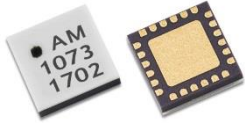


AM1073 - Amplifier

DC to 8 GHz Bidirectional/Bypassable

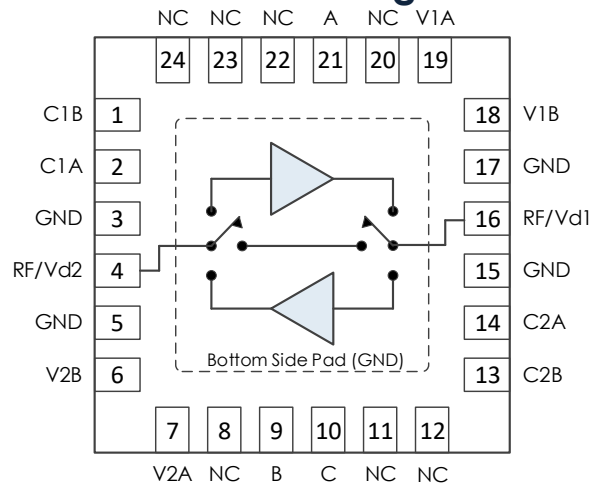


The AM1073 is a high dynamic range bidirectional and bypassable DC-coupled amplifier with a bandwidth of 8 GHz. The device is unconditionally stable and exhibits a low bypass mode insertion loss. With internal 50Ω matching and packaged in a 4mm QFN, the AM1073 represents a dramatic size reduction over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

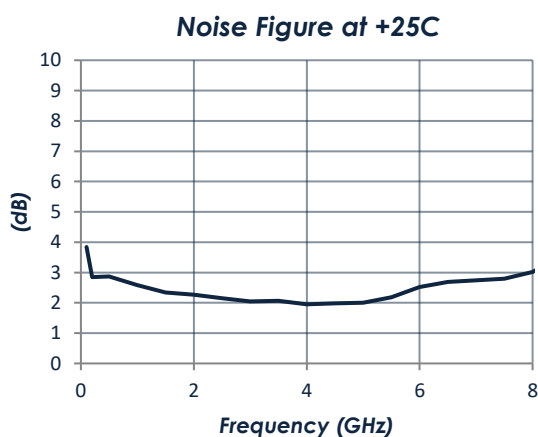
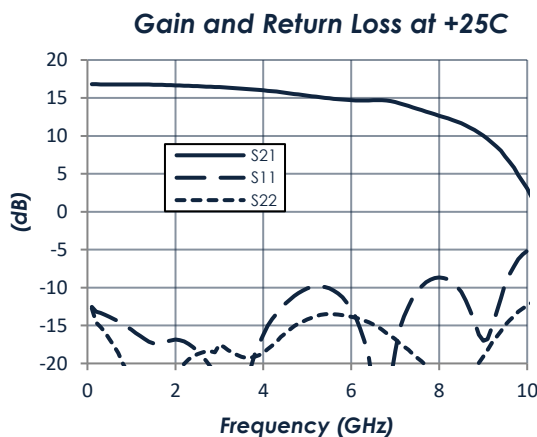
Features

