

17.5dB Coupler 5 – 1225 MHz

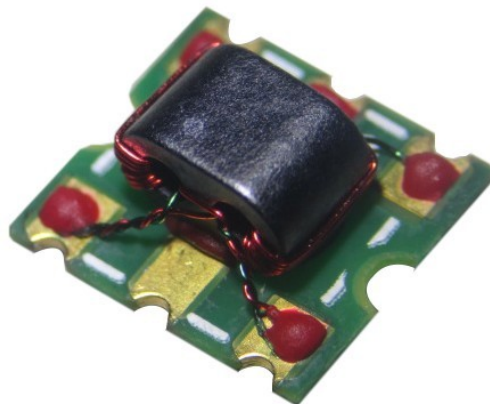
Rev. V2

Features

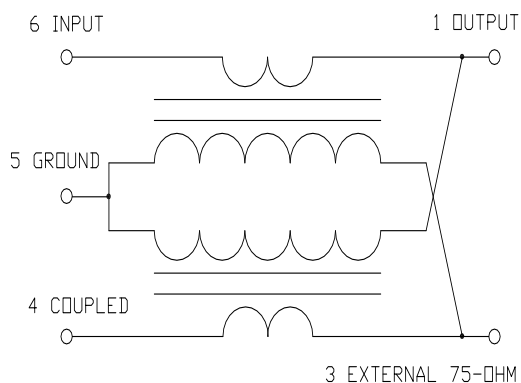
- 17.5dB coupler
- Surface mount
- 260° reflow compatible
- RoHS compliant and Pb free
- Available on tape and reel

Description

MACOM's MACP-011014 is a 17.5dB coupler in a low cost surface mount package. Ideally suited for CATV Broadband applications.



Functional Schematic



Ordering Information

Part Number	Package
MACP-011014	Tape & Reel
MACP-011014-TB	Customer test board

Pin Configuration

Pin No.	Function
1	Output
2	Not Connected
3	External 75 Ω
4	Coupled
5	Ground
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
Frequency Range		MHz	5		1225
Impedance		Ω	-	75	
Coupling (pin6-4)	5 - 1225 MHz	dB	17.0	17.5	18.0
Main Line Loss (pin6-1)	5 - 870 MHz	dB	-	0.45	0.7
	870 - 1000 MHz	dB	-	0.65	0.75
	1000 - 1225 MHz	dB	-	0.75	0.85
Input Return Loss (pin6)	5 - 870 MHz	dB	23	30	-
	870 - 1000 MHz	dB	22	34	-
	1000 - 1225 MHz	dB	20	30	-
Output Return Loss (pin1)	5 - 870 MHz	dB	21	37	-
	870 - 1225 MHz	dB	20	27	-
Coupled Return Loss (pin4)	5 - 870 MHz	dB	22	30	-
	870 - 1225 MHz	dB	22	32	-
Isolation (pin6-3)	5 - 870 MHz	dB	33	47	-
	870 - 1000 MHz	dB	30	36	-
	1000 - 1225 MHz	dB	28	34	-

Recommended Maximum Ratings

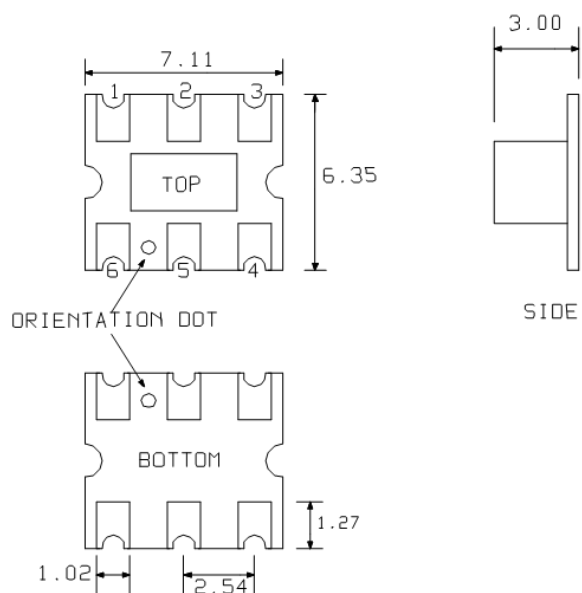
Parameter	Units	Min	Max
Input RF Power	W		0.5
DC Current	mA		500
Operating Temperature Range	$^\circ\text{C}$	-40	+85

