

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

### CH20-0033-17G

V2.00

### Features

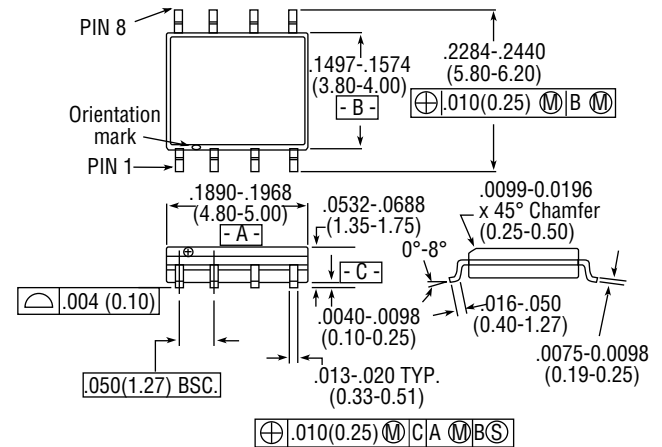
- Device is Bi-Directional
- Small Size and Low Profile
- Industry Standard SOIC-8 SMT Plastic Package
- Superior Repeatability
- Typical Insertion Loss 0.3 dB
- Typical Directivity 17 dB
- 2 Watt Power Handling

### Description

M/A-COM's CH20-0033-17G is an IC based monolithic bi-directional 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 personal communication systems 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)

### Ordering Information

Part Number	Description
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.

### Typical Electrical Specifications<sup>1</sup>, T<sub>A</sub> = +25°C,

Parameters	Units	Min.	Typ.	Max.
Insertion Loss	dB	-	0.3	0.5
VSWR	-	-	1.3:1	1.7:1
Coupling	dB	-	17 ±2	-
Coupling Flatness	dB	-	1.2	1.5
Directivity	dB	12	17	-

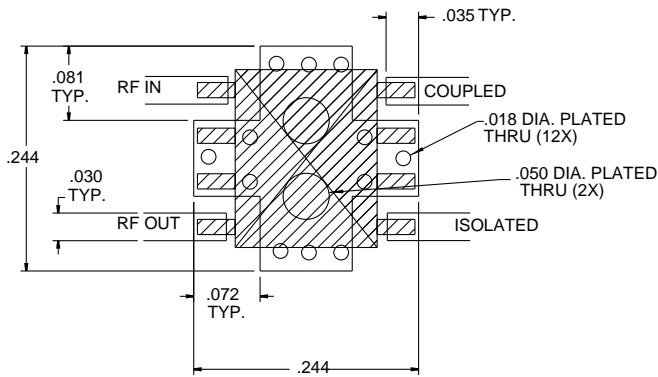
1. All specifications apply with a 50 ohm source and load impedance.

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

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

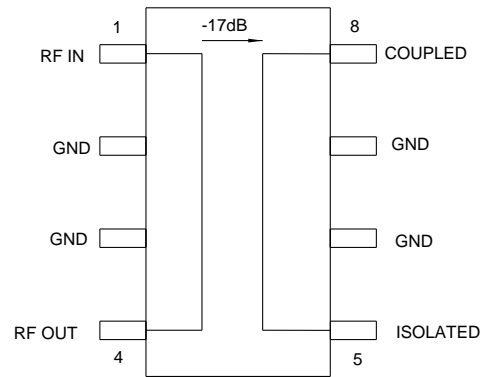
1. Exceeding these limits may cause permanent damage.

**Recommended PCB Configuration**



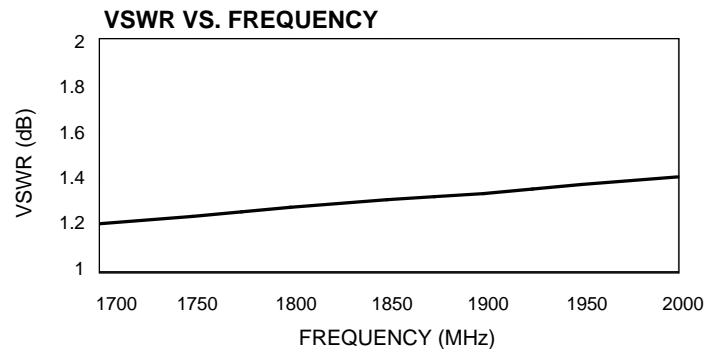
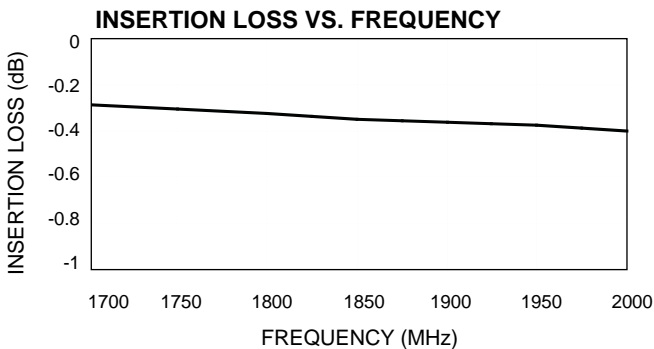
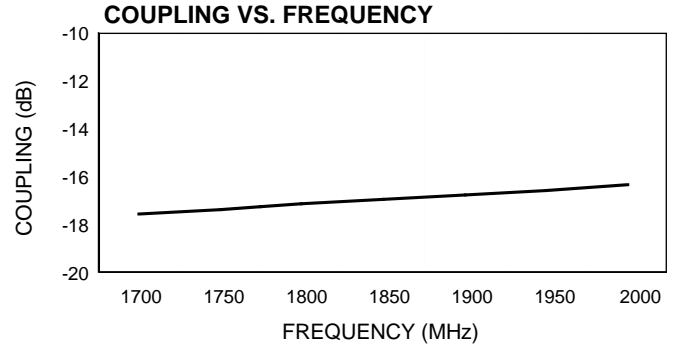
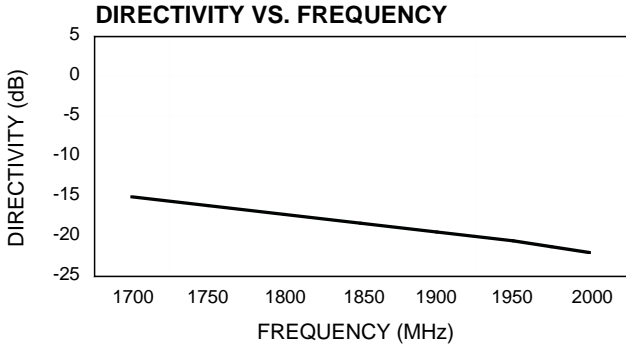
(Dimensions in Inches)  
Circuit Material: FR-4, .016 Thick

**Functional Diagram**



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

**Typical Performance @ +25°C**



2 The Preliminary Specifications Data Sheet Contains Typical Electrical Specifications Which May Change Prior to Final Introduction. **M/A-COM, Inc.**

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