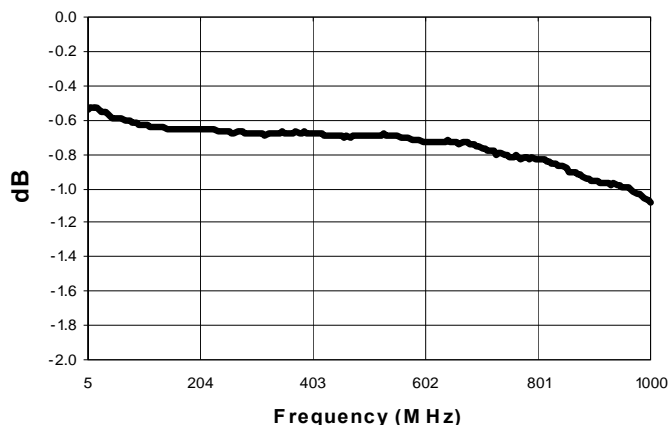
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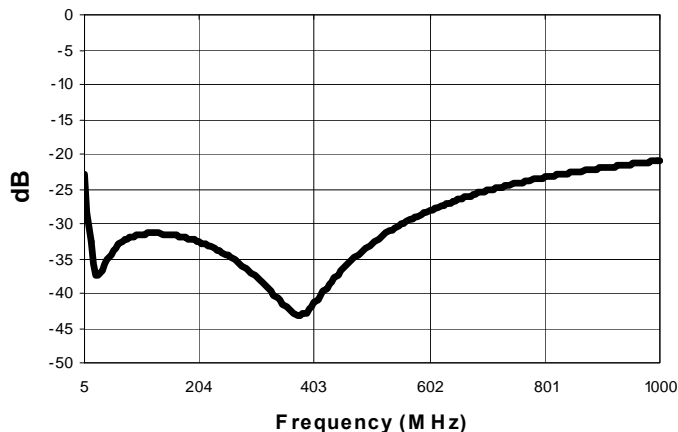
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Typical Performance Curves  $T_A = 25^\circ\text{C}$ ,  $Z_0 = 75\Omega$

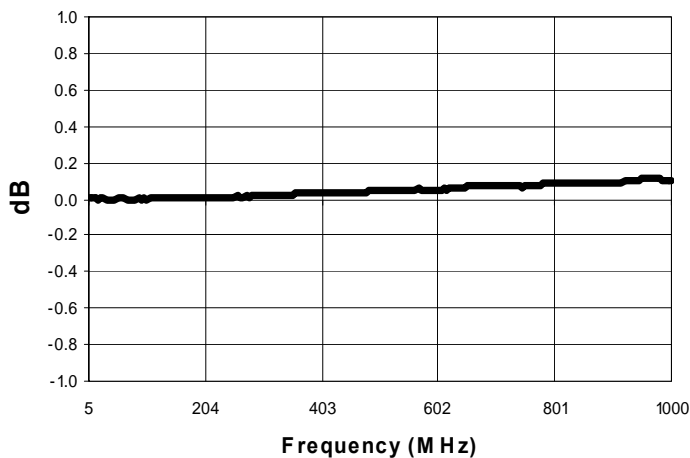
Insertion Loss



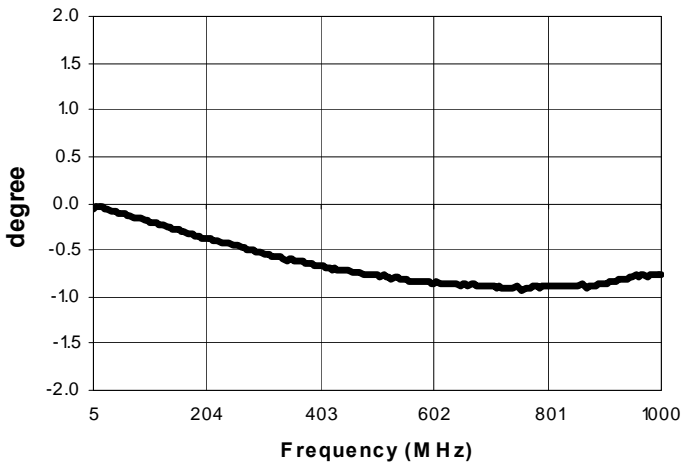
Isolation



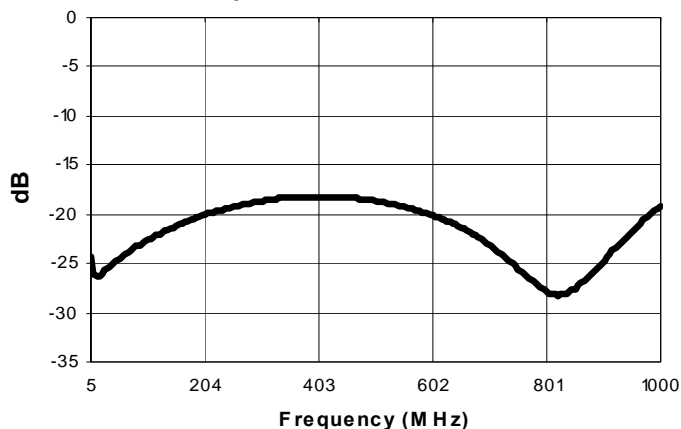
Amplitude Unbalance



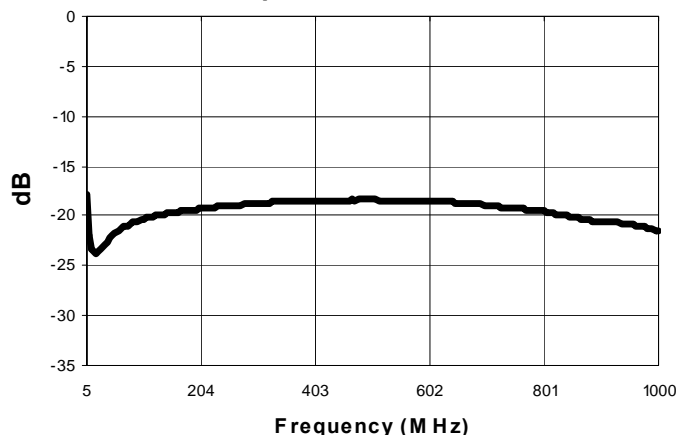
Phase Unbalance



Return Loss: Input



Return Loss: Output



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