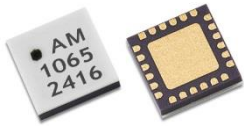


AM1065 - Amplifier

DC to 8 GHz Bypassable

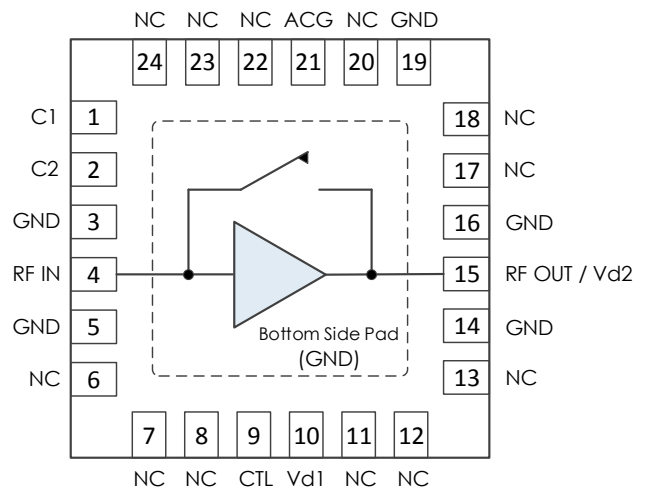


The AM1065 is a high dynamic range bypassable DC-coupled amplifier covering up to 8 GHz. The device exhibits a flat gain response and low bypass insertion loss. Packaged in a 4mm QFN with internal 50Ω matching and requiring a single positive control voltage, the AM1065 represents a dramatic size reduction over a discrete implementation of a bypassable amplifier.

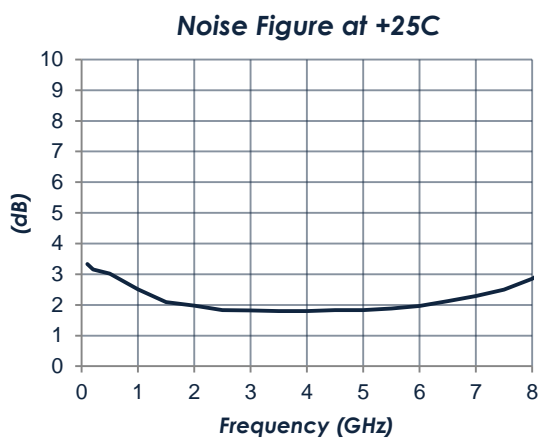
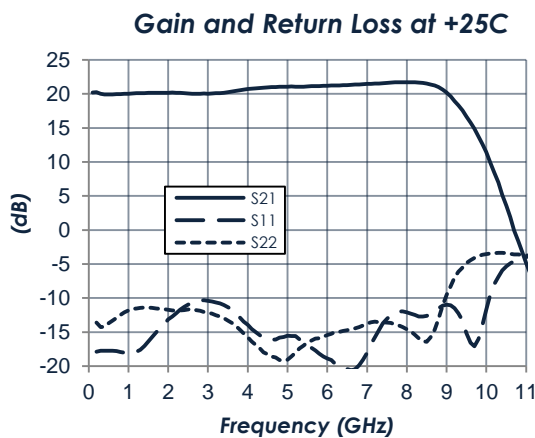
Features

- 20 dB Gain
- 2.5 dB Noise Figure
- +32 dBm OIP3
- +17 dBm P1dB
- 1.5 dB Bypass Insertion Loss
- +5.0V, 72/1 mA (Gain/Bypass)
- +3.0V to +5.0V Supply Range
- +3.3V or +5V Logic Compatible
- 4mm QFN Package

