

Low Cost SMT 17 dB Bi-Directional Coupler, 1700 - 2000 MHz

**CH20-0033-17G
V2**

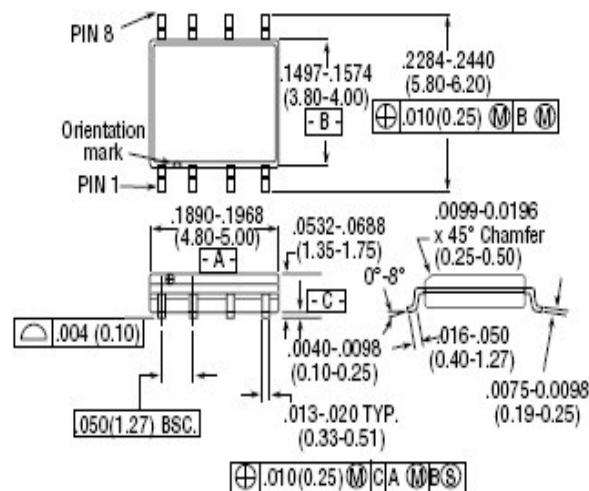
Features

- Device is Bi-Directional
- Small Size and Low Profile
- Industry Standard SOIC-8 SMT Plastic Package
- Superior Repeatability
- Typical Insertion Loss 0.3 dB
- Typical Directivity 17 dB
- 2 Watt Power Handling

Description

M/A-COM's CH20-0033-17G is an IC based monolithic bidirectional coupler in a low cost SOIC-8 plastic package. This 17 dB coupler is ideally suited for applications where power monitoring, small size, low insertion loss, superior repeatability and low cost are required. Typical applications include base station switching networks, power monitoring in handhelds and other communication applications where size and PCB real estate is a premium. Available in tape and reel. The CH20-0033-17G is fabricated using a passive integrated circuit process. The process features full chip passivation for increased performance and reliability.

SO-8



8-Lead SOP outline dimensions

Narrow body .150

(All dimensions per JEDEC No. MS-012-AA, Issue C)

Dimensions in () are in mm.

Unless Otherwise Noted: .xxx = ± 0.010 (.xx = ± 0.25)
.xx = ± 0.02 (.x = ± 0.5)

Electrical Specifications¹: T_A = +25°C

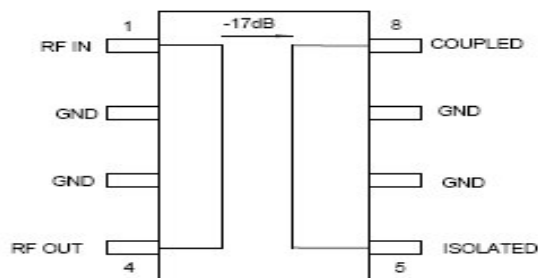
Parameter	Test Conditions	Frequency	Units	Min	Typ	Max
Coupling	Input to Output	—	dB	—	17 \pm 2	—
Coupling Flatness	—	—	dB	—	1.2	1.5
VSWR	All Ports	—	Ratio	—	1.3:1	1.7:1
Directivity	Both Directions	1700 - 2000 MHz	dB	12	17	—
Insertion Loss	—	—	dB	—	0.3	0.5

1. All specifications apply with 50 ohm source and load impedance.

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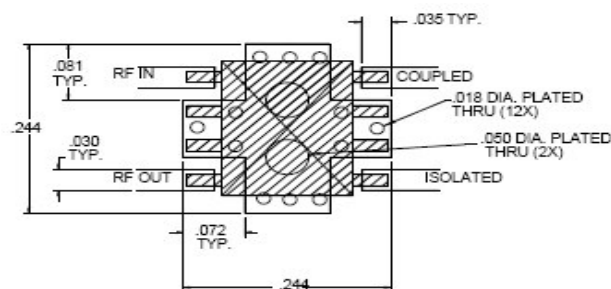
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Functional Diagram