- 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



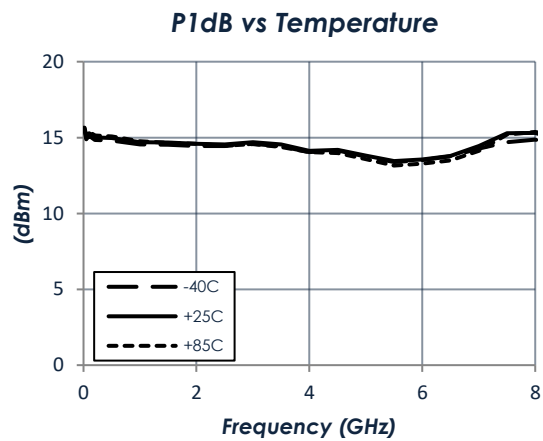
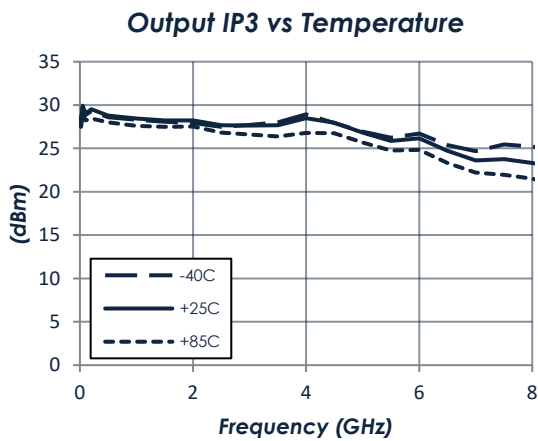
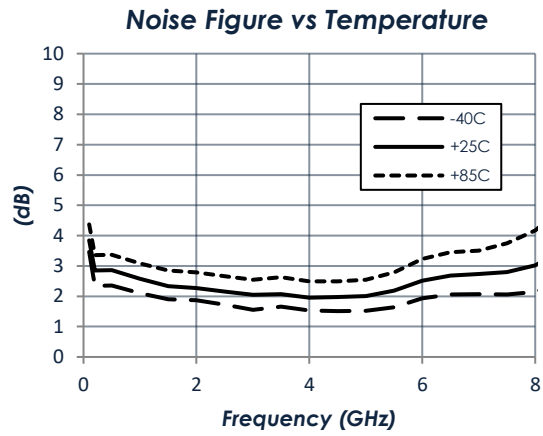
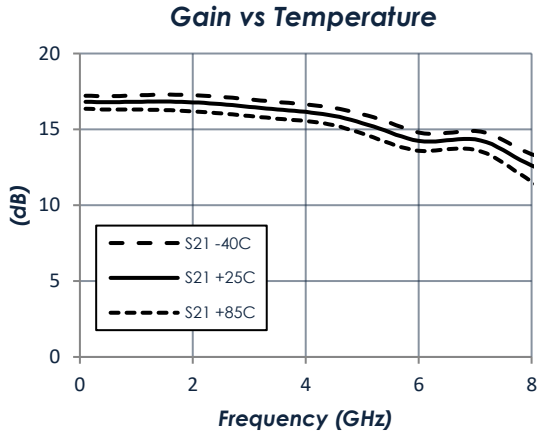
Performance (Forward or Reverse Gain Mode at Vd = 3.1V, Id = 55 mA)



AM1073 - Amplifier

DC to 8 GHz Bidirectional/Bypassable

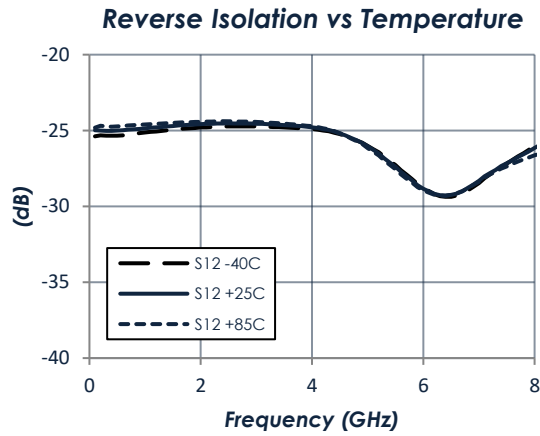
Performance (Forward or Reverse Gain Mode at $V_d = 3.1V$, $I_d = 55\text{ mA}$, continued)



