

## 2 Way 0° Power Divider 5 - 1225 MHz

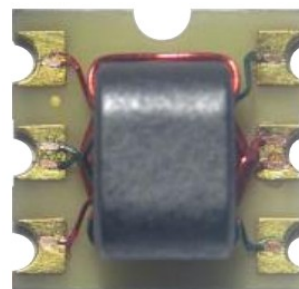
Rev. V3

### Features

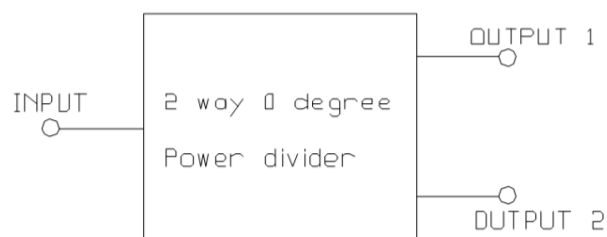
- 2 Way 0 Degree
- Surface mount
- Available on tape and reel
- 260° reflow compatible
- RoHS compliant and Pb free
- Excellent temperature stability
- Suitable for all CATV, Broadband and FTTX applications

### Description

The MAPD-011040 is a 2 way 0 degree power divider in a low cost surface mount package. Ideally suited for high volume CATV/VSAT applications.



### Functional Schematic



### Ordering Information

| Part Number    | Package             |
|----------------|---------------------|
| MAPD-011040    | Tape & Reel         |
| MAPD-011040-TB | Customer Test Board |

### Pin Configuration

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

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**Electrical Specifications:**  $T_A = 25^\circ\text{C}$ ,  $Z_0 = 75\ \Omega$ ,  $P_{in} = 0\ \text{dBm}$

| Parameter                                        | Conditions                      | Units    | Min.         | Typ.         | Max.       |
|--------------------------------------------------|---------------------------------|----------|--------------|--------------|------------|
| Impedance                                        | —                               | $\Omega$ | —            | 75           | —          |
| Power Split                                      | —                               | dB       | —            | 3            | —          |
| Insertion Loss 1 (Above 3 dB)<br>(pin 6 - pin 3) | 5 - 1000 MHz<br>1000 - 1225 MHz | dB       | —            | 1.1<br>1.6   | 1.4<br>1.9 |
| Insertion Loss 1 (Above 3 dB)<br>(pin 6 - pin 4) | 5 - 1000 MHz<br>1000 - 1225 MHz | dB       | —            | 1.4<br>1.9   | 1.5<br>2.1 |
| Amplitude Balance                                | 5 - 1000 MHz<br>1000 - 1225 MHz | dB       | -0.6<br>-0.6 | 0.35<br>0.35 | 0.6<br>0.6 |
| Phase Balance                                    | 5 - 1000 MHz<br>1000 - 1225 MHz | °        | -6.0<br>-7.0 | 5.0<br>6.0   | 6.0<br>7.0 |
| Input Return Loss<br>(pin 6)                     | 5 - 1000 MHz<br>1000 - 1225 MHz | dB       | 12<br>10     | 14<br>12     | —          |
| Output Return Loss 1<br>(pin 3)                  | 5 - 1000 MHz<br>1000 - 1225 MHz | dB       | 13<br>11     | 15<br>13     | —          |
| Output Return Loss 2<br>(pin 4)                  | 5 - 1000 MHz<br>1000 - 1225 MHz | dB       | 16<br>13     | 18<br>15     | —          |
| Isolation (between outputs)<br>(pin 3 - pin 4)   | 5 - 1000 MHz<br>1000 - 1225 MHz | dB       | 17<br>15     | 19<br>17     | —          |

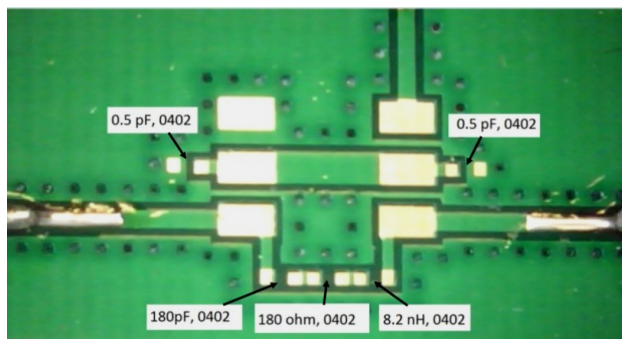
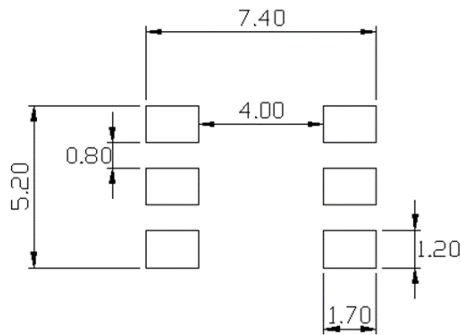
## Recommended Maximum Ratings

