

2 Way 0° Power Divider  
5 to 1000 MHz

M/A-COM Products  
Released, Rev. V1

## Features

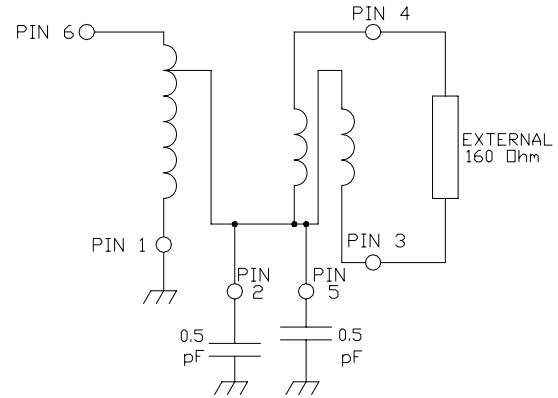
- Surface mount
- 2 Way 0 degree.
- 260°C reflow compatible
- RoHS\* compliant
- Available on tape and reel.

## Description

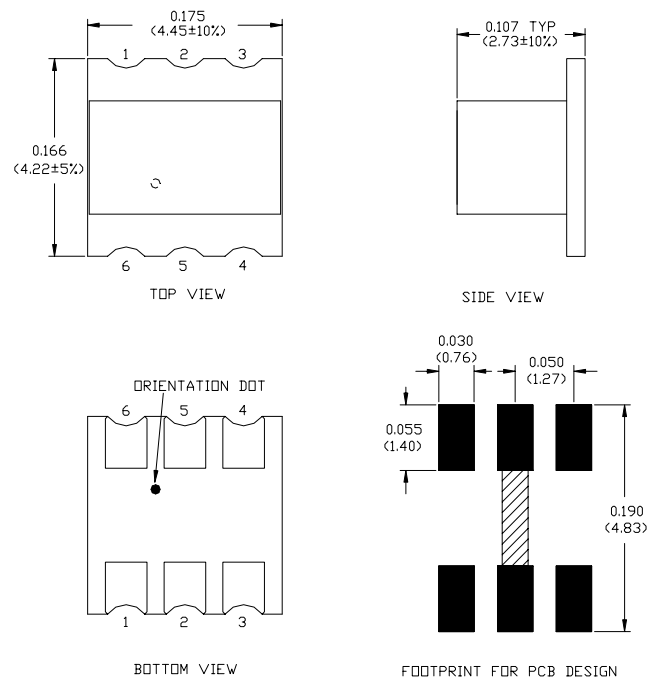
M/A Com's MAPDCT0013 is a 2 way 0 degree RF power divider in a low cost, surface mount package. Ideally suited for high volume CATV/broadband applications. Two 0603 0.5pF capacitors and one 160Ω resistor are required with this part.



## Schematic with off-chip components



## Case style: SM-156



## Pin configuration

Pin no.	Function
1	Ground
2	External 0.5pF Capacitor to ground
3	Output 2
4	Output 1
5	External 0.5pF Capacitor to ground
6	Input

## Ordering information

Part number	Description
MAPDCT0013TR	Reel quantity 2000
MAPD-007999-CT13TB	Customer Test Board

Unless otherwise stated dimensions are in inches [mm]  
Tolerance: .xx ± .02, .xxx ± .010

**Note:** Pin's 2 and 5 need to be connected together on the PCB as shown above.

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

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

**ADVANCED:** Data Sheets contain information regarding a product M/A-COM is considering for development. Performance is based on target specifications, simulated results, and/or prototype measurements. Commitment to develop is not guaranteed.

**PRELIMINARY:** Data Sheets contain information regarding a product M/A-COM has under development. Performance is based on engineering tests. Specifications are typical. Mechanical outline has been fixed. Engineering samples and/or test data may be available. Commitment to produce in volume is not guaranteed.

- **North America** Tel: 800.366.2266 / Fax: 978.366.2266
- **Europe** Tel: 44.1908.574.200 / Fax: 44.1908.574.300
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Visit [www.macom.com](http://www.macom.com) for additional data sheets and product information.

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**Electrical specifications:  $T_A = 25^\circ\text{C}$ ,  $Z_0 = 75\Omega$**

Frequency Range	Test Conditions	Units	Nominal	Max
Insertion Loss 1 Pin 6 to 4	5 – 500 MHz	dB	0.2	0.6
	500 – 870 MHz	dB	0.7	1.3
	870 – 1000 MHz	dB	1.15	1.6
Insertion Loss 2 Pin 6 to 3	5 – 500 MHz	dB	0.25	0.6
	500 – 870 MHz	dB	0.6	1.3
	870 – 1000 MHz	dB	1.3	2.1
Amplitude Balance	5 – 870 MHz	dB	0.2	$\pm 0.5$
	870 – 1000 MHz	dB	0.15	$\pm 0.65$
Phase Balance	5 – 870 MHz	$^\circ$	1.5	$\pm 2.4$
	870 – 1000 MHz	$^\circ$	1.5	$\pm 4.2$
Input Return Loss	5 – 400 MHz	dB	36	24
	400 – 820 MHz	dB	32	20
	820 – 1000 MHz	dB	25	15
Isolation	5 – 300 MHz	dB	33	25
	300 – 870 MHz	dB	20	16
	870 – 1000 MHz	dB	18	15
Output Return Loss 1	5 – 500 MHz	dB	28	20
	500 – 870 MHz	dB	19.3	14.5
	870 – 1000 MHz	dB	14.8	11.3
Output Return Loss 2	5 – 500 MHz	dB	27	20
	500 – 870 MHz	dB	21	14.5
	870 – 1000 MHz	dB	14.5	11.3

