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## MAPD-011027

3 Way 0 Degree Power Divider
$5-1500 \mathrm{MHz}$

## Features

- Surface mount
- 3 Way 0 Degree
- RoHS Compliant and is $260^{\circ} \mathrm{C}$ reflow compatible
- Available on tape and reel


## Description

MACOM's MAPD-011027 is a 3 way 0 degree Power Divider in a low cost, surface mount package. Ideally suited for high volume CATV/Broadband applications. No external components are required with this product.


## Functional Schematic



## Ordering Information

| Part Number | Package |
| :---: | :---: |
| MAPD-011027 | 500 piece reel |
| MAPD-011027-TB | Customer Test Board |

Recommended Maximum Ratings

| Parameter | Units | Min | Max |
| :---: | :---: | :---: | :---: |
| Input Power | W |  | 0.5 |
| DC Current | mA |  | 500 |
| Operating Temperature <br> Range | ${ }^{\circ} \mathrm{C}$ | -40 | +85 |

Full temperature plots available on request

Pin Configuration

| Function | Pin Number |
| :---: | :---: |
| 1 | Output 1 |
| $2,3,6,7$ | Ground |
| 4 | Output 2 |
| 5 | Output 3 |
| 8 | Input |

3 Way 0 Degree Power Divider
$5-1500 \mathrm{MHz}$
Electrical Specifications: $\mathrm{T}_{\mathrm{A}}=25^{\circ} \mathrm{C}, \mathrm{Z}_{0}=\mathbf{7 5} \Omega, \mathrm{P}_{\text {in }}=0 \mathrm{dBm}$