| Parameter                 | Absolute Maximum |
|---------------------------|------------------|
| Input Power               | 1 W              |
| Internal Load Dissipation | 0.125 W          |
| Operating Temperature     | -40°C to +85°C   |

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### PCB Layout

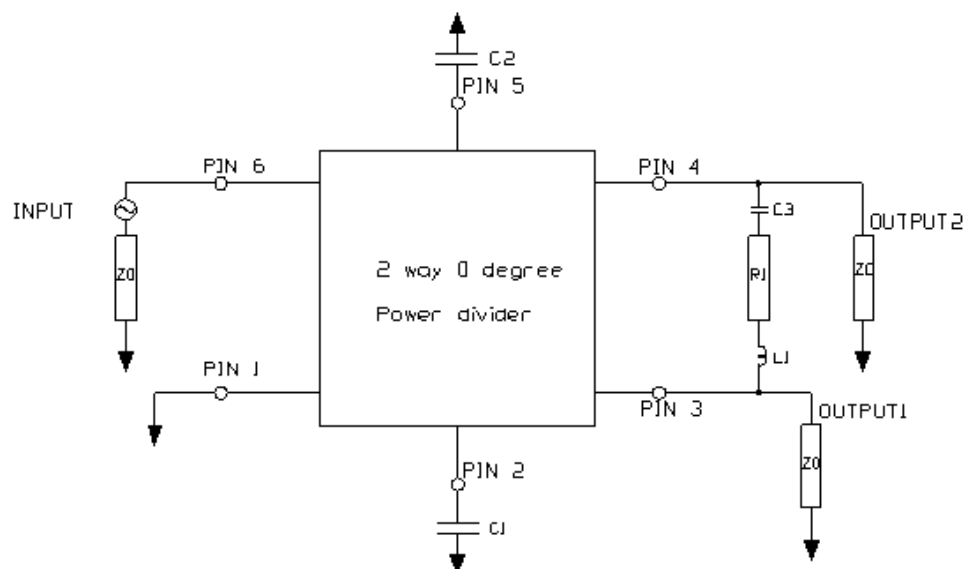


Connect centre pad to centre pad

### Parts List

| Part   | Value        | Case Style |
|--------|--------------|------------|
| C1, C2 | 0.5 pF       | 0402       |
| C3     | 180 pF       | 0402       |
| L1     | 8.2 nH       | 0402       |
| R1     | 180 $\Omega$ | 0402       |

