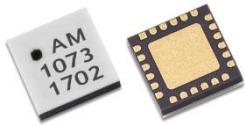


# AM1073 - Amplifier

## DC to 8 GHz Bidirectional/Bypassable

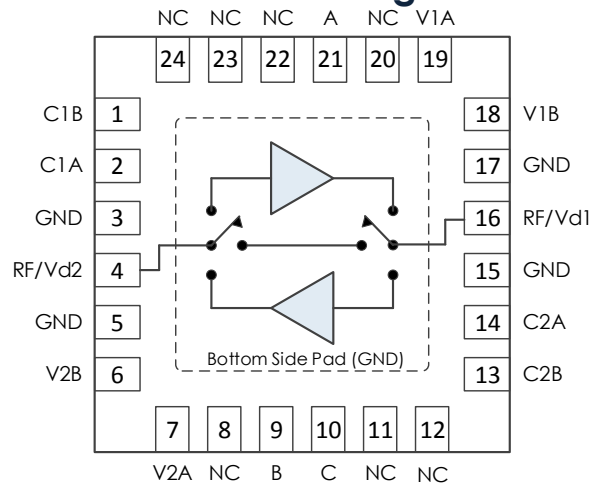


The AM1073 is a high dynamic range bidirectional and bypassable DC-coupled amplifier with a bandwidth of 8 GHz. The device is unconditionally stable and exhibits a low bypass mode insertion loss. With internal 50Ω matching and packaged in a 4mm QFN, the AM1073 represents a dramatic size reduction over an equivalent discrete implementation.

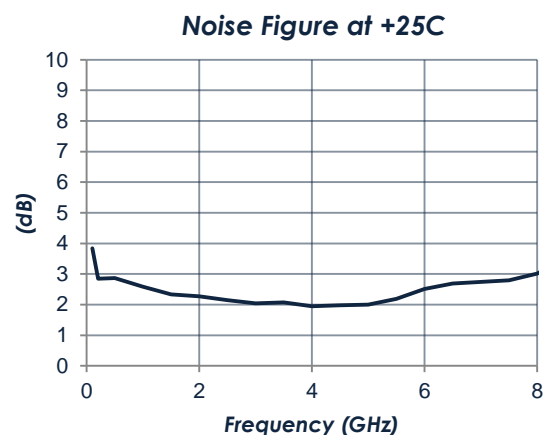
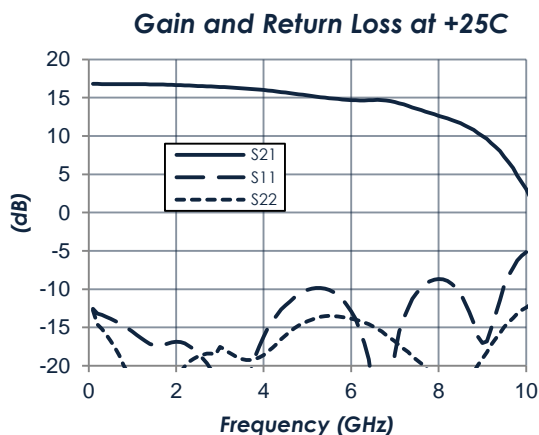
### Features

- 15 dB Gain
- 2.5 dB Noise Figure
- +27 dBm OIP3
- +14 dBm P1dB
- 1.5 dB Bypass Insertion Loss
- +3.3V, 55/1 mA (Gain/Bypass)
- 4mm QFN package
- -40C to +85C Operation

