

Low Cost SMT 8dB Bi-Directional Coupler

824 - 960 MHz

CH20-0035-8G

V1.00

Features

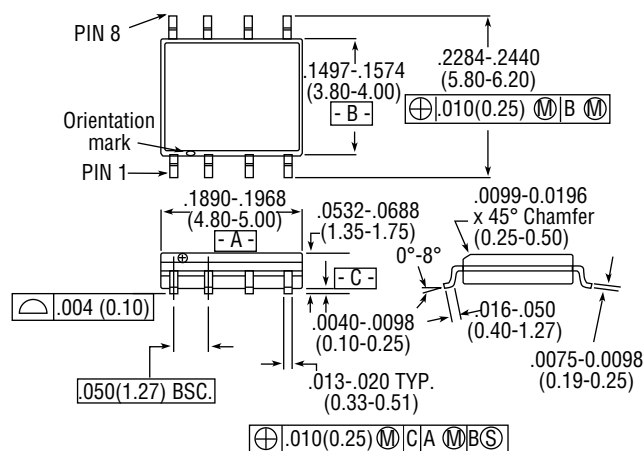
- Bi-Directional
- Small Size and Low Profile
- Industry standard SOIC-8 SMT Plastic Package
- Superior Repeatability
- Typical Insertion Loss 0.3 dB
- Typical Directivity 15 dB
- 2 Watt Power Handling

Description

M/A-COM's CH20-0035-8G is an IC based monolithic bi-directional coupler in a low cost SOIC-8 plastic package. This 8 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 CH20-0035-8G 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
CH20-0035-8G	SOIC-8 Lead Plastic Package
CH20-0035-8G-TR	Forward Tape & Reel*
CH20-0035-8G-RTR	Reverse Tape & Reel*

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

Typical Electrical Specifications¹ @ T_A = +25°C

Parameter	Unit	Min.	Typ.	Max.
Insertion Loss	dB	-	0.3	0.7
VSWR	-	-	1.3:1	1.6:1
Coupling	dB	-	8 ±2	-
Coupling Flatness	dB	-	1.2	1.5
Directivity	dB	10	15	-

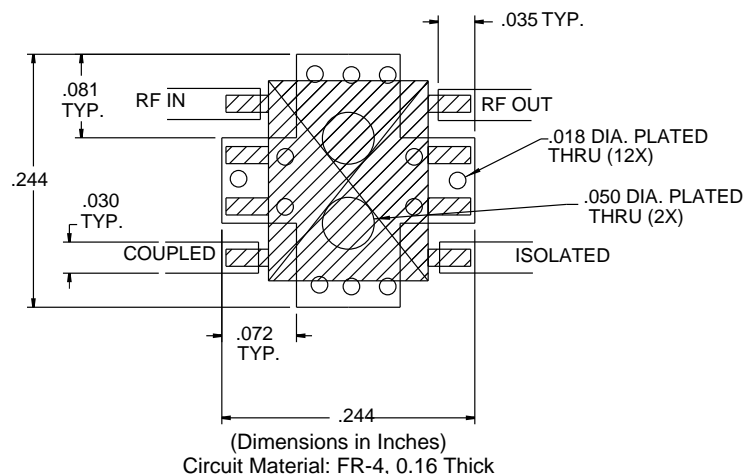
1. All specifications apply with a 50-ohm source and load impedance.

Absolute Maximum Ratings¹

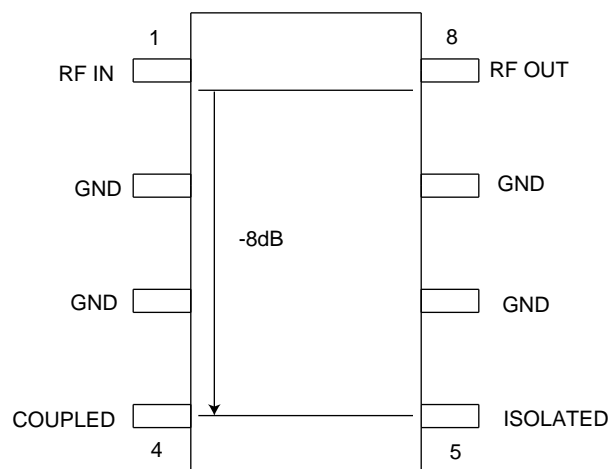
Parameter	Absolute Maximum
Input Power	2W CW
Operating Temperature	-40°C to +85°C
Storage Temperature	-65°C to +150°C

1. Exceeding these limits may cause permanent damage.

Recommended PCB Configuration



Functional Diagram

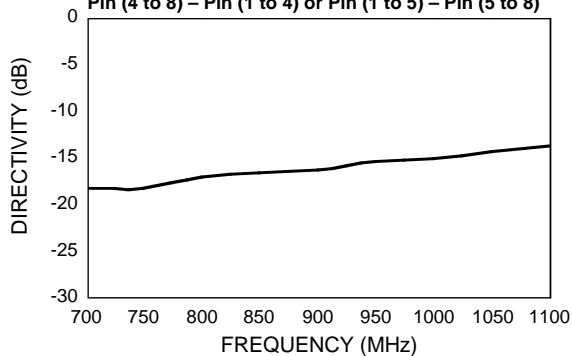


Note: Pins 2, 3, 6, and 7 must be RF and DC grounded.

Typical Performance @ +25°C

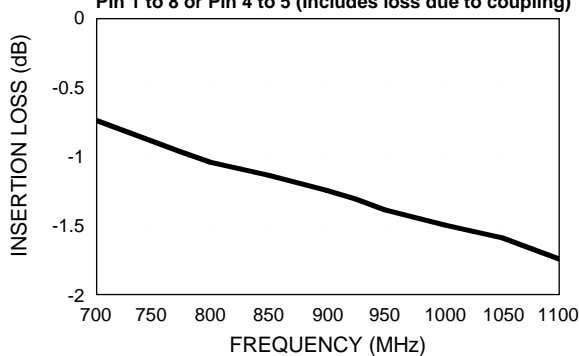
DIRECTIVITY vs. FREQUENCY

Pin (4 to 8) – Pin (1 to 4) or Pin (1 to 5) – Pin (5 to 8)

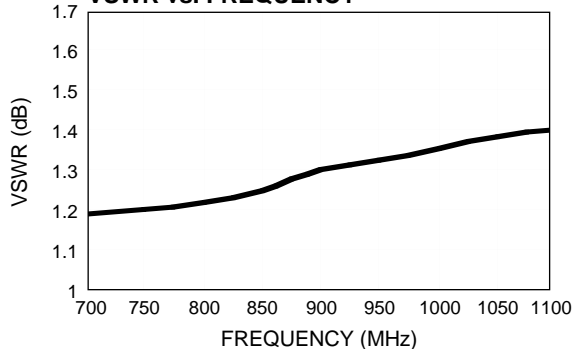


INSERTION LOSS vs. FREQUENCY

Pin 1 to 8 or Pin 4 to 5 (Includes loss due to coupling)



VSWR vs. FREQUENCY



COUPLING vs. FREQUENCY

Pin 5 to 8 or Pin 1 to 4

