

## 2 Way 0° Power Divider 5 - 2150 MHz

Rev. V5

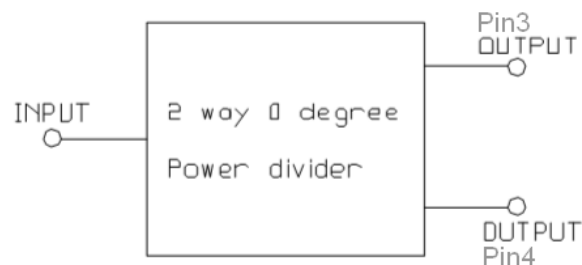
### Features

- 2 way 0 Degree
- Surface Mount
- Available on Tape and Reel
- 260°C Reflow Compatible
- RoHS\* Compliant and Pb free

### Description

The MAPD-011007 is a 2 way 0 degree power divider in a surface mount package. Ideally suited for all CATV Broadband and FTTx applications.

### Functional Schematic



### Pin Configuration<sup>3</sup>

| Pin No. | Function                  |
|---------|---------------------------|
| 1       | Ground                    |
| 2       | External 0.5 pF Capacitor |
| 3       | Output 2                  |
| 4       | Output 1                  |
| 5       | External 0.5 pF Capacitor |
| 6       | Input                     |

3. MACOM recommends connecting unused package pins to ground.

### Ordering Information<sup>1,2</sup>

| Part Number    | Package      |
|----------------|--------------|
| MAPD-011007    | bulk         |
| MAPD-011007-TB | Sample Board |

1. Reference Application Note M513 for reel size information.  
2. All sample boards include 5 loose parts.

### Absolute Maximum Ratings<sup>4,5</sup>

| Parameter                   | Absolute Maximum |
|-----------------------------|------------------|
| Input RF Power <sup>6</sup> | 0.5 W            |
| DC Current                  | 500 mA           |
| Operating Temperature       | -40°C to +85°C   |

4. Exceeding any one or combination of these limits may cause permanent damage to this device.  
5. MACOM does not recommend sustained operation near these survivability limits.  
6. Specified at +25°C only.

\* Restrictions on Hazardous Substances, compliant to current RoHS EU directive.

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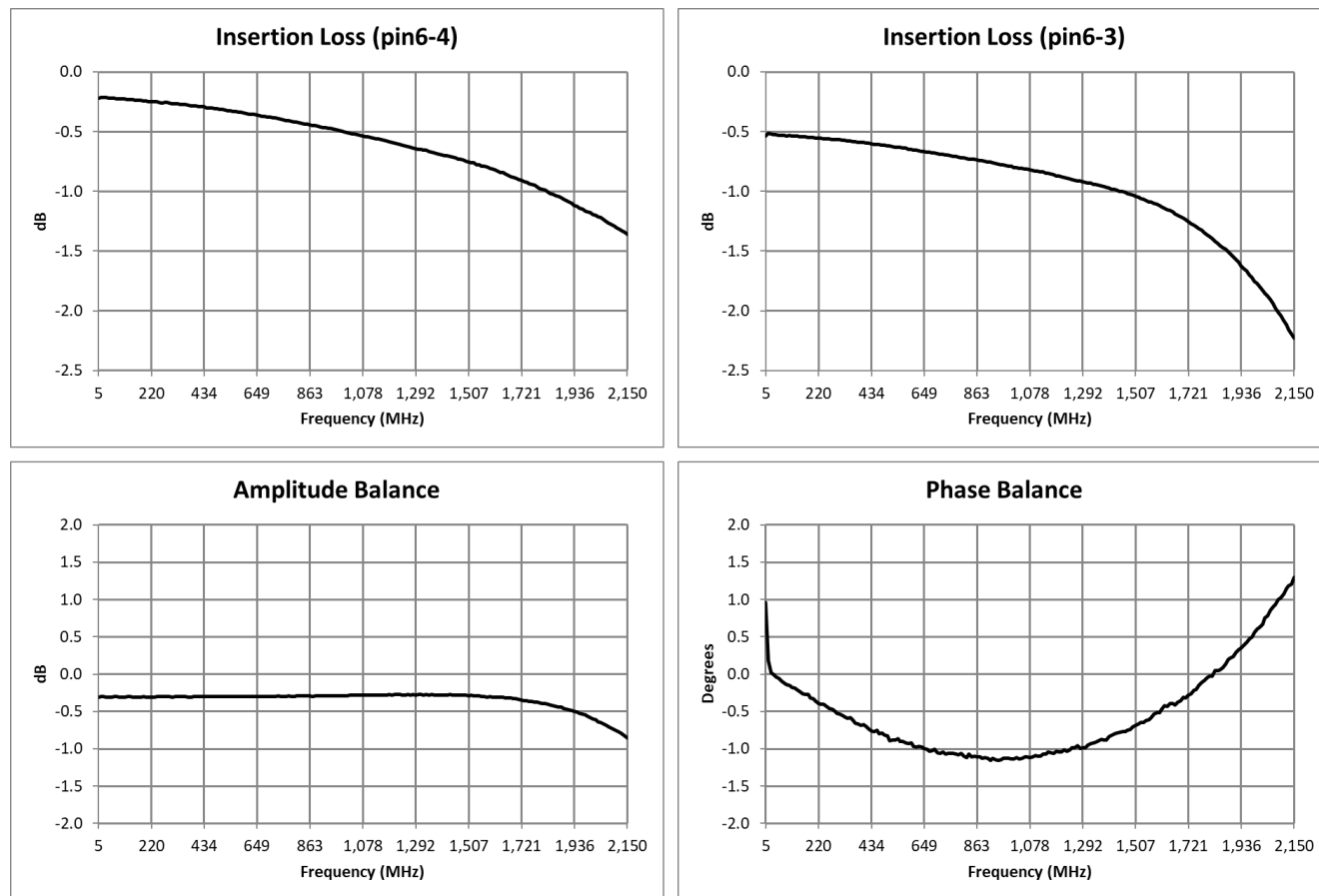
**Electrical Specifications: Freq. = 5 - 3250 MHz,  $T_A = 25^\circ\text{C}$ ,  $Z_0 = 75\ \Omega$ ,  $P_{IN} = 0\ \text{dBm}$**