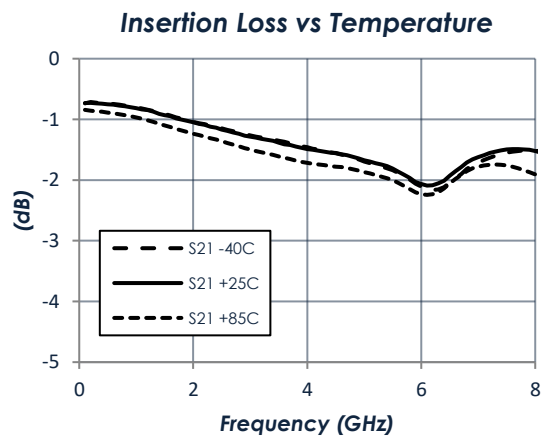
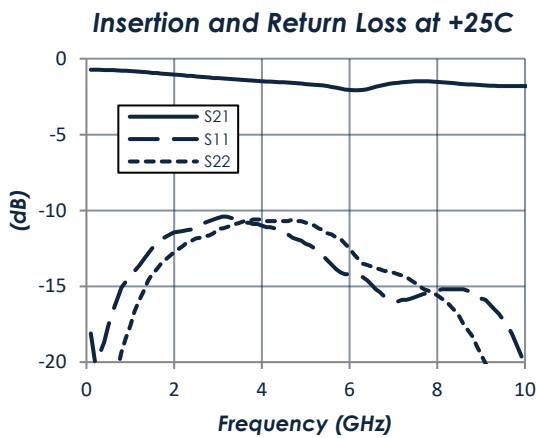
AM1073 - Amplifier

DC to 8 GHz Bidirectional/Bypassable

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



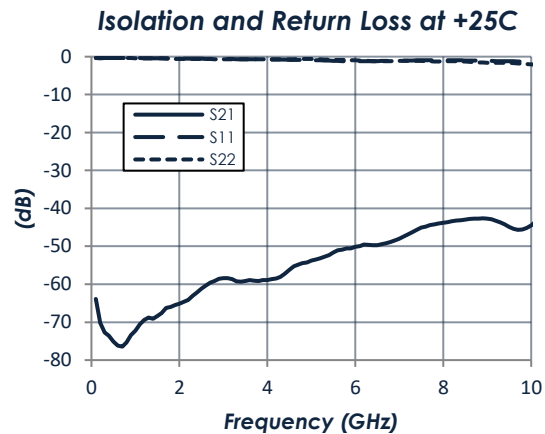
Performance (Bypass Mode at $V_d = 3.1V$, $I_d = 1\text{ mA}$)



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 ($I_{d1/2}$) at +3.1V Device Voltage ($V_{d1/2}$)	55 mA typ, 40 mA to 70 mA max
Device Voltage ($V_{d1/2}$)	+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	+20 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

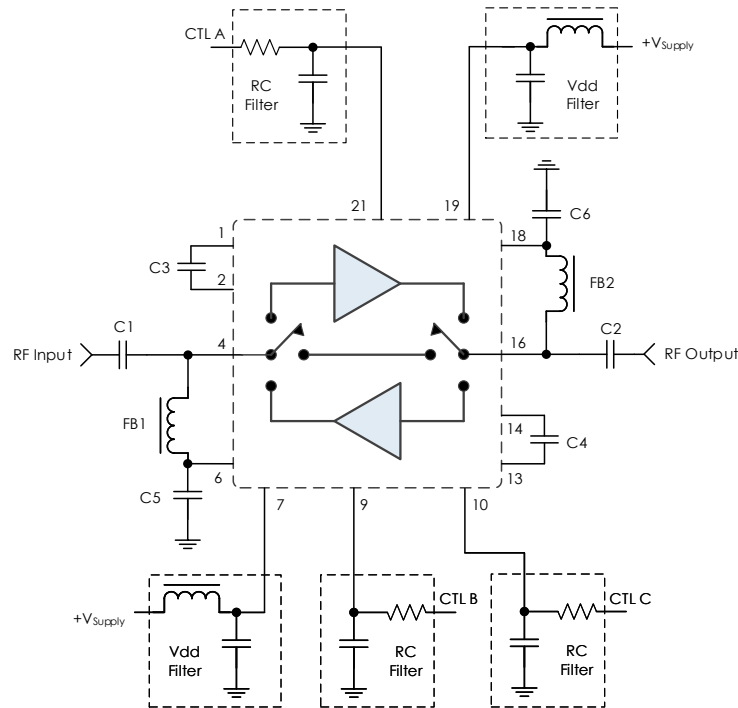
Notes:

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:

