

# AM1070 - Amplifier

## DC to 18 GHz Gain Block

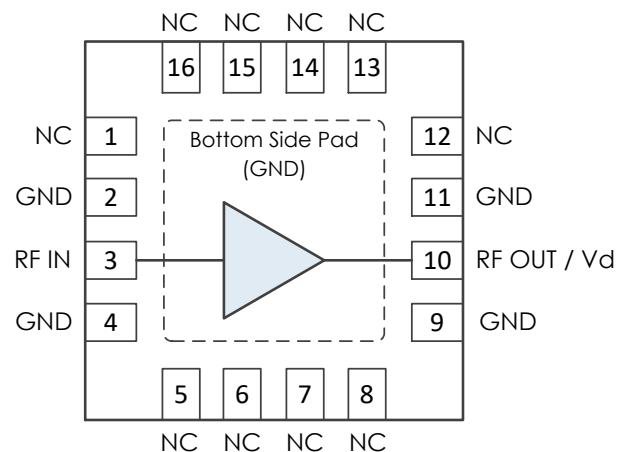


The AM1070 is a high dynamic range DC-coupled amplifier covering up to 18 GHz. With internal 50 $\Omega$  matching and packaged in a 3mm QFN, the AM1070 represents a compact total PCB footprint.

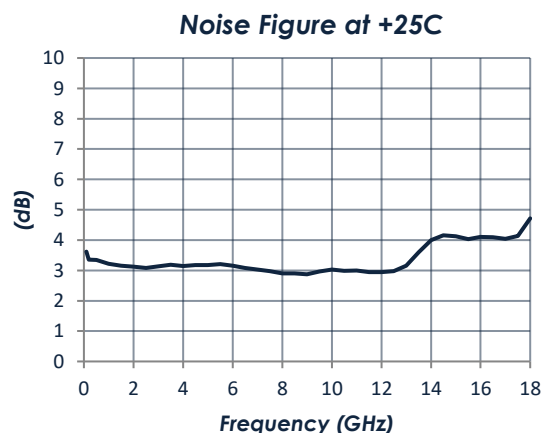
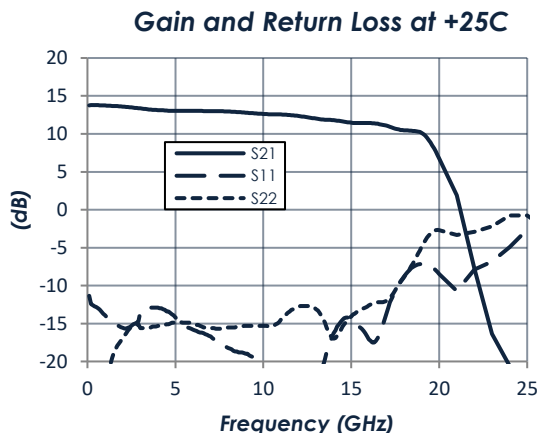
### Features

- 12 dB Gain
- 3 dB Noise Figure
- +27 dBm OIP3
- +15 dBm P1dB
- +3.3V, 60mA Supply
- 3mm QFN
- -40C to +85C Operation