### Functional Diagram



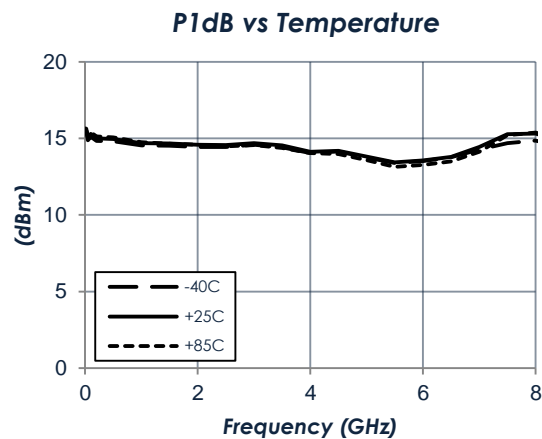
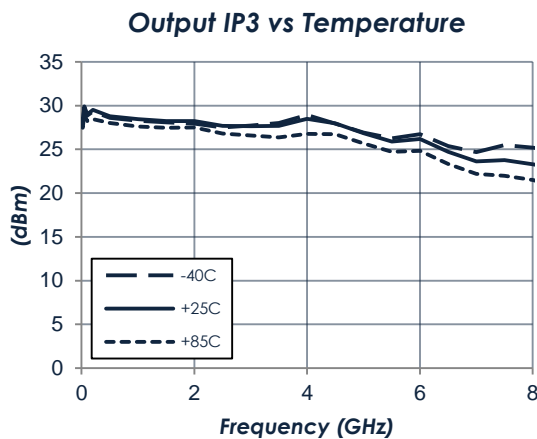
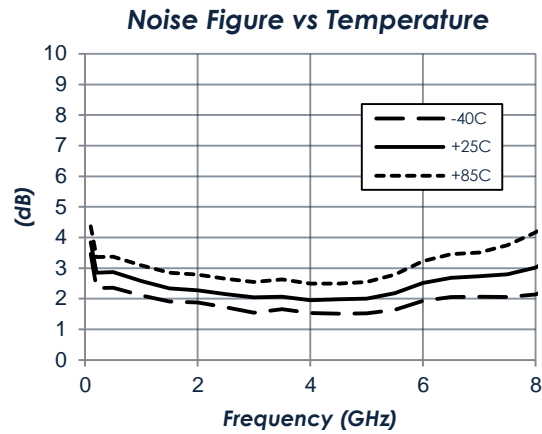
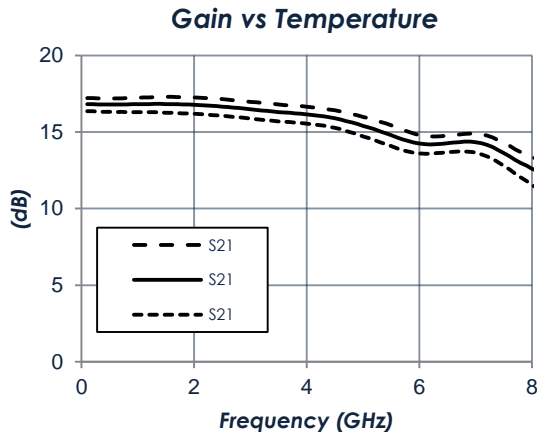
### Performance (Forward or Reverse Gain Mode at $V_d = 3.1V$ , $I_d = 55 mA$ )



# AM1073 - Amplifier

## DC to 8 GHz Bidirectional/Bypassable

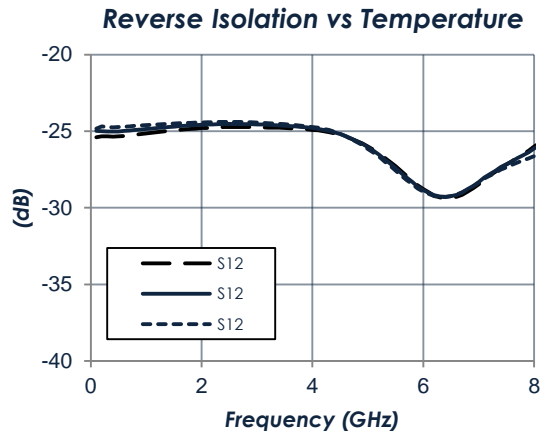
**Performance** (Forward or Reverse Gain Mode at  $V_d = 3.1V$ ,  $I_d = 55\text{ mA}$ , continued)



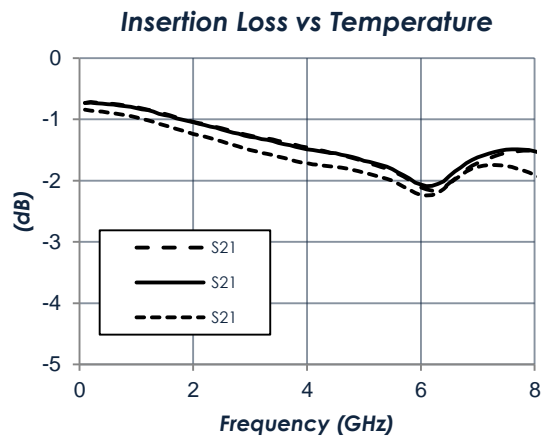
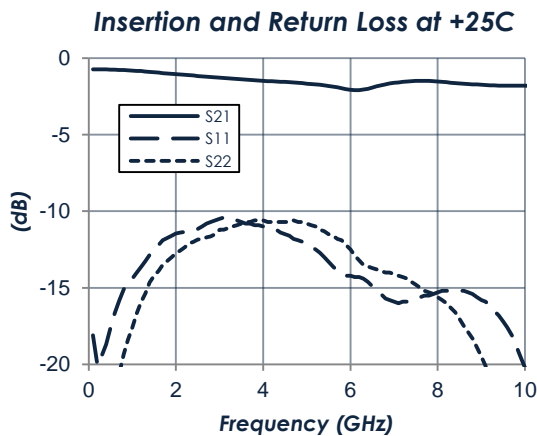
# AM1073 - Amplifier

