

## Low Cost Six-Way Power Splitter/Combiner 1700 – 2000 MHz

Rev. V2

### Features

- Small Size, Low Profile
- Superior Repeatability
- Insertion Loss: 1.1 dB Typical
- Isolation: 22 dB Typical
- Low Cost
- Lead-Free SOW-16 Package
- 100% Matte Tin Plating over Copper
- Halogen-Free “Green” Mold Compound
- 260°C Reflow Compatible
- RoHS\* Compliant Version of DS56-0002

### Description

M/A-COM's MAPDCC0018 is an IC-based monolithic power divider in a low cost SOW-16 lead free plastic package. This 6-way power divider is ideally suited for applications where small size, low profile and low cost, without sacrificing performance, are required. Typical applications include base stations, portables, and PCMCIA cards for wireless standards such as DCS-1800, PCN, PCS, DECT, and PHS. Available in Tape and Reel.

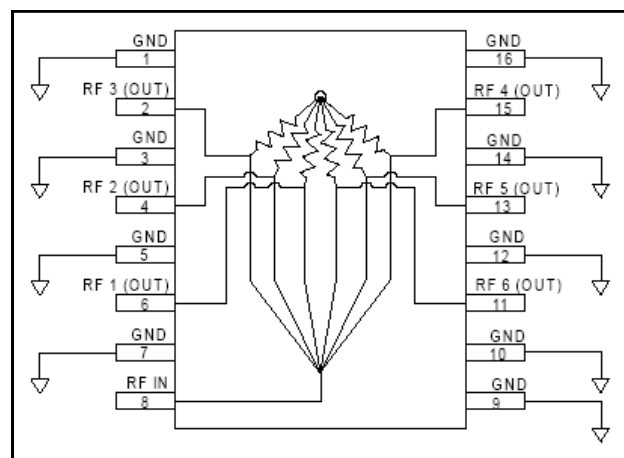
The MAPDCC0018 is fabricated using a passive-integrated circuit process. The process features full-chip passivation for increased performance and reliability.

### Ordering Information

| Part Number   | Package           |
|---------------|-------------------|
| MAPDCC0018    | Bulk Packaging    |
| MAPDCC0018-TR | 1000 piece reel   |
| MAPDCC0018-TB | Sample Test Board |

Note: Reference Application Note M513 for reel size information.

### Functional Block Diagram<sup>1</sup>



1. Pins 1, 3, 5, 7, 9, 10, 12, 14 and 16 must be DC and RF grounded.

### Pin Configuration

| Pin No. | Function   | Pin No. | Function   |
|---------|------------|---------|------------|
| 1       | GND        | 9       | GND        |
| 2       | RF 3 (OUT) | 10      | GND        |
| 3       | GND        | 11      | RF 6 (OUT) |
| 4       | RF 2 (OUT) | 12      | GND        |
| 5       | GND        | 13      | RF 5 (OUT) |
| 6       | RF 1 (OUT) | 14      | GND        |
| 7       | GND        | 15      | RF 4 (OUT) |
| 8       | RF IN      | 16      | GND        |

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Electrical Specifications:  $T_A = 25^\circ\text{C}$ ,  $Z_0 = 50\Omega$

| Parameter                   | Units | Min | Typ   | Max   |
|-----------------------------|-------|-----|-------|-------|
| Insertion Loss above 7.8 dB | dB    | —   | 1.2   | 1.5   |
| Isolation                   | dB    | 18  | 22    | —     |
| VSWR                        | —     | —   | 1.4:1 | 1.8:1 |
| Amplitude Balance           | dB    | —   | 0.5   | 1.0   |
| Phase Balance               | Deg.  | —   | 8     | 15    |

### Absolute Maximum Ratings<sup>2,3</sup>

| Parameter                | Absolute Maximum |
|--------------------------|------------------|
| Input Power <sup>4</sup> | 1 W CW           |
| Operating Temperature    | -40°C to +85°C   |
| Storage Temperature      | -65°C to +150°C  |

- 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.
- With internal load dissipation of 0.125 W maximum.