Functional Diagram



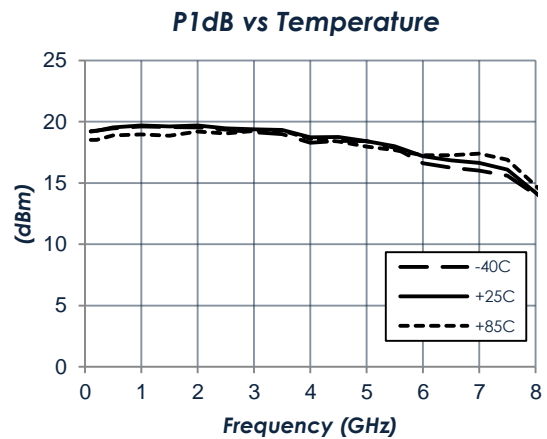
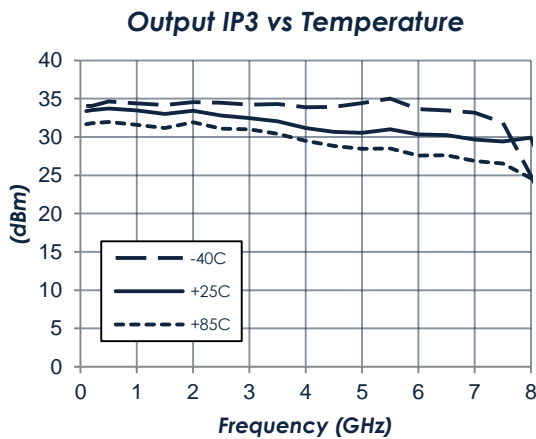
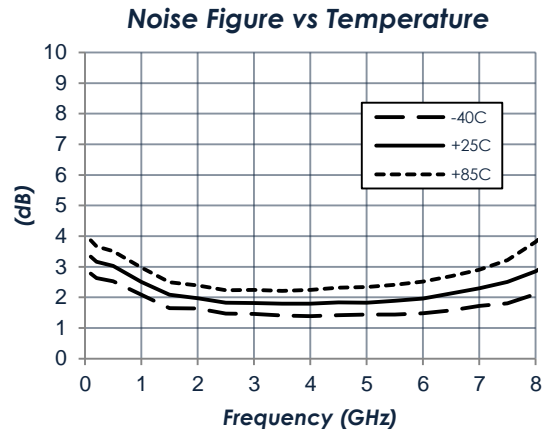
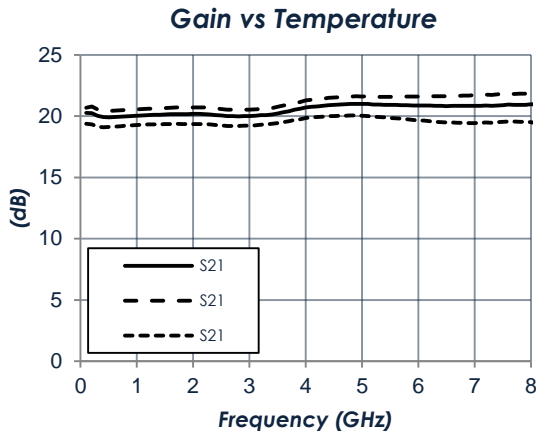
Performance (Gain Mode at 5.0V, 72 mA)



AM1065 - Amplifier

DC to 8 GHz Bypassable

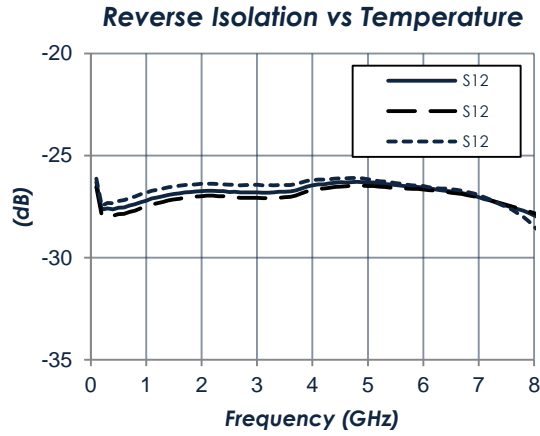
Performance (Gain Mode at 5.0V, 72 mA, continued)