## DC to 8 GHz Bidirectional/Bypassable

**Performance** (Forward or Reverse Gain Mode at  $V_d = 3.1V$ ,  $I_d = 55\text{ mA}$ , continued)



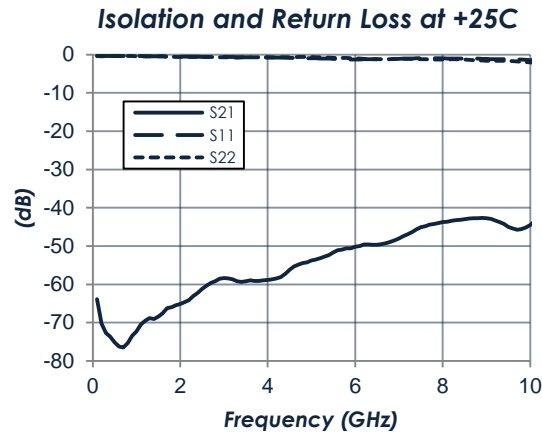
**Performance** (Bypass Mode at  $V_d = 3.1V$ ,  $I_d = 1\text{ mA}$ )



# AM1073 - Amplifier

## DC to 8 GHz Bidirectional/Bypassable

**Performance** (Isolation Mode at  $V_d = 3.1V$ ,  $I_d = 1\text{ mA}$ )



**Additional Specifications** ( $T=25\text{ }^{\circ}\text{C}$  unless otherwise specified)

Current ( $I_d$ ) at +3.1V Device Voltage ( $V_d$ )	55 mA typ, 40 mA to 70 mA max
Device Voltage ( $V_d$ )	+3.1V typ, +2.7V to +3.3V max
Control Logic Level Low	-0.1V to 0.4V
Control Logic Level High	2.2V to 5.0V
Maximum RF Input	+13 dBm
Operating Temperature Range	-40C to +85C
Storage Temperature Range	-50C to +125C

# AM1073 - Amplifier

## DC to 8 GHz Bidirectional/Bypassable

### Amplifier Control:

Control Line			Amplifier
A	B	C	
0	0	0	Isolation
1	0	0	Forward
0	1	0	Reverse
0	0	1	Bypass

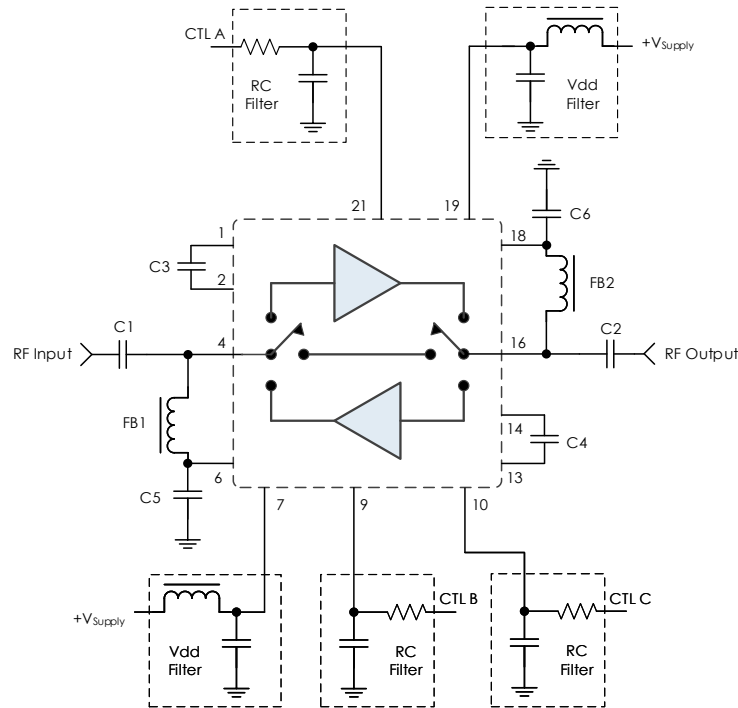
### Notes:

1. No more than one control line should be set high at any time.

# AM1073 - Amplifier

## DC to 8 GHz Bidirectional/Bypassable

### Recommended Application Circuit



### Recommended Component List (or equivalent):

Part Type	Value	Part Number	Manufacturer
C1, C2	0.1uF	0402BB104KW160	Passives Plus
C3, C4	0.1uF	0201BB104KW160	Passives Plus
C5, C6	0.1uF	GRM155R71C104KA88	Murata
FB1, FB2	-	MMZ1005A222E	TDK

### Notes:

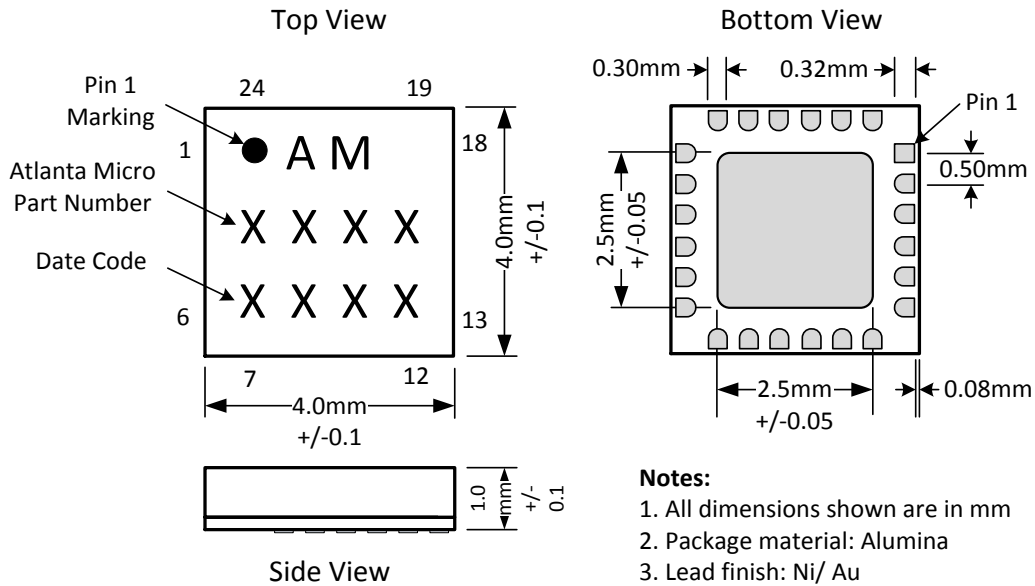
1. Select control line RC filter values based on desired logic source decoupling and switching speed.
2. C3 and C4 should be placed as close to the AM1073 as possible to minimize PCB trace lengths. A 0201 package size is recommended to minimize stray PCB pad capacitance to ground.
3. NC pins may be grounded or left open.

# AM1073 - Amplifier

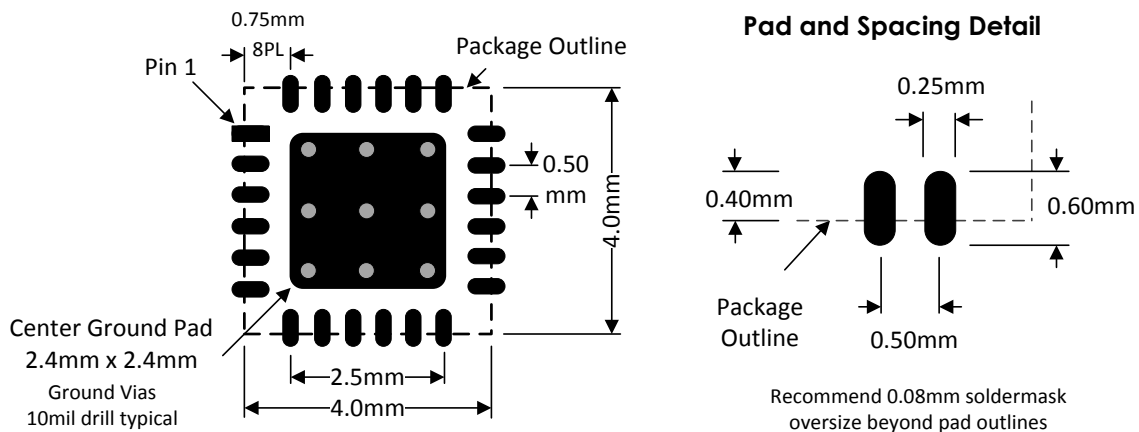
## DC to 8 GHz Bidirectional/Bypassable

### Package Details and Footprint

#### Package Drawing



#### Recommended Footprint



# AM1073 - Amplifier

DC to 8 GHz Bidirectional/Bypassable

AM1073 Evaluation Board

