

E-Series Coupler  
5 to 1000 MHz

M/A-COM Products  
Rev. V1

## Features

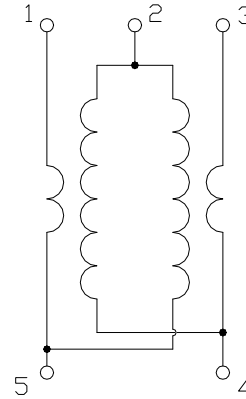
- Surface mount
- 10dB Coupler
- 260°C reflow compatible
- RoHS\* compliant, lead-free
- Available on tape and reel.

## Description

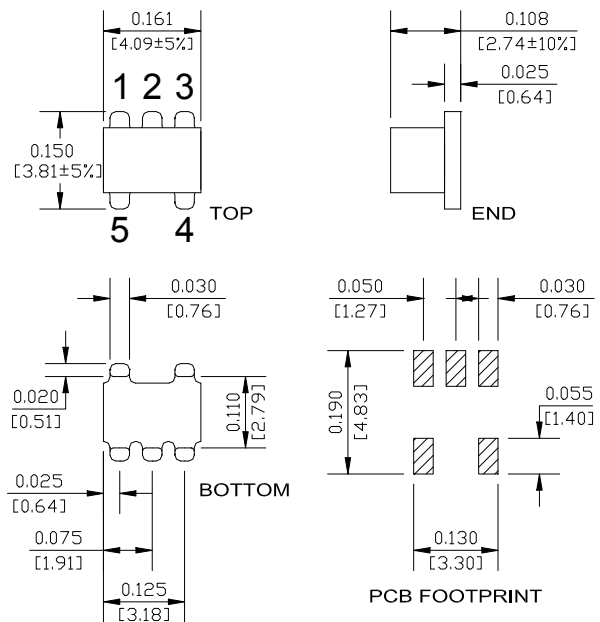
M/A Com's MACP-009596-CA0160 is a 10dB coupler in a low cost, surface mount package. Excellent coupling flatness. Ideally suited for broadband CATV applications.



## Schematic



## Case style: SM-22



Dimensions in inches [mm] Tolerance: .xx ± .02, .xxx ± .010, unless otherwise stated

## Pin configuration

Pin no.	Function
1	Coupled
2	Ground
3	Input
4	Output
5	External 75 Ω

## Ordering information

Part number	Description
MACP-009596-CA0160	2000 piece reel
MACP-009596-CA01TB	Customer Test Board

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

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

**ADVANCED:** Data Sheets contain information regarding a product M/A-COM Technology Solutions 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 Technology Solutions 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.

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

Parameter	Test Conditions	Units	Min	Typ	Max
Coupling	5 - 1000 MHz	dB	-	10	$\pm 0.5$
Main Line Loss	5 - 50 MHz	dB	-	1.1	1.4
	50 - 500 MHz	dB	-	1.3	1.5
	500 - 1000 MHz	dB	-	1.4	1.7
Directivity	5 - 50 MHz	dB	20	22	-
	50 - 600 MHz	dB	16	20	-
	600 - 1000 MHz	dB	14	18	-
Input Return Loss	5 - 1000 MHz	dB	12	18	-
Output Return Loss	5 - 1000 MHz	dB	12	23	-
Coupling Return Loss	5 - 1000 MHz	dB	12	16	-

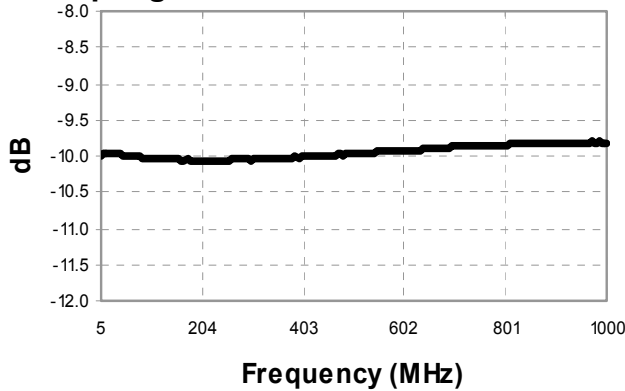
**Absolute Maximum Ratings <sup>1,2</sup>**

