

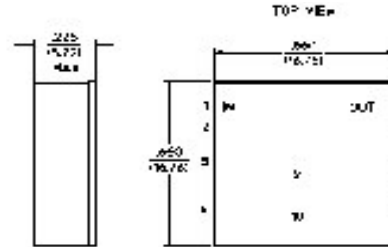
**High Intercept Amplifier,
15 - 100 MHz**

**AM05-0006
V2**

Features

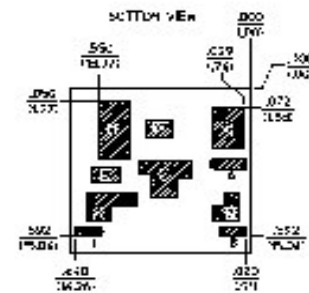
- Gain: 10.1 dB Nominal
- IP3 of +43 dBm Typical
- Land Grid Array (LGA) Package
- Compression point of +27 dBm Typical
- 50 ohm impedance
- Test boards are available
- Tape and Reel Packaging Available

LGA-1



Description

M/A-COM's AM05-0006 is a coupler feedback amplifier with high intercept and compression points. This device is in a ceramic land grid array package. This package is designed for standard surface mount pick and place. Due to the ceramic package the thermal rise minimized. The ground plane on the PC board should be configured to remove heat from under the package. AM05-0006 is ideally suited for use where a high intercept commercial amplifier is required at a low cost.



Electrical Specifications: T_A = 25°C

| Parameter | Test Conditions | Frequency | Units | Min. | Typ. | Max. |
|------------------------|-------------------------------|--------------|-------|------|-------|-------|
| Gain | — | 50 MHz | dB | 9.6 | 10.1 | 10.6 |
| Gain Flatness | — | 15 - 100 MHz | dB | — | ±0.2 | ±0.4 |
| VSWR | — | 15 - 100 MHz | Ratio | — | 1.4:1 | 1.8:1 |
| 1 dB Compression | Output Power | 15 - 100 MHz | dBm | 23 | 27 | — |
| Output IP ₂ | Two-Tone inputs up to +10 dBm | 15 - 100 MHz | dBm | 55 | 65 | — |
| Output IP ₃ | Two-Tone inputs up to +10 dBm | 15 - 100 MHz | dBm | 40 | 46 | — |
| Noise Figure | — | 15 - 100 MHz | dB | — | 3.0 | 5.0 |
| Reverse Transmission | — | 15 - 100 MHz | dB | — | -14 | -13 |
| +V | — | — | V | 11.4 | 12.0 | 12.6 |
| I _{bias} | 1.1 W Typical | — | mA | — | 88 | 120 |

**High Intercept Amplifier,
15 - 100 MHz**

**AM05-0006
V2**

S-Parameter Data

| Frequency (MHz) | S11 MAG/ANG | S21 dB/MAG/ANG | S12 dB/MAG/ANG | S22 MAG/ANG |
|-----------------|-------------|----------------|-----------------|-------------|
| 5 | 0.0928/-30 | 9.63/3.03/-176 | -14.28/0.19/175 | 0.11055/44 |
| 20 | 0.0576/-32 | 9.98/3.16/170 | -14.02/0.20/170 | 0.0513/-20 |
| 35 | 0.0384/-22 | 10.13/3.21/158 | -13.95/0.20/161 | 0.0453/-22 |
| 50 | 0.0323/-3 | 10.21/3.24/146 | -14.05/0.20/151 | 0.0582/-21 |
| 65 | 0.0355/26 | 10.29/3.27/136 | -14.27/0.19/141 | 0.0792/-27 |
| 80 | 0.0471/45 | 10.41/3.31/124 | -14.61/0.19/133 | 0.1042/-37 |
| 95 | 0.0618/50 | 10.53/3.36/113 | -15.03/0.18/124 | 0.1288/-49 |
| 110 | 0.0778/51 | 10.71/3.43/102 | -15.54/0.17/115 | 0.1496/-61 |
| 125 | 0.0936/49 | 10.95/3.53/91 | -16.19/0.16/107 | 0.1639/-74 |

Pin Configuration