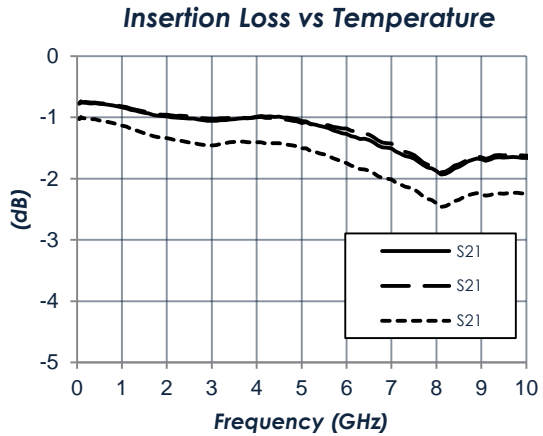
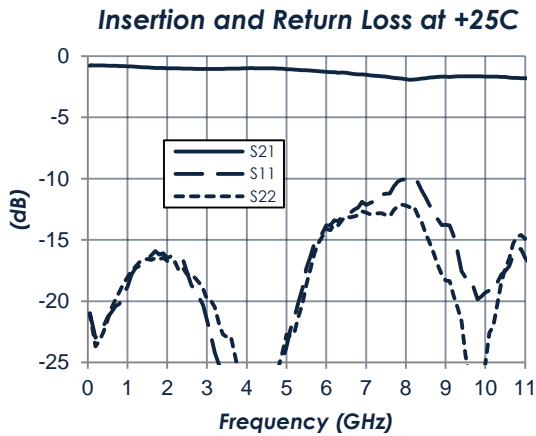
AM1065 - Amplifier

DC to 8 GHz Bypassable

Performance (Gain Mode at 5.0V, 72 mA, continued)



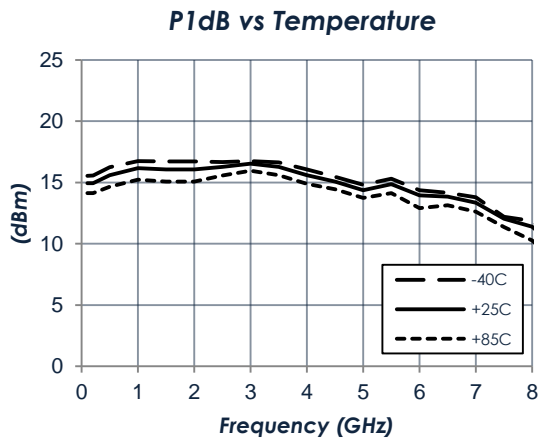
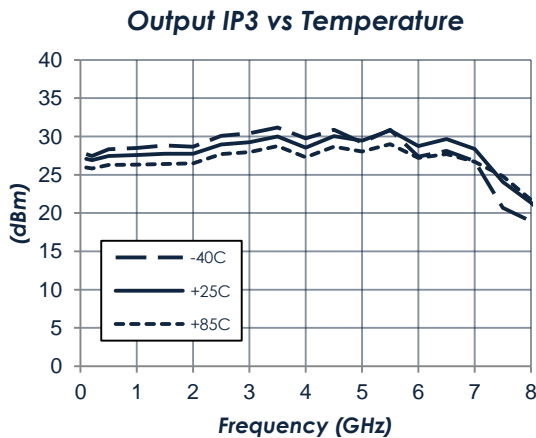
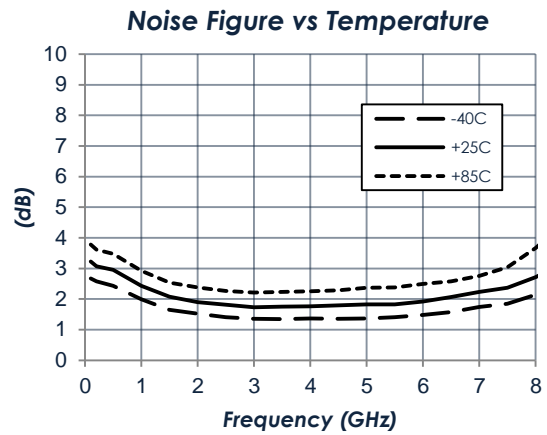
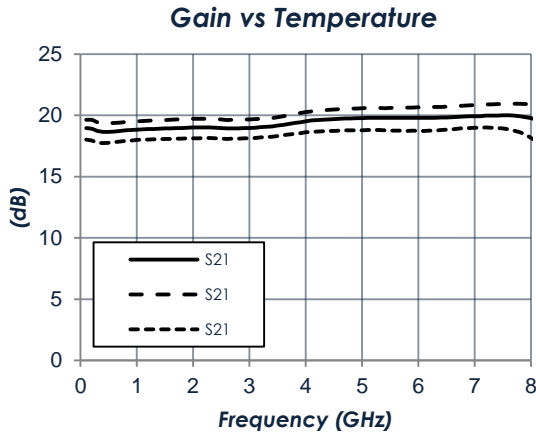
Performance (Bypass Mode at 5.0V, 1 mA)