Full temperature plots available on request

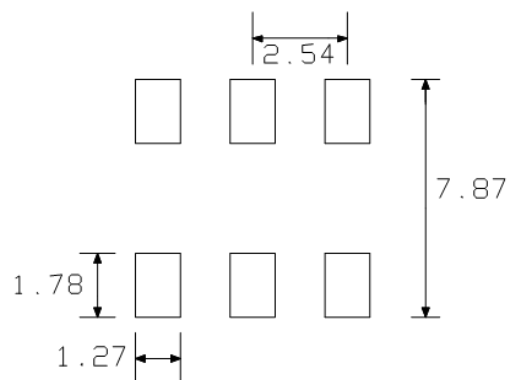
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Outline Drawing

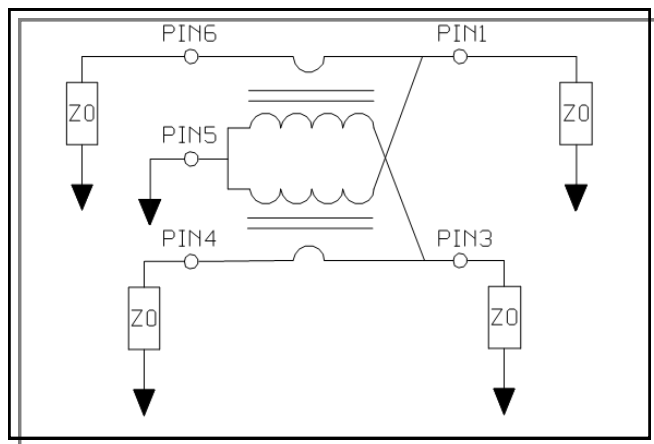


PCB Layout



1. Dimensions in mm.
2. Tolerance: ± 0.2 mm unless otherwise noted.
3. Model number and lot code are printed on the reel.
4. Lead plating: ENIG.

Application Circuit



Tape & Reel Information

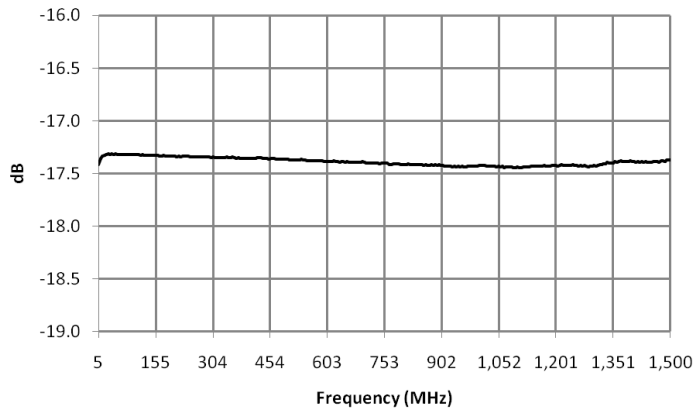
Parameter	Units	Value
Qty per reel	-	900
Reel Size	mm	330
Tape Width	mm	16.00
Pitch	mm	12.00
Ao	mm	6.70
Bo	mm	7.40
Ko	mm	3.10
Orientation	-	F15
Reference Application Note ANI-019 for orientation		

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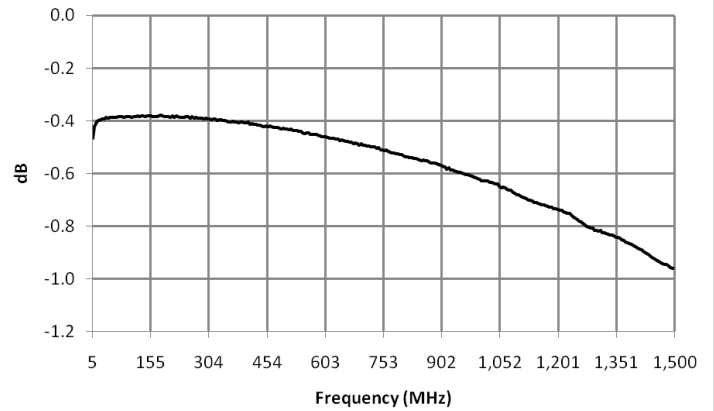
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Typical Performance Curves