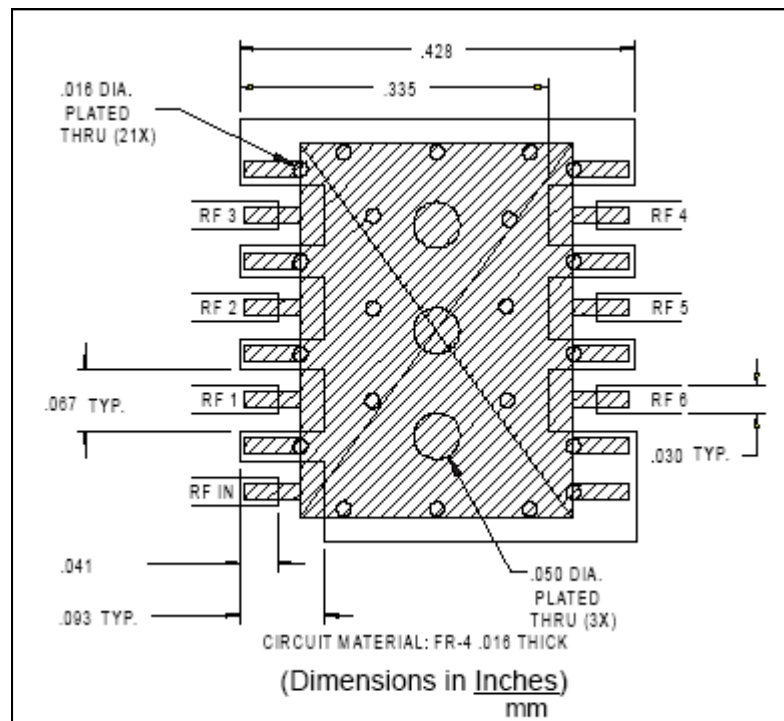
### Handling Procedures

Please observe the following precautions to avoid damage:

### Static Sensitivity

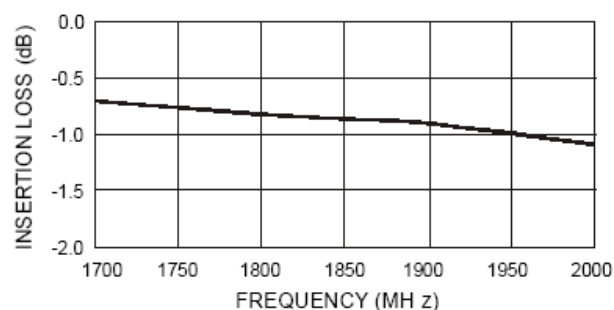
GMIC Circuits are sensitive to electrostatic discharge (ESD) and can be damaged by static electricity. Proper ESD control techniques should be used when handling these devices.