### Functional Diagram



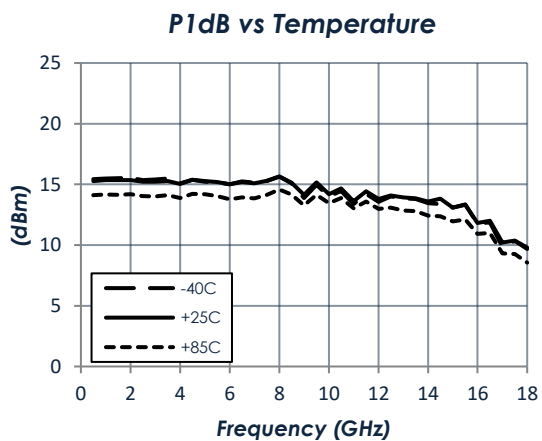
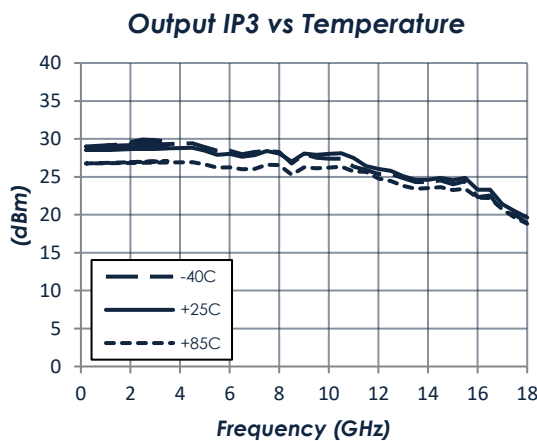
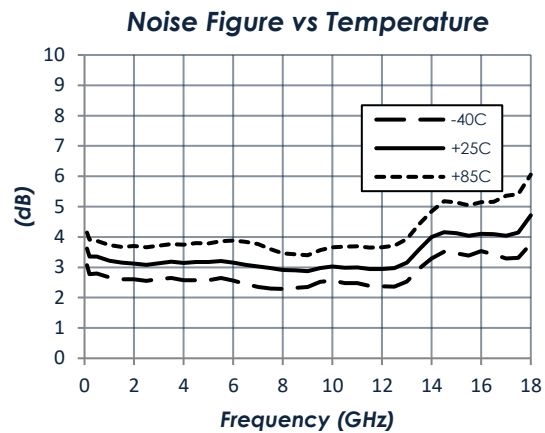
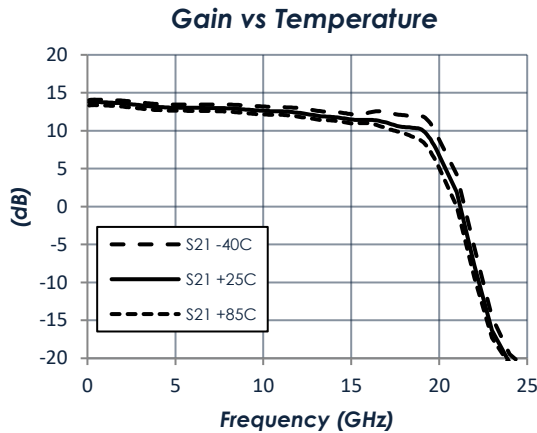
### Performance (at Vd = 3.1V, Id = 60 mA)



# AM1070 - Amplifier

## DC to 18 GHz Gain Block

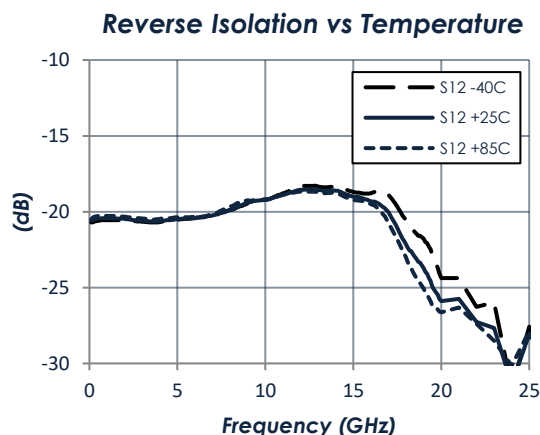
**Performance** (at  $V_d = 3.1V$ ,  $I_d = 60\text{ mA}$ , continued)



# AM1070 - Amplifier

## DC to 18 GHz Gain Block

**Performance** (at  $V_d = 3.1V$ ,  $I_d = 60\text{ mA}$ , continued)



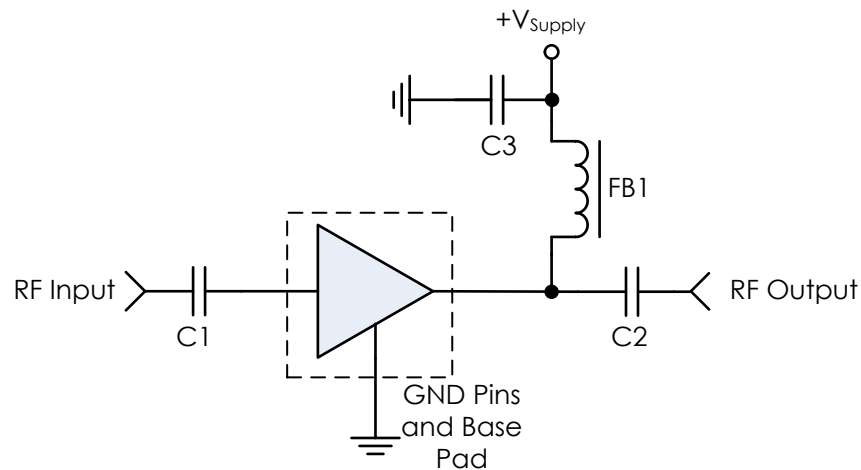
**Additional Specifications** ( $T=25\text{ }^{\circ}\text{C}$  unless otherwise specified)