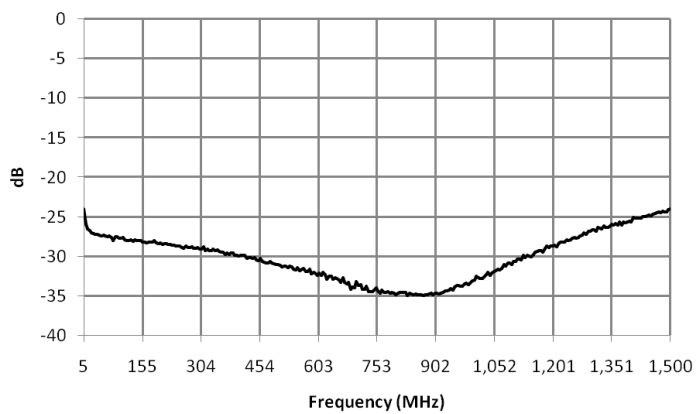
Coupling (Pin6-4)



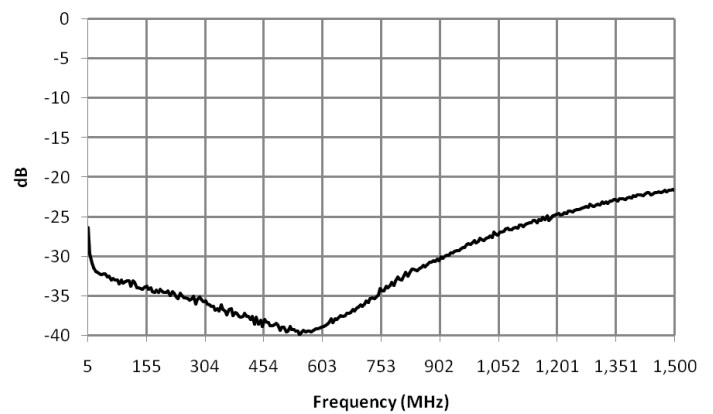
Main Line Loss (Pin6-1)



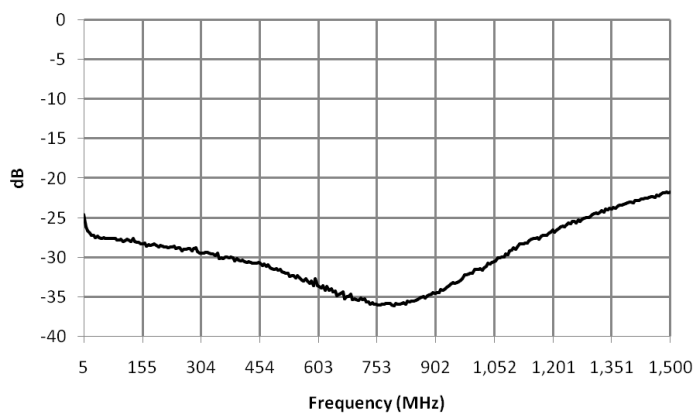
Input Return Loss (Pin6)



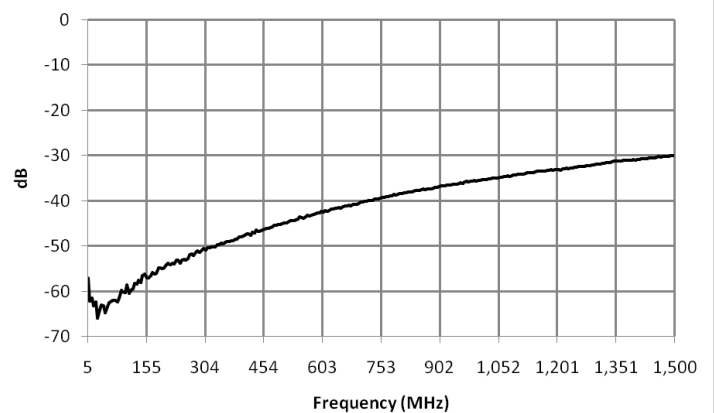
Output Return Loss (Pin1)



Coupling Return Loss (Pin4)



Isolation (Pin6-3)



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