AM1065 - Amplifier

DC to 8 GHz Bypassable

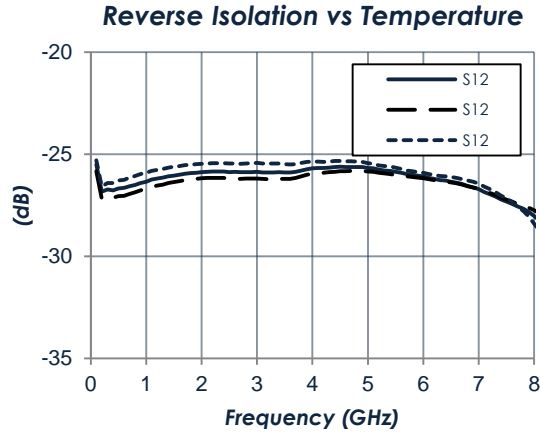
Performance (Gain Mode at 3.3V, 33 mA)



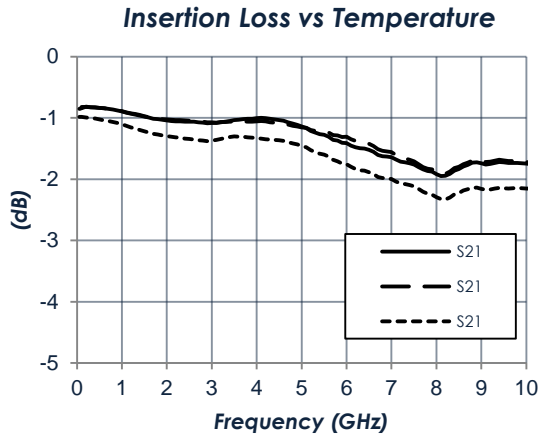
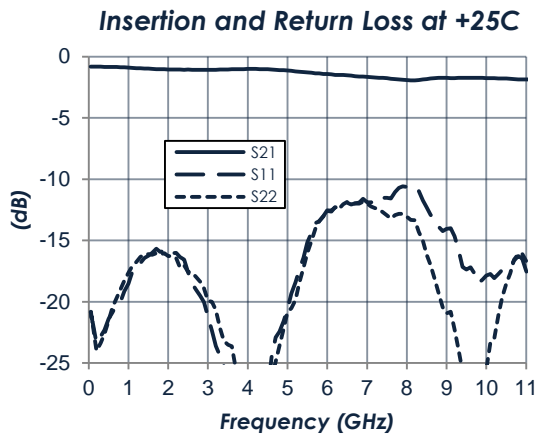
AM1065 - Amplifier

DC to 8 GHz Bypassable

Performance (Gain Mode at 3.3V, 33 mA, continued)



Performance (Bypass Mode at 3.3V, 1 mA)



AM1065 - Amplifier

DC to 8 GHz Bypassable

Additional Specifications (T=25 °C unless otherwise specified)

Current (Id2) at +5.0V Device Voltage	72 mA typ, 64 mA to 80 mA max
Current (Id2) at +3.3V Device Voltage	32 mA typ, 28mA to 36mA max
Current (Id1) at +3.3/5.0V Device Voltage	1 mA typ
Device Voltage	+4.7V typ, +3.0V to +5.5V 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

