



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

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Features

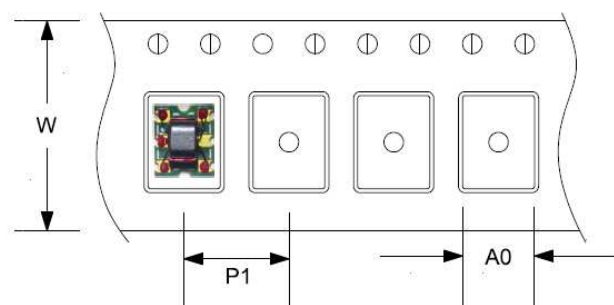
- 20 dB Coupling Ratio
- Surface Mount
- Available on Tape and Reel
- Excellent Temperature Stability
- RoHS Compliant and lead free
- 260°C Reflow Compatible

Description

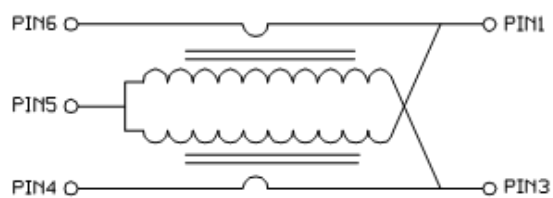
The MACP-011013 is a 20 dB coupler in a low cost, surface mount package. Ideally suited for broadband CATV applications.



Carrier Tape Orientation



Functional Schematic



Ordering Information

Part Number	Description
MACP-011013	900 piece reel
MACP-011013-TB	Sample Test Board

Pin Configuration

Pin No.	Function
1	Output
2	Not Connected
3	Isolated
4	Coupled
5	Ground
6	Input

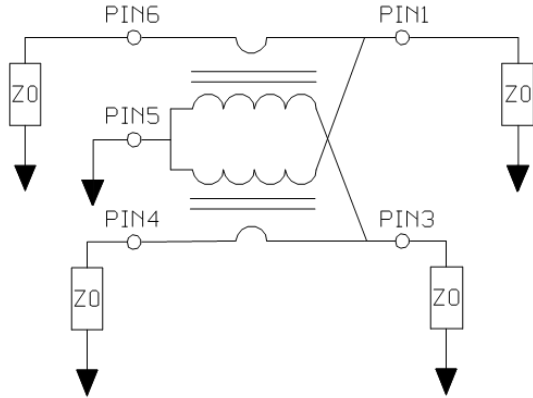
Electrical Specifications: $T_A = 25^\circ\text{C}$, $Z_0 = 75 \Omega$, $P_{in} = 0 \text{ dBm}$

Parameter	Conditions	Units	Min.	Typ.	Max.
Frequency Range	—	MHz	5	—	1500
Impedance	—	Ω	—	75	—
Coupling Ratio	—	dB	—	20	—
Coupling (Pin 6, Pin 4)	5 - 700 MHz 700 - 1200 MHz 1200 - 1500 MHz	dB	20.5 20.5 20.5	20.0 20.0 20.0	19.5 18.5 17.7
Coupling Flatness	5 - 1218 MHz 5 - 1500 MHz	dB	—	0.5 0.7	0.7 0.9
Coupling Tilt	5 - 1218 MHz 5 - 1500 MHz	dB	—	1.55 2.00	1.7 2.3
Main Line Loss (Pin 6, Pin 1)	5 - 1250 MHz 1250 - 1500 MHz	dB	0.4 0.4	0.57 0.93	0.85 1.20
Isolation (Pin 6, Pin 3)	5 - 1250 MHz 1250 - 1500 MHz	dB	26 23	27 24	—
Input Return Loss (Pin 6)	5 - 1250 MHz 1250 - 1500 MHz	dB	20 17	22 19	—
Output Return Loss (Pin 1)	5 - 1250 MHz 1250 - 1500 MHz	dB	20 17	22 19	—
Coupling Return Loss (Pin 4)	5 - 1250 MHz 1250 - 1500 MHz	dB	19 17	22 19	—