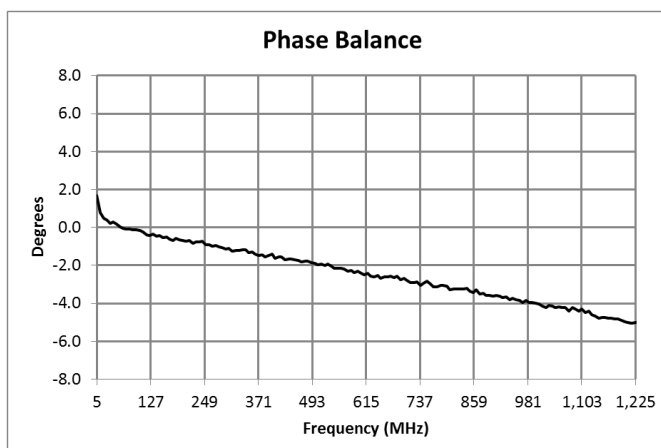
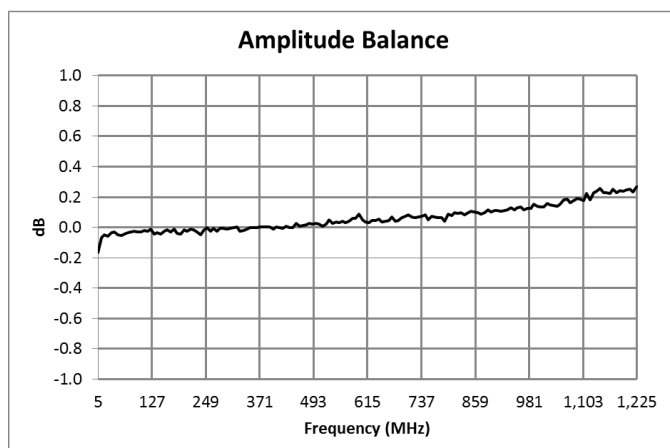
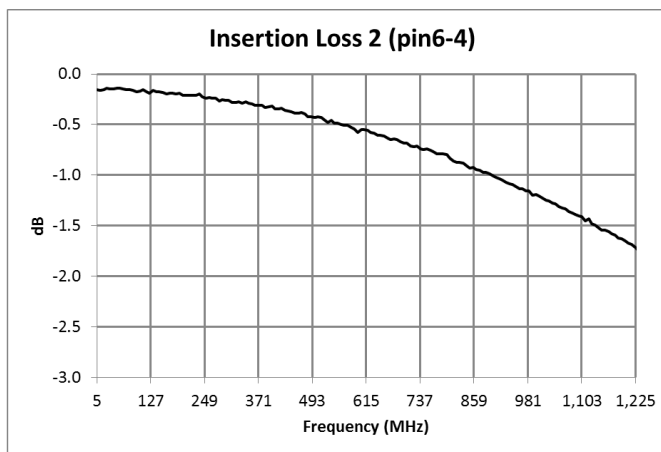
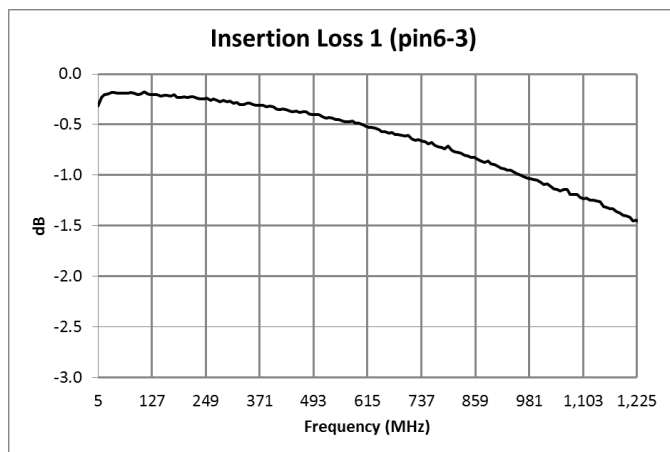
### Application Schematic



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Typical Performance Curves:  $T_A = 25^\circ\text{C}$ ,  $Z_0 = 75\ \Omega$ ,  $P_{in} = 0\ \text{dBm}$