| Parameter                         | Conditions                                                                                        | Units    | Min.                             | Typ.                             | Max.                     |
|-----------------------------------|---------------------------------------------------------------------------------------------------|----------|----------------------------------|----------------------------------|--------------------------|
| Impedance                         | —                                                                                                 | $\Omega$ | —                                | 75                               | —                        |
| Power Split                       | —                                                                                                 | dB       | —                                | 3                                | —                        |
| Insertion Loss<br>(pin 6 - pin 4) | 5 - 1002 MHz<br>1003 - 1218 MHz<br>1218 - 1600 MHz<br>1600 - 2150 MHz                             | dB       | —                                | 0.3<br>0.5<br>0.6<br>1.0         | 0.7<br>1.0<br>1.2<br>2.0 |
| Insertion Loss<br>(pin 6 - pin 3) | 5 - 1002 MHz<br>1003 - 1218 MHz<br>1218 - 1600 MHz<br>1600 - 2150 MHz                             | dB       | —                                | 0.6<br>0.8<br>1.0<br>1.5         | 1.0<br>1.2<br>1.6<br>3.2 |
| Amplitude Balance                 | 5 - 1002 MHz<br>1003 - 1218 MHz<br>1218 - 1600 MHz<br>1600 - 2150 MHz                             | dB       | —                                | 0.3<br>0.3<br>0.3<br>0.5         | 0.5<br>0.5<br>0.5<br>1.5 |
| Phase Balance                     | 5 - 1002 MHz<br>1003 - 1600 MHz<br>1600 - 2150 MHz                                                | degree   | —                                | 0.8<br>1.0<br>0.2                | 4.0<br>6.0<br>7.0        |
| Input Return Loss (pin 6)         | 5 - 1002 MHz<br>1003 - 1600 MHz<br>1600 - 2150 MHz                                                | dB       | 20<br>14<br>11                   | 39<br>22<br>18                   | —                        |
| Output Return Loss (pin 3)        | 5 - 1002 MHz<br>1003 - 1600 MHz<br>1600 - 2150 MHz                                                | dB       | 17<br>13<br>9                    | 28<br>18<br>14                   | —                        |
| Output Return Loss (pin 4)        | 5 - 1002 MHz<br>1003 - 1600 MHz<br>1600 - 2150 MHz                                                | dB       | 20<br>15<br>12                   | 40<br>22<br>18                   | —                        |
| Isolation (pin 4 - pin 3)         | 5 - 10 MHz<br>10 - 65 MHz<br>66 - 870 MHz<br>871 - 1002 MHz<br>1003 - 1600 MHz<br>1600 - 2150 MHz | dB       | 24<br>30<br>26<br>24<br>22<br>15 | 30<br>42<br>34<br>31<br>31<br>24 | —                        |