|                                                     |                               |
|-----------------------------------------------------|-------------------------------|
| Current ( $I_d$ ) at +3.1V Device Voltage ( $V_d$ ) | 60 mA typ, 45 mA to 75 mA max |
| Device Voltage ( $V_d$ )                            | +3.1V typ, +2.7V to +3.3V max |
| Maximum RF Input                                    | +13 dBm                       |
| Operating Temperature Range                         | -40C to +85C                  |
| Storage Temperature Range                           | -50C to +125C                 |

# AM1070 - Amplifier

## DC to 18 GHz Gain Block

### Recommended Application Circuit



### Recommended Component List (or equivalent):

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

### Notes:

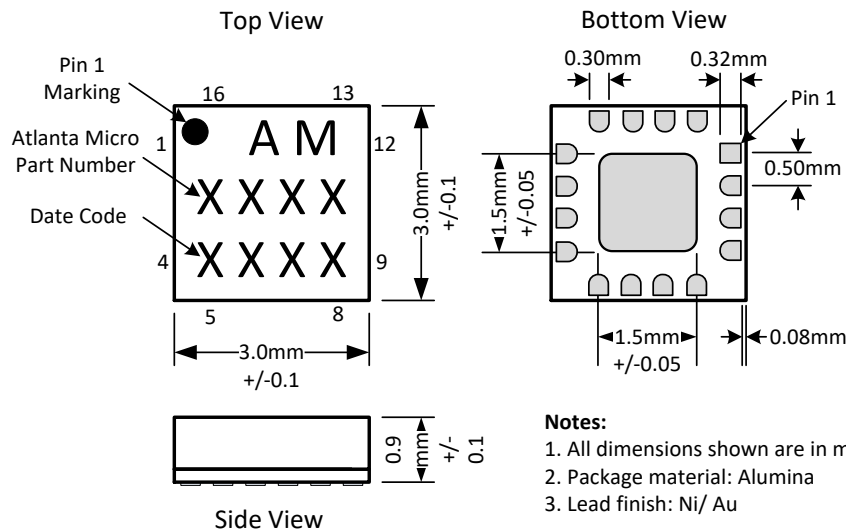
1. NC pins may be grounded or left open.