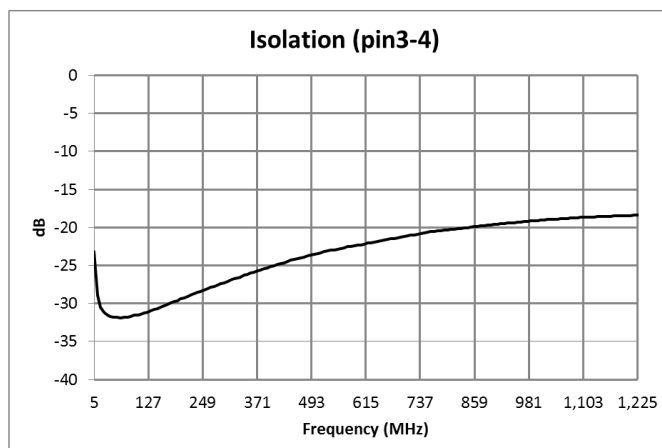
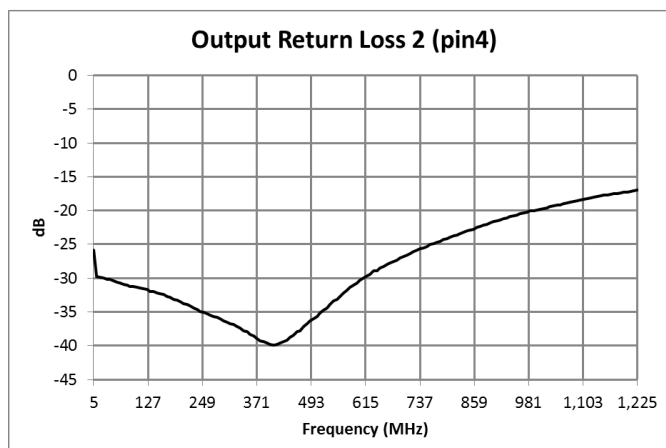
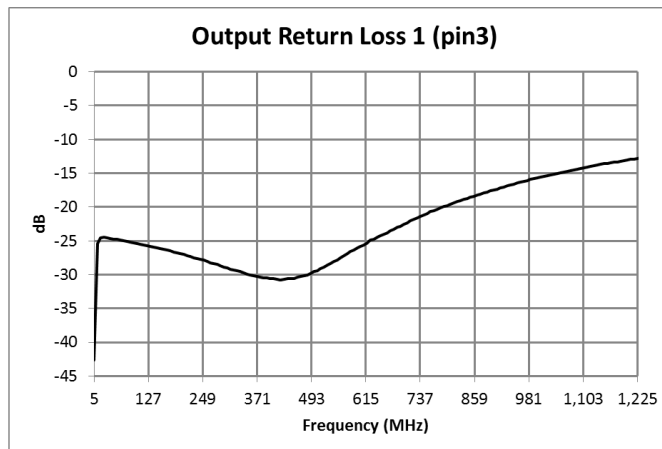
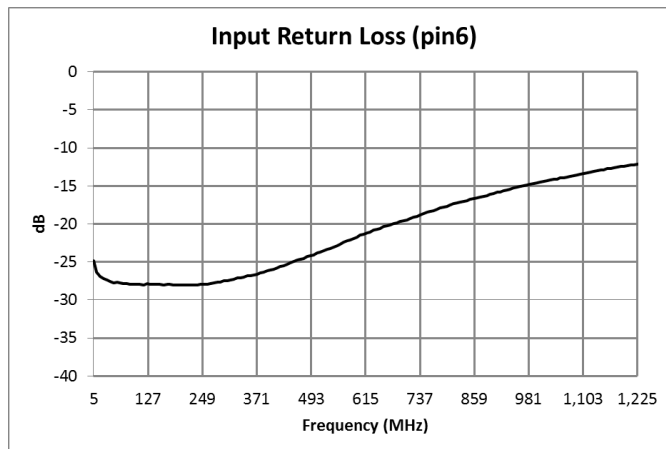


Full temperature plots available on request

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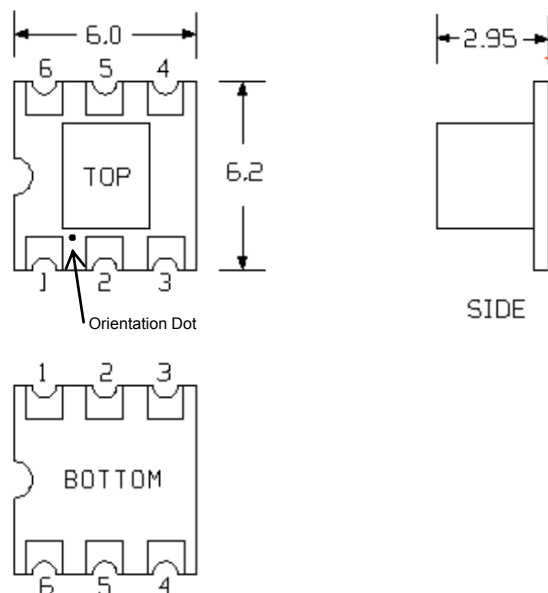


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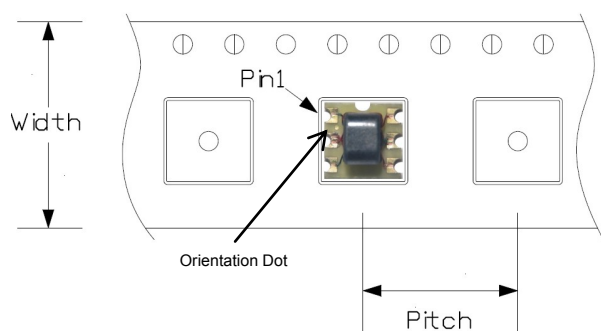
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### Outline Drawing



1. Dimensions in mm.
2. Tolerance:  $\pm 0.2$  mm unless otherwise noted.
3. Model number and lot code are printed on the reel.
4. 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                                       | —     | 900   |
| Reel Size                                          | mm    | 330   |
| Tape Width                                         | mm    | 16.00 |
| Pitch                                              | mm    | 12.00 |
| Orientation                                        | —     | F45   |
| Reference Application Note ANI-019 for orientation |       |       |

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