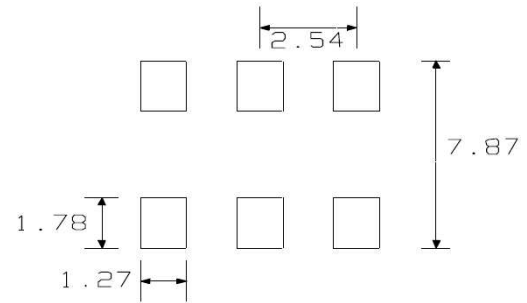
Absolute Maximum Ratings

Parameter	Absolute Maximum
Input Power	0.5 W
DC Current	500 mA
Operating Temperature	-40°C to $+85^\circ\text{C}$

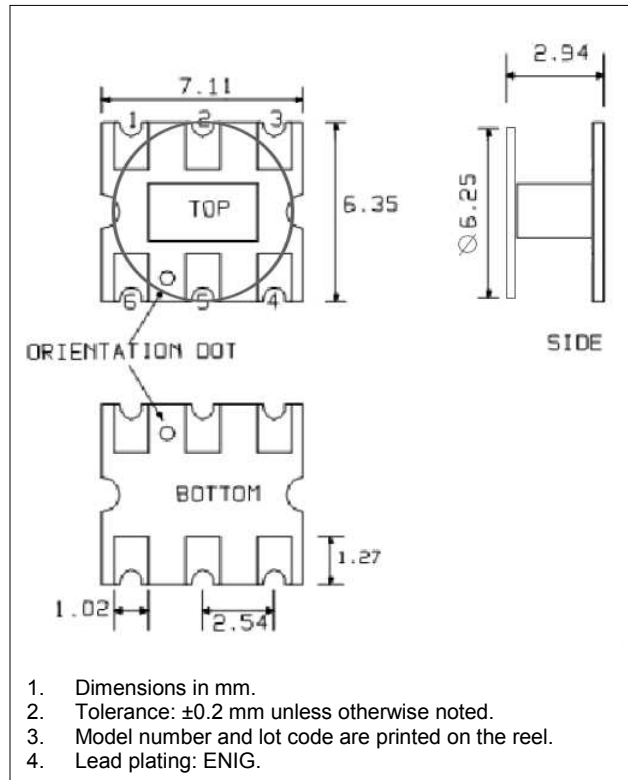
Application Circuit



PCB Layout



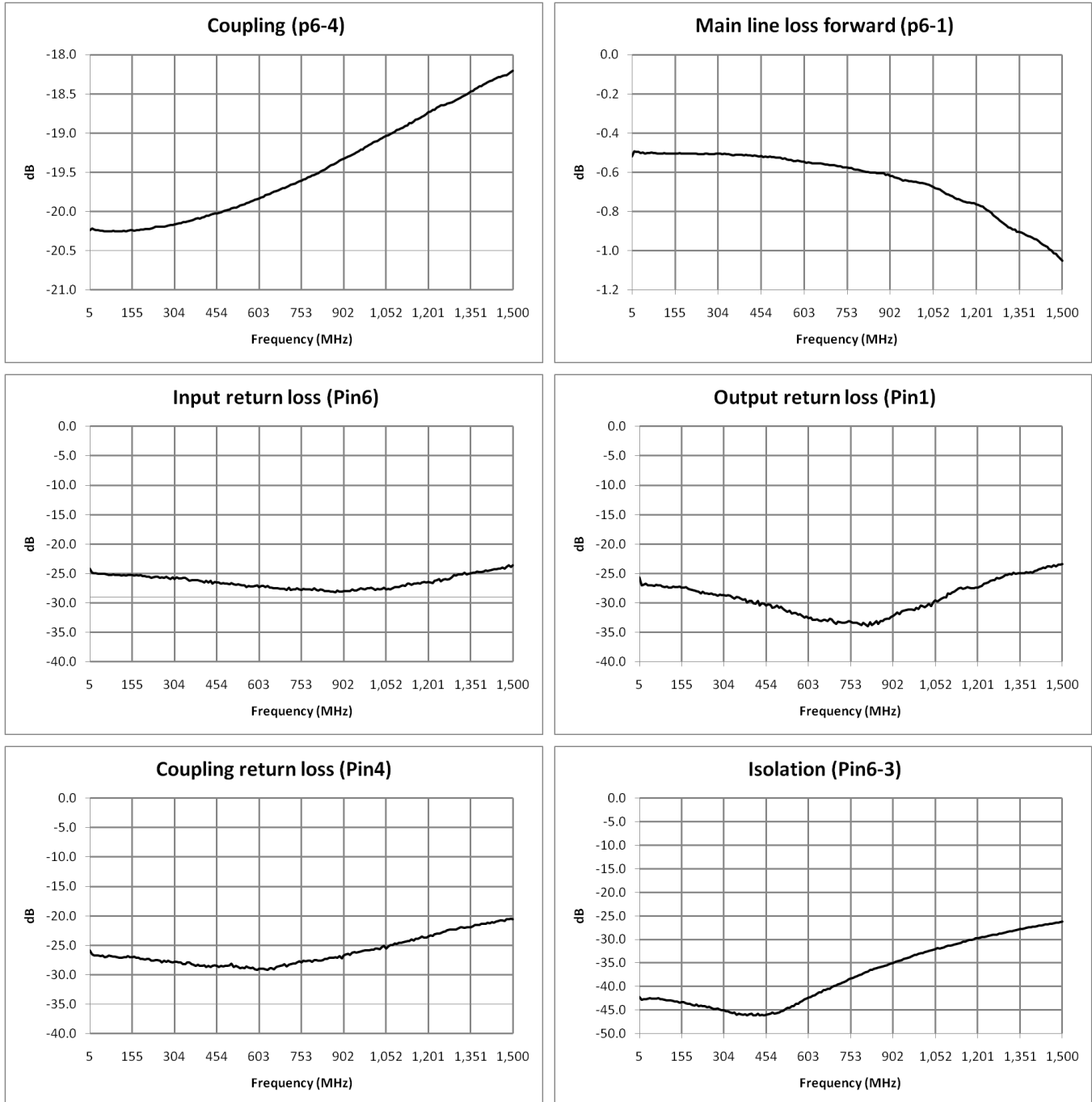
Outline Drawing



Tape & Reel Information

Parameter	Units	Value
Qty per reel	-	900
Reel Size	mm	330
Tape Width	mm	16.0
Pitch	mm	12.0
Ao	mm	6.7
Bo	mm	7.4
Ko	mm	3.1
Orientation	-	F33
Reference Application Note ANI-019 for orientation		

Typical Performance Curves¹



1. Full temperature plots available on request.

“Application Section for Alternative Pin Configuration”

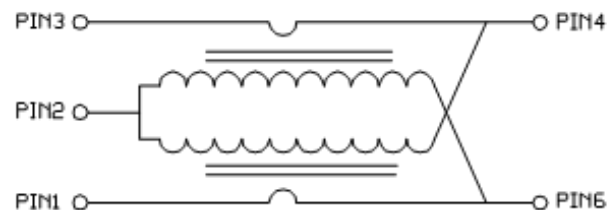
Electrical Specifications: $T_A = 25^\circ\text{C}$, $Z_0 = 75 \Omega$, $P_{in} = 0 \text{ dBm}$