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Typical Performance Curves:<sup>7</sup>  $P_{IN} = 0 \text{ dBm}$ ,  $T_A = 25^\circ\text{C}$ ,  $Z_0 = 75 \Omega$

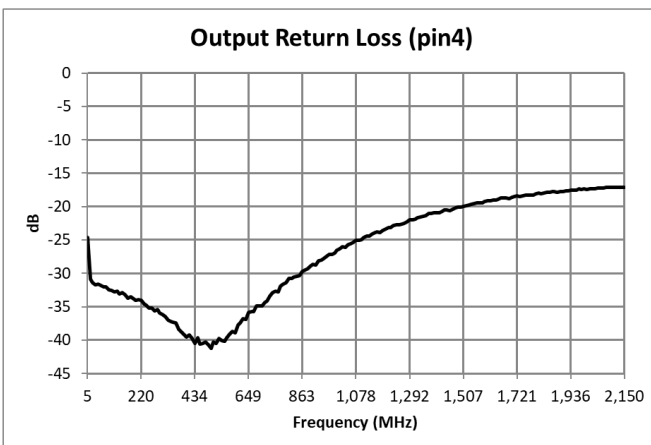
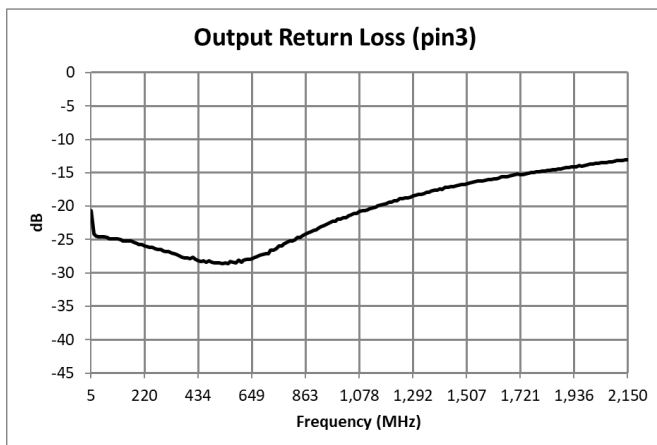
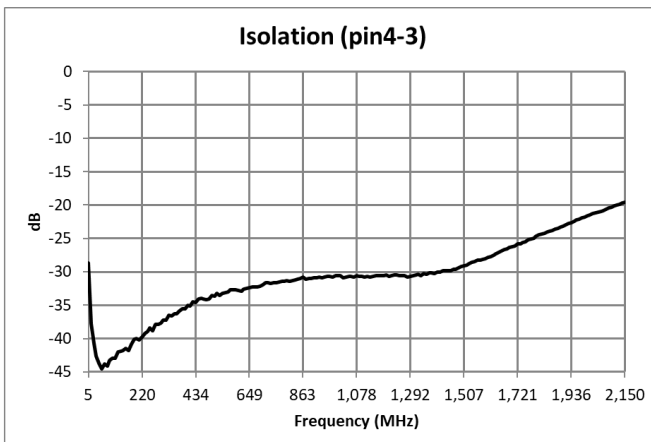
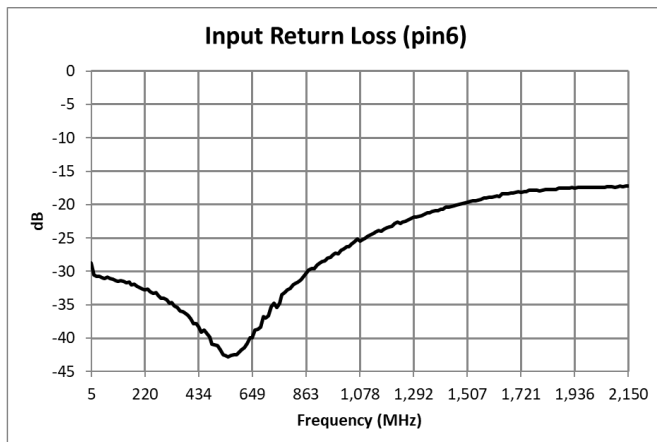