# AM1070 - Amplifier

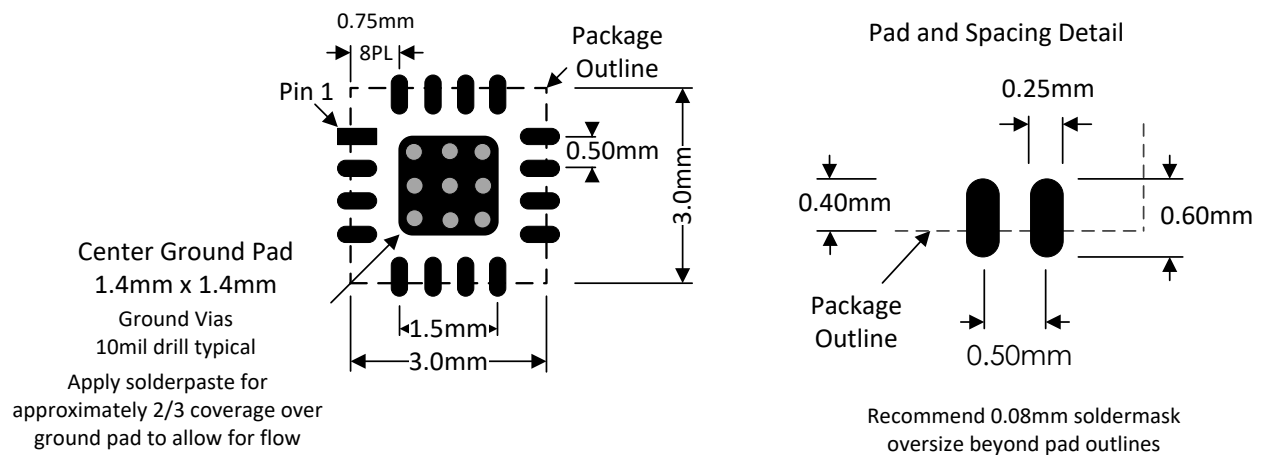
## DC to 18 GHz Gain Block

### 3mm QFN Package Details and Footprint

#### Package Drawing



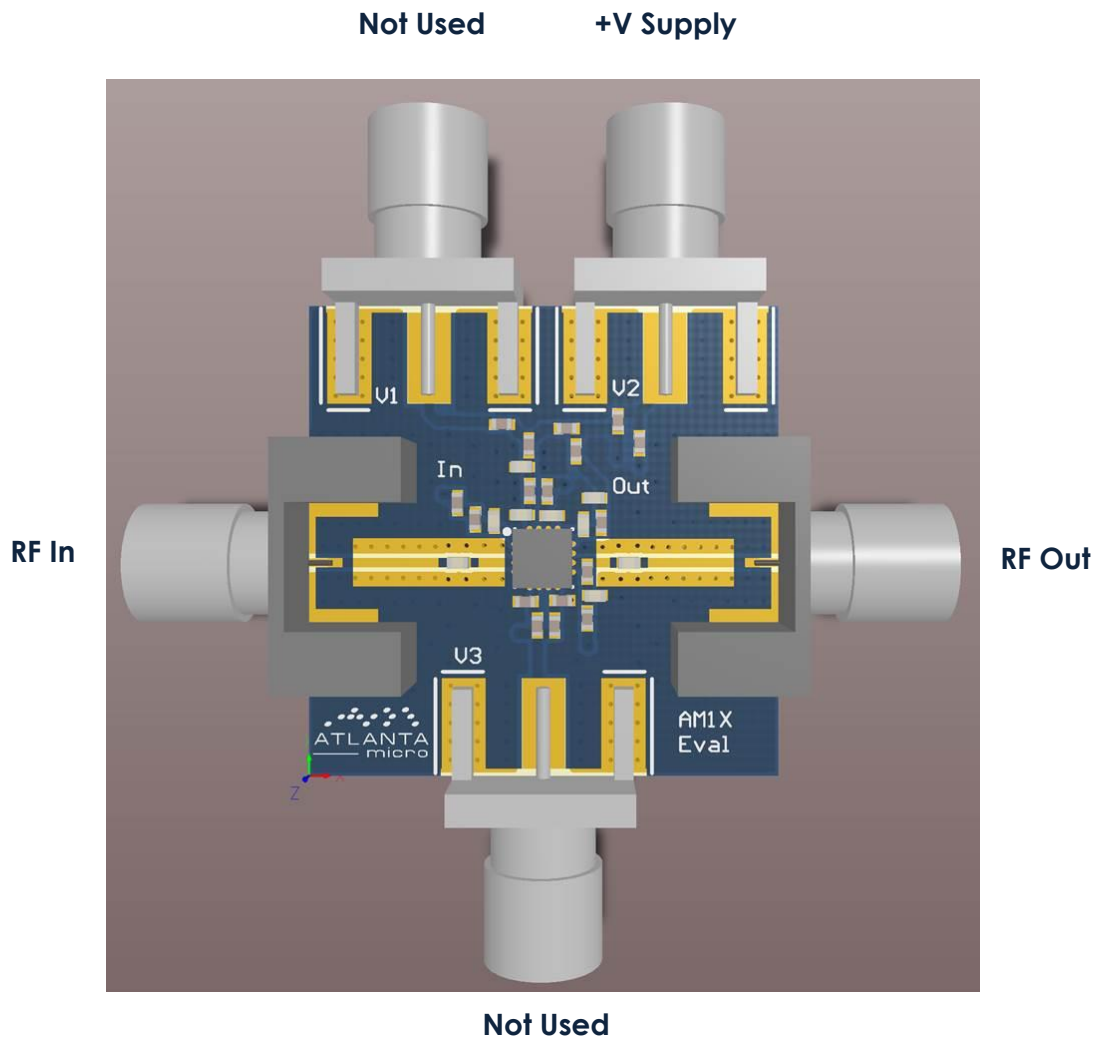
#### Recommended Footprint



# AM1070 - Amplifier

## DC to 18 GHz Gain Block

### AM1070 Evaluation Board



Note: Some of the components shown will not be installed.