Parameter	Conditions	Units	Min.	Typ.	Max.
Frequency Range	-	MHz	5	—	1500
Impedance	-	Ω	-	75	-
Coupling Ratio	-	dB	-	20	-
Coupling (Pin 1 - Pin 3)	5 - 700 MHz 700 - 1200 MHz 1200 - 1500 MHz	dB	- - -	20.0 20.0 20.0	- - -
Coupling Flatness	5 - 1218 MHz 5 - 1500 MHz	dB	-	0.5 0.7	- -
Coupling Tilt	5 - 1218 MHz 5 - 1500 MHz	dB	-	1.55 2.00	- -
Main Line Loss (Pin 1 - Pin 6)	5 - 1250 MHz 1250 - 1500 MHz	dB	- -	0.57 0.93	- -
Isolation (Pin 1 - Pin 4)	5 - 1250 MHz 1250 - 1500 MHz	dB	- -	27 24	-
Input Return Loss (Pin 1)	5 - 1250 MHz 1250 - 1500 MHz	dB	- -	22 19	-
Output Return Loss (Pin 6)	5 - 1250 MHz 1250 - 1500 MHz	dB	- -	22 19	-
Coupling Return Loss (Pin 3)	5 - 1250 MHz 1250 - 1500 MHz	dB	- -	22 19	-

Pin Configuration

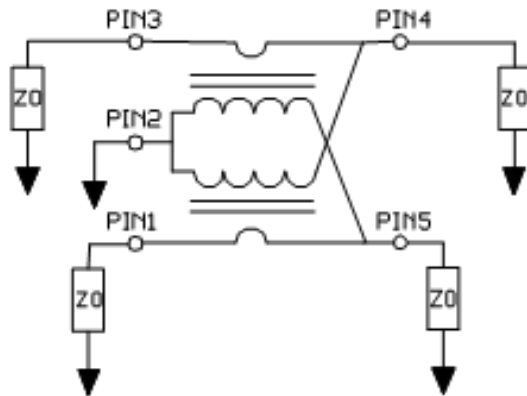
Pin No.	Function
1	Input
2	Ground
3	Coupled
4	Isolated
5	Not Connected
6	Output

Functional Schematic

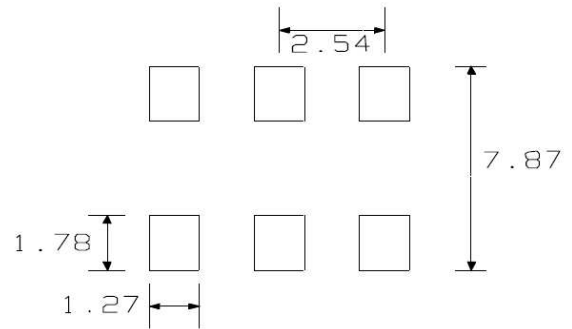


“Application Section for Alternative Pin Configuration”

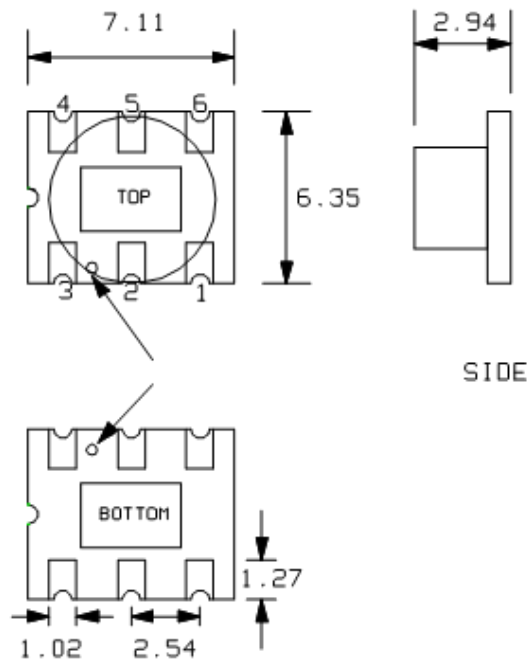
Application Circuit



PCB Layout



Outline Drawing



1. Dimensions in mm.
2. Tolerance: ± 0.2 mm unless otherwise noted.

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