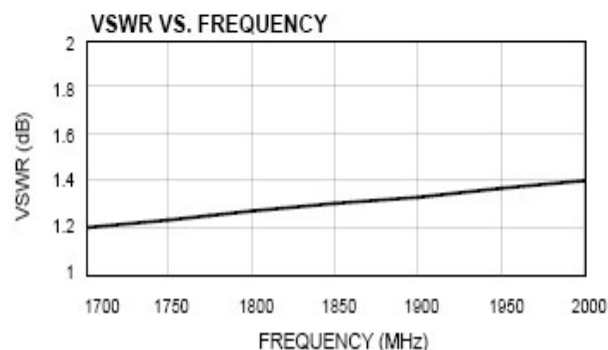
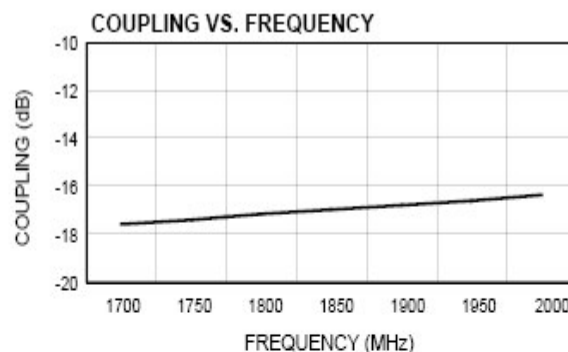
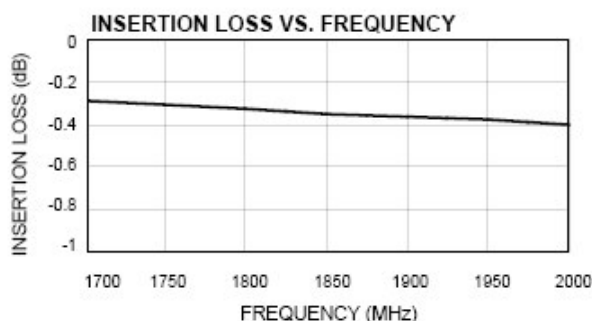
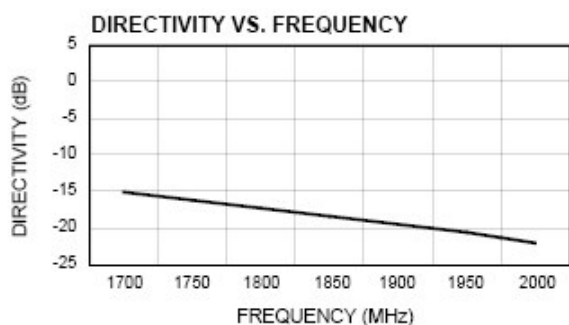
Note: Pins 2, 3, 6 and 7 must be RF and DC grounded.

Recommended PCB Configuration



(Dimensions in Inches)
Circuit Material: FR-4, .016 Thick

Typical Performance Curves



Ordering Information

Part Number	Package
CH20-0033-17G	SOIC-8 Lead Plastic Package
CH20-0033-17G-TR	Forward Tape and Reel
CH20-0033-17G-RTR	Reverse Tape and Reel

* If specific reel size is required, consult factory for part number assignment.

Absolute Maximum Ratings ¹

Parameter	Absolute Maximum
Input Power	2 W CW
Operating Temperature	-40°C to +85°C
Storage Temperature	-65°C to +150°C

1. Exceeding any one or combination of these limits may cause permanent damage to this device.

- **North America** Tel: 800.366.2266 / Fax: 978.366.2266
- **Europe** Tel: 44.1908.574.200 / Fax: 44.1908.574.300
- **Asia/Pacific** Tel: 81.44.844.8296 / Fax: 81.44.844.8298

Visit www.macom.com for additional data sheets and product information.