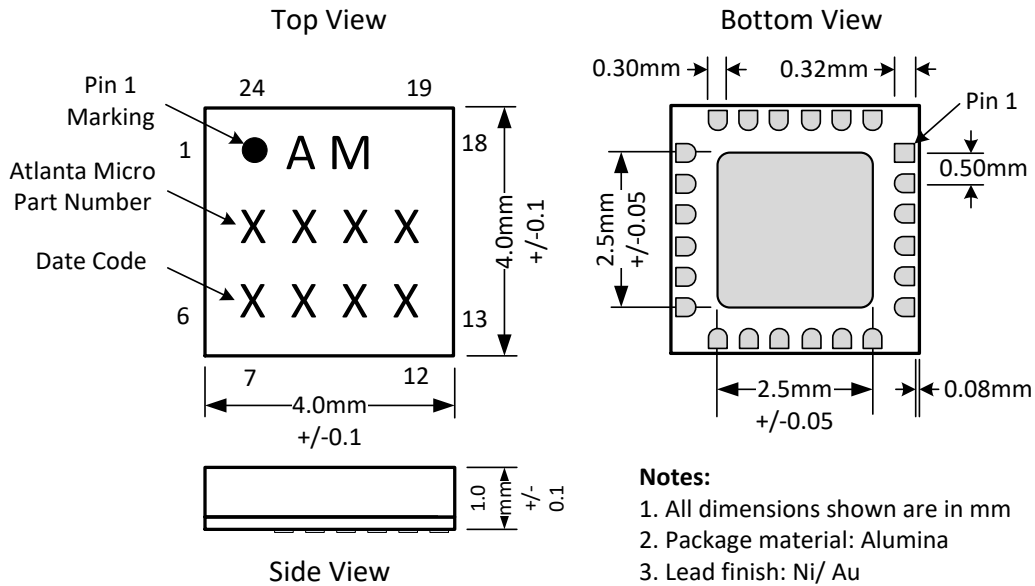
1. Select control line RC filter values based on desired logic source decoupling and switching speed.
2. C3 and C4 should be placed as close to the AM1073 as possible to minimize PCB trace lengths. A 0201 package size is recommended to minimize stray PCB pad capacitance to ground.
3. NC pins may be grounded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

AM1073 - Amplifier

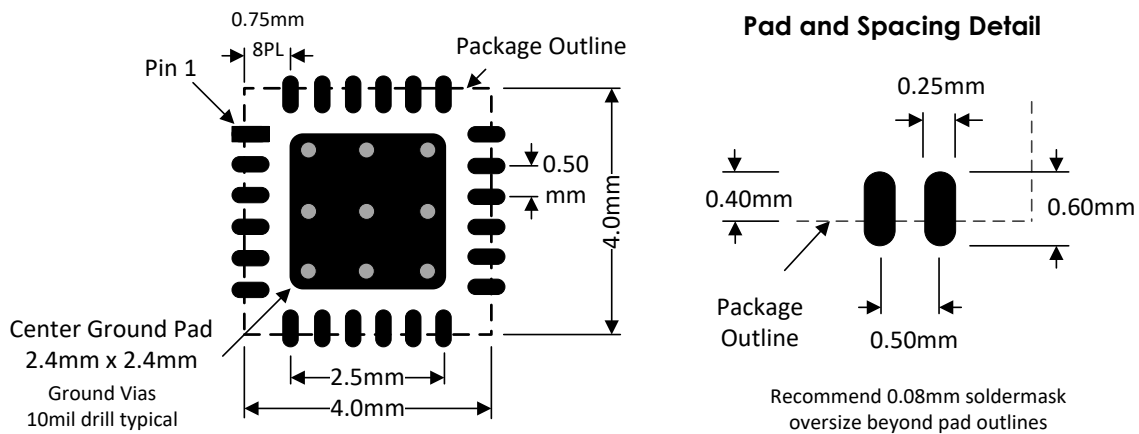
DC to 8 GHz Bidirectional/By-passable

Package Details and Footprint

Package Drawing



Recommended Footprint



AM1073 - Amplifier

DC to 8 GHz Bidirectional/Bypassable

AM1073 Evaluation Board