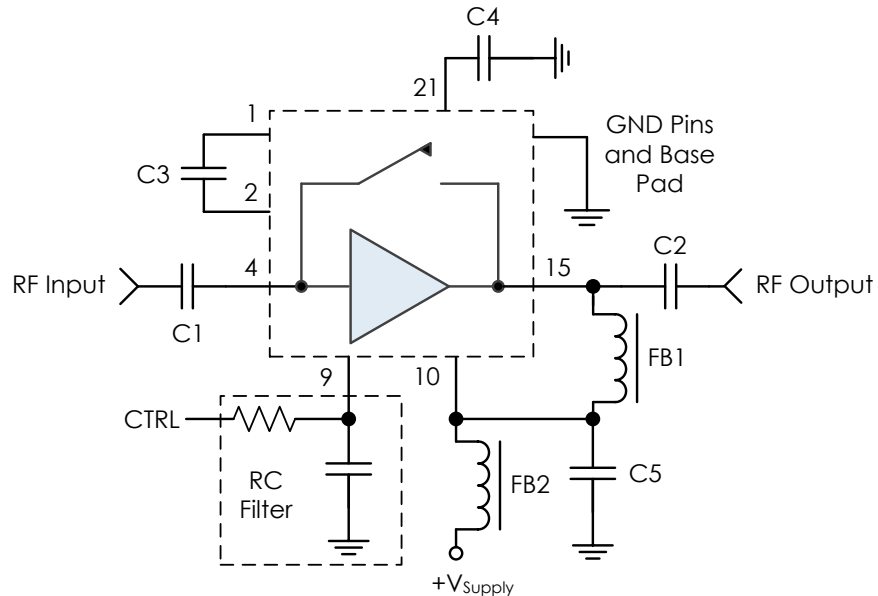
Amplifier Control:

Control Line (CTL)	Amplifier
1	Enabled
0	Bypassed

AM1065 - Amplifier

DC to 8 GHz Bypassable

Recommended Application Circuit



Recommended Component List (or equivalent):

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

Notes:

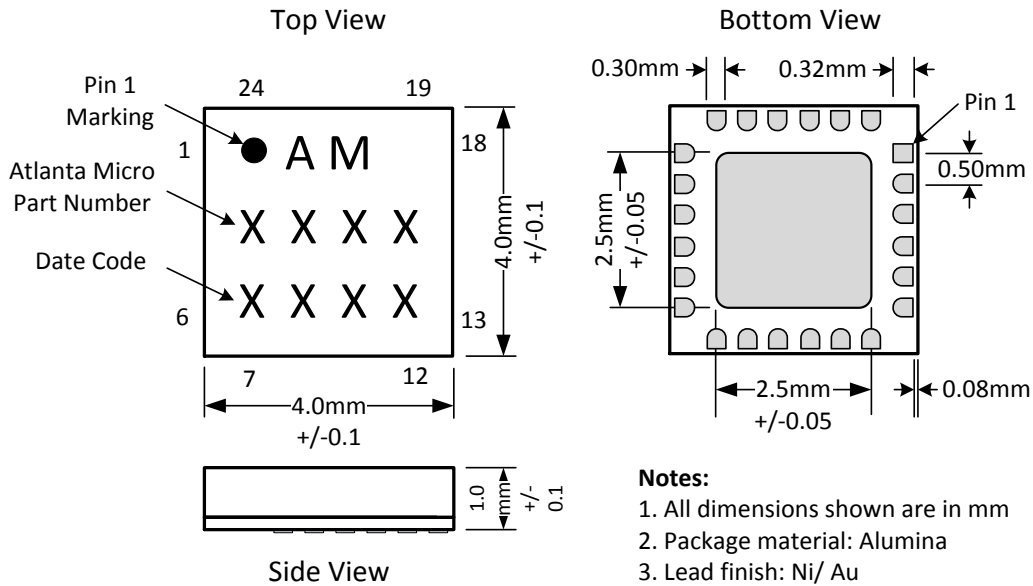
1. Select control line RC filter values based on desired logic source decoupling and switching speed.
2. C3 should be placed as close to the AM1065 as possible to minimize PCB trace lengths. A 0201 package size is recommended to minimize stray PCB pad capacitance to ground.
3. NC pins may be grounded or left open.

AM1065 - Amplifier

DC to 8 GHz Bypassable

Package Details and Footprint

Package Drawing



Recommended Footprint