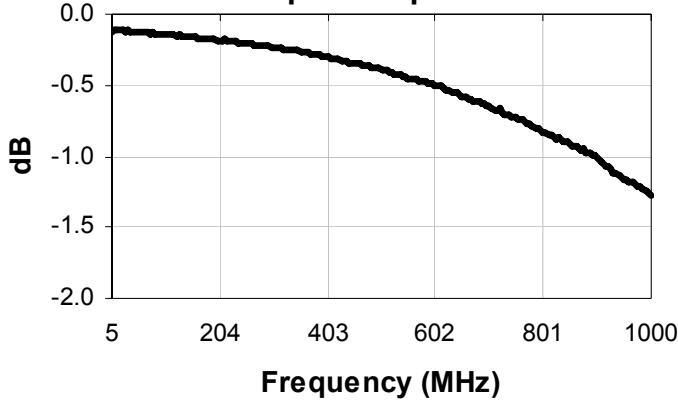
**Absolute maximum ratings<sup>1 2</sup>**

Parameter	Absolute maximum
Max input power	1W
Internal Load Dissipation	0.125W
Operating temperature	-40°C to +85°C
Storage temperature	-40°C to +100°C

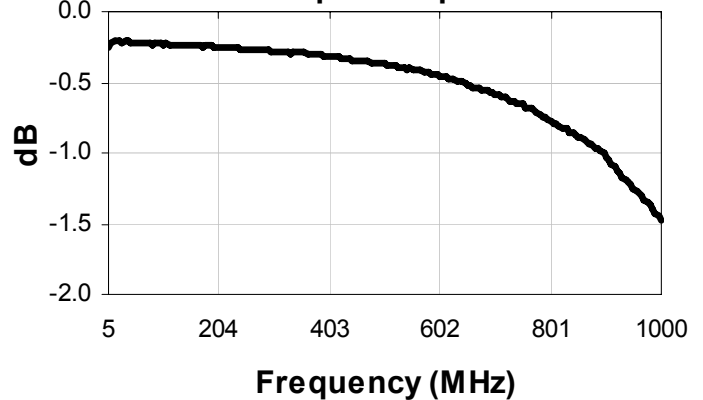
1. Exceeding any one or combination of these limits may cause permanent damage to this device.
2. M/A-COM does not recommend sustained operation near these survivability limits.

Typical performance curves:  $T_A = 25^\circ\text{C}$ ,  $Z_0 = 75\Omega$

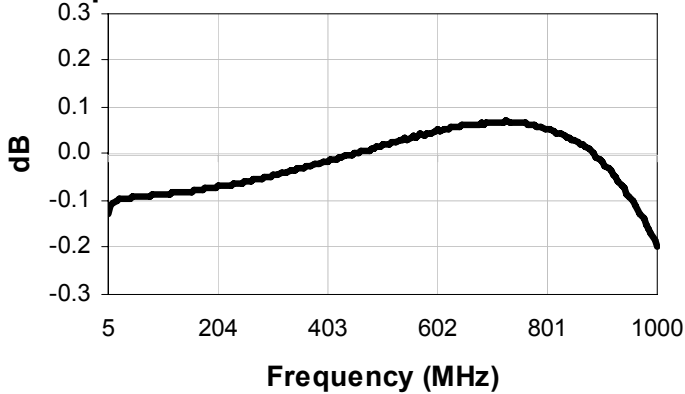
Insertion loss 1: pin 6 to pin 4



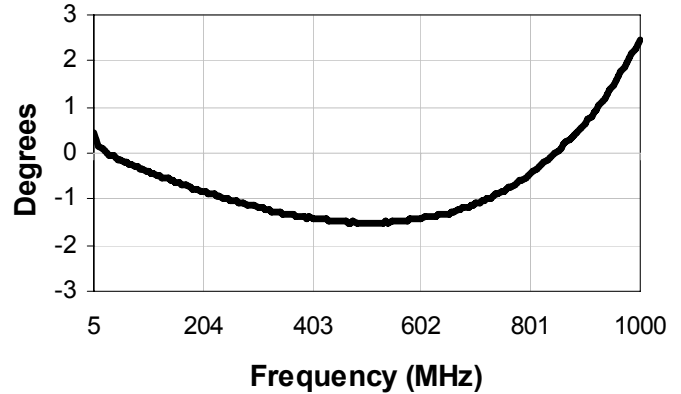
Insertion loss 2: pin 6 to pin 3



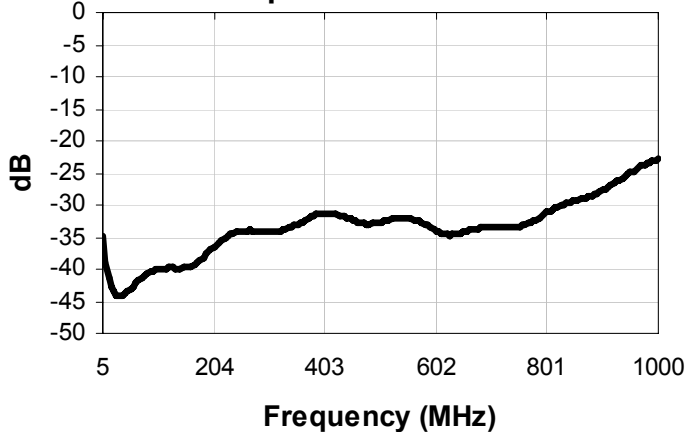
Amplitude balance



Phase balance



Return loss: Input



Return loss: Output (1 and 2)