Parameter	Absolute maximum
RF power	250mW
DC current	30mA
Operating Temperature	$-20^\circ\text{C}$ to $+80^\circ\text{C}$
Storage Temperature	$-20^\circ\text{C}$ to $+80^\circ\text{C}$

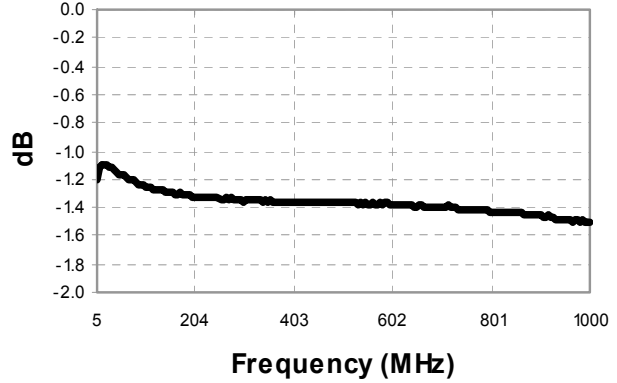
1. Exceeding any one or combination of these limits may cause permanent damage to this device.
2. M/A-COM does not recommend sustained operation near these survivability limits.

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

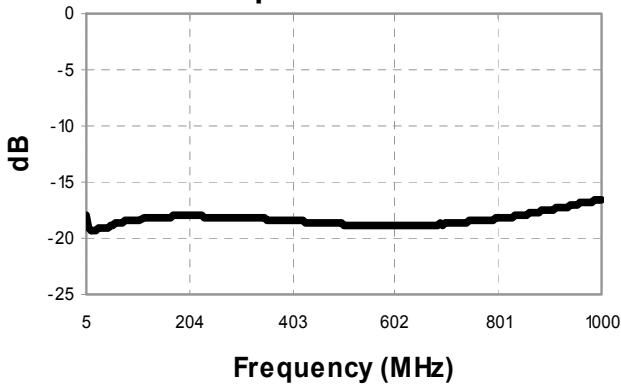
**Coupling**



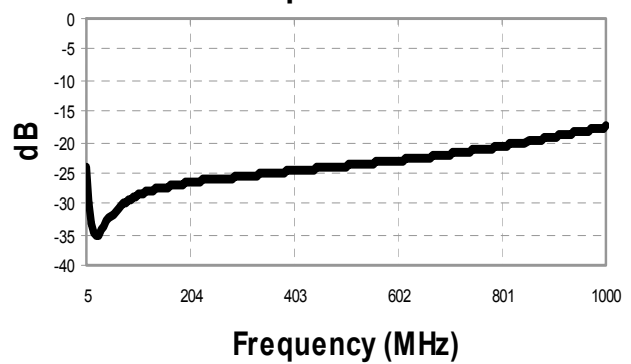
**Main Line Loss**



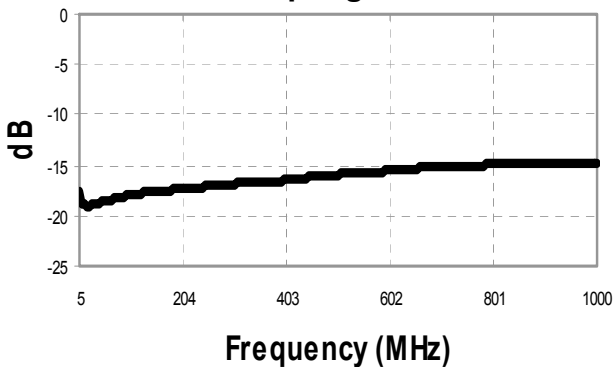
**Return Loss: Input**



**Return Loss: Output**



**Return Loss: Coupling**



**Directivity**