### Recommended PCB Configuration

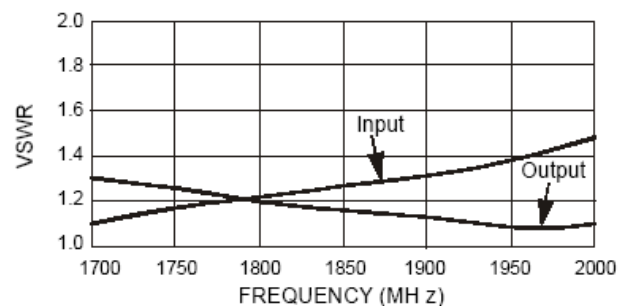


### Typical Performance Curves

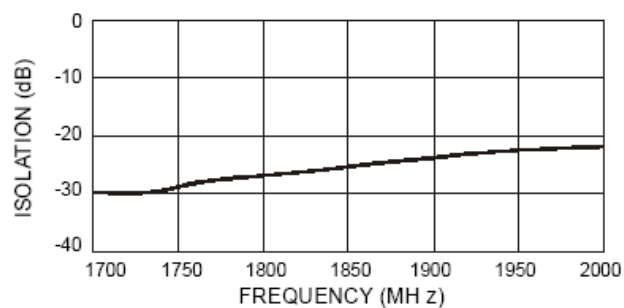
*Insertion Loss vs. Frequency*



*VSWR vs. Frequency*



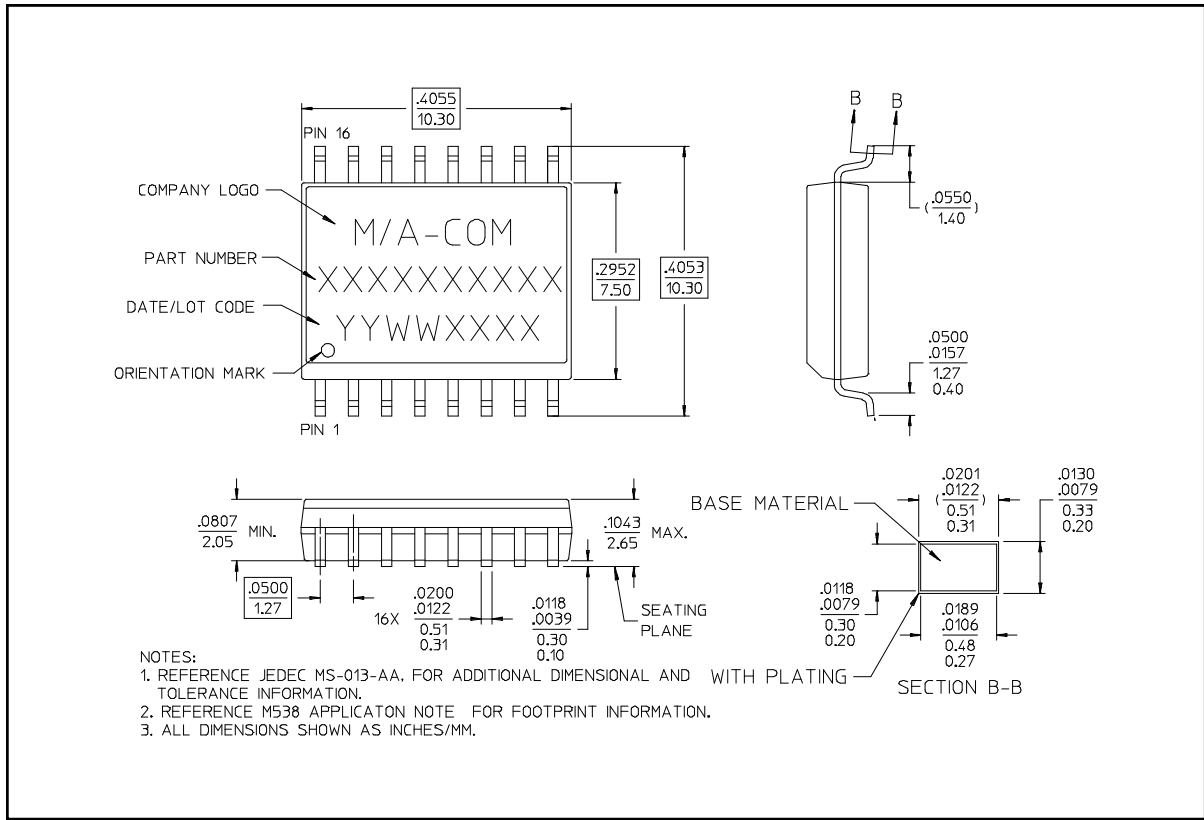
*Isolation vs. Frequency*



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### Lead-Free, SOW-16<sup>†</sup>



<sup>†</sup> Reference Application Note M538 for lead-free solder reflow recommendations.

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