| Parameter | Frequency | Units | Min | Typ | Max |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Insertion Loss 1 ( pin8-pin1) | $\begin{gathered} 5-46 \mathrm{MHz} \\ 46-870 \mathrm{MHz} \\ 870-1002 \mathrm{MHz} \\ 1002-1218 \mathrm{MHz} \\ 1218-1500 \mathrm{MHz} \end{gathered}$ | dB <br> dB <br> dB <br> dB <br> dB |  | $\begin{gathered} 0.37 \\ 1.15 \\ 1.3 \\ 2.0 \\ 4.6 \end{gathered}$ | $\begin{gathered} 0.55 \\ 1.65 \\ 2.0 \\ 2.4 \\ 5.5 \end{gathered}$ |
| Insertion Loss 2 ( pin8-pin4) | $\begin{gathered} 5-46 \mathrm{MHz} \\ 46-870 \mathrm{MHz} \\ 870-1002 \mathrm{MHz} \\ 1002-1218 \mathrm{MHz} \\ 1218-1500 \mathrm{MHz} \end{gathered}$ | dB <br> dB <br> dB <br> dB <br> dB |  | $\begin{gathered} 0.37 \\ 1.0 \\ 1.2 \\ 1.7 \\ 4.5 \end{gathered}$ | $\begin{gathered} 0.55 \\ 1.3 \\ 1.5 \\ 2.0 \\ 5.0 \end{gathered}$ |
| Insertion Loss 3 ( pin8-pin5 ) | $\begin{gathered} 5-46 \mathrm{MHz} \\ 46-870 \mathrm{MHz} \\ 1002-1218 \mathrm{MHz} \\ 1218-1500 \mathrm{MHz} \end{gathered}$ | dB <br> dB <br> dB <br> dB |  | $\begin{gathered} 0.37 \\ 1.3 \\ 1.8 \\ 4.8 \end{gathered}$ | $\begin{gathered} 0.55 \\ 1.8 \\ 2.2 \\ 5.2 \end{gathered}$ |
| Input Return Loss ( Pin8 ) | $\begin{gathered} 5-46 \mathrm{MHz} \\ 46-405 \mathrm{MHz} \\ 405-1002 \mathrm{MHz} \\ 1002-1218 \mathrm{MHz} \\ 1218-1500 \mathrm{MHz} \end{gathered}$ | dB <br> dB <br> dB <br> dB <br> dB | $\begin{gathered} 26 \\ 20 \\ 16 \\ 15 \\ 5 \end{gathered}$ | $\begin{gathered} 31 \\ 26 \\ 20 \\ 18 \\ 9 \end{gathered}$ |  |
| Output Return Loss 1 ( Pin1 ) | $\begin{gathered} 5-46 \mathrm{MHz} \\ 46-1218 \mathrm{MHz} \\ 1218-1500 \mathrm{MHz} \end{gathered}$ | dB <br> dB <br> dB | $\begin{aligned} & 11 \\ & 20 \\ & 15 \end{aligned}$ | $\begin{aligned} & 18 \\ & 25 \\ & 18 \end{aligned}$ |  |
| Output Return Loss ( Pin4, Pin5 ) | $\begin{gathered} 5-46 \mathrm{MHz} \\ 46-740 \mathrm{MHz} \\ 740-1218 \mathrm{MHz} \\ 1218-1500 \mathrm{MHz} \end{gathered}$ | dB <br> dB <br> dB <br> dB | $\begin{aligned} & 11 \\ & 20 \\ & 17 \\ & 15 \end{aligned}$ | $\begin{aligned} & 18 \\ & 22 \\ & 20 \\ & 19 \end{aligned}$ |  |
| $\begin{gathered} \text { Isolation } \\ (\text { Pin1-Pin } 5 \text { ) } \end{gathered}$ | $\begin{gathered} 5-46 \mathrm{MHz} \\ 46-1002 \mathrm{MHz} \\ 1002-1218 \mathrm{MHz} \\ 1218-1500 \mathrm{MHz} \end{gathered}$ | dB <br> dB <br> dB <br> dB | $\begin{aligned} & 18 \\ & 20 \\ & 18 \\ & 14 \end{aligned}$ | $\begin{aligned} & 28 \\ & 25 \\ & 24 \\ & 15 \end{aligned}$ |  |
| Isolation ( Pin1 -Pin 4 ) ( Pin4 -Pin 5 ) | $\begin{gathered} 5-46 \mathrm{MHz} \\ 46-1002 \mathrm{MHz} \\ 1002-1218 \mathrm{MHz} \\ 1218-1500 \mathrm{MHz} \end{gathered}$ | dB <br> dB <br> dB <br> dB | $\begin{aligned} & 18 \\ & 20 \\ & 18 \\ & 12 \end{aligned}$ | $\begin{aligned} & 28 \\ & 25 \\ & 24 \\ & 14 \end{aligned}$ |  |
| Amplitude Balance, Output 1 to Output 2 (Pin1, 4) | $\begin{gathered} 5-46 \mathrm{MHz} \\ 46-1218 \mathrm{MHz} \\ 1218-1500 \mathrm{MHz} \end{gathered}$ | dB <br> dB <br> dB |  | $\begin{gathered} 0.01 \\ 0.3 \\ 0.5 \end{gathered}$ | $\begin{aligned} & 0.1 \\ & 0.5 \\ & 0.9 \\ & \hline \end{aligned}$ |
| Amplitude Balance, Output 1 to Output 3 (pin 1,5) \& Output 2 to Output 3 (pin 4, 5) | $\begin{gathered} \hline 5-46 \mathrm{MHz} \\ 46-1218 \mathrm{MHz} \\ 1218-1500 \mathrm{MHz} \end{gathered}$ | dB <br> dB <br> dB |  | $\begin{aligned} & -0.01 \\ & -0.3 \\ & -0.5 \end{aligned}$ | $\begin{aligned} & \hline 0.2 \\ & 0.5 \\ & 0.9 \\ & \hline \end{aligned}$ |
| Phase Balance between all Outputs | $\begin{gathered} 5-50 \mathrm{MHz} \\ 50-1218 \mathrm{MHz} \\ 1218-1500 \mathrm{MHz} \end{gathered}$ | $\begin{aligned} & \circ \\ & \circ \\ & \circ \\ & \circ \end{aligned}$ |  | $\begin{aligned} & \pm 0.4 \\ & \pm 6.0 \\ & \pm 8.0 \end{aligned}$ | $\begin{gathered} \pm 1.0 \\ \pm 8.0 \\ \pm 12.0 \end{gathered}$ |

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## Typical Performance Curves









## 3 Way 0 Degree Power Divider

$5-1500 \mathrm{MHz}$

## PCB Layout

## Outline Drawing




Tape \& Reel Information

| Item | Dimension |
| :---: | :---: |
| Ao | $10.26 \mathrm{~mm}+/-0.1 \mathrm{~mm}$ |
| Bo | $13.46 \mathrm{~mm}+/-0.1 \mathrm{~mm}$ |
| Ko | $6.10 \mathrm{~mm}+/-0.1 \mathrm{~mm}$ |
| W | $24.00 \mathrm{~mm}+/-0.3 \mathrm{~mm}$ |
| P1 | $16.00 \mathrm{~mm}+/-0.1 \mathrm{~mm}$ |
| Orientation | F3 |
| Reference Application Note: ANI-019 for Orientation |  |

Dimensions in mm.
2. Tolerance: $\pm 0.2 \mathrm{~mm}$ unless otherwise noted.
3. Model number and lot code are printed on the reel.


Reference Application Note: ANI-019 for Orientation