7. Temperature plots available on request

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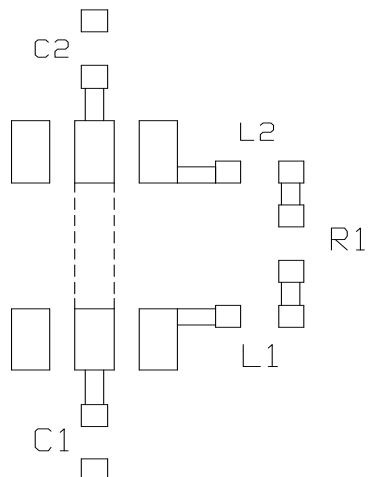


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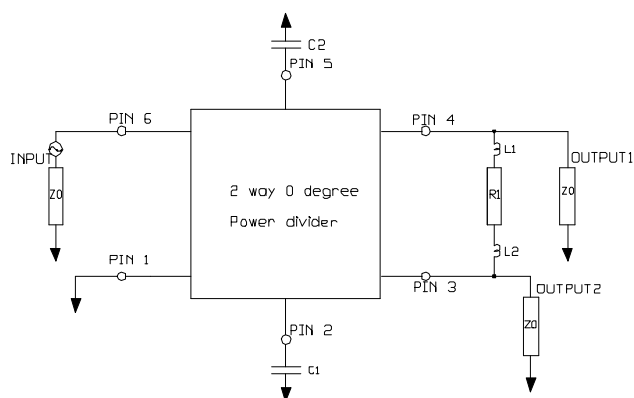
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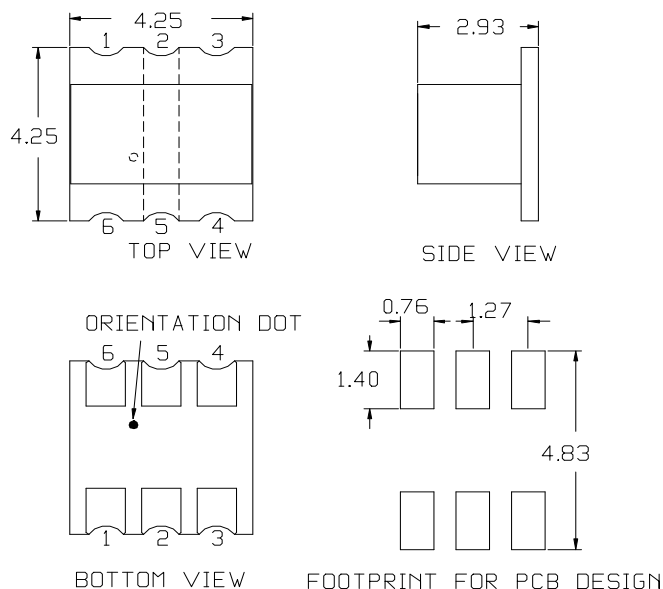
### Recommended PCB Footprint



### Application Schematic

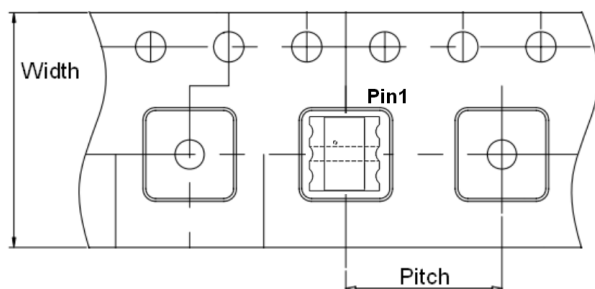


### Outline Drawing<sup>8,9,10,11</sup>



8. Dimensions in mm.
9. Tolerance:  $\pm 0.2$  mm unless otherwise noted.
10. Model number and lot code printed on reel.
11. Plating finish: ENIG on both sides, 0.05 to 0.1  $\mu$ m gold over 3 to 6  $\mu$ m nickel

### Carrier Tape Orientation



### Tape & Reel Information

| Parameter                                          | Units | Value |
|----------------------------------------------------|-------|-------|
| Qty per reel                                       | -     | 2000  |
| Reel Size                                          | mm    | 330   |
| Tape Width                                         | mm    | 12.0  |
| Pitch                                              | mm    | 8.0   |
| Orientation                                        | -     | F18   |
| Reference Application Note ANI-019 for orientation |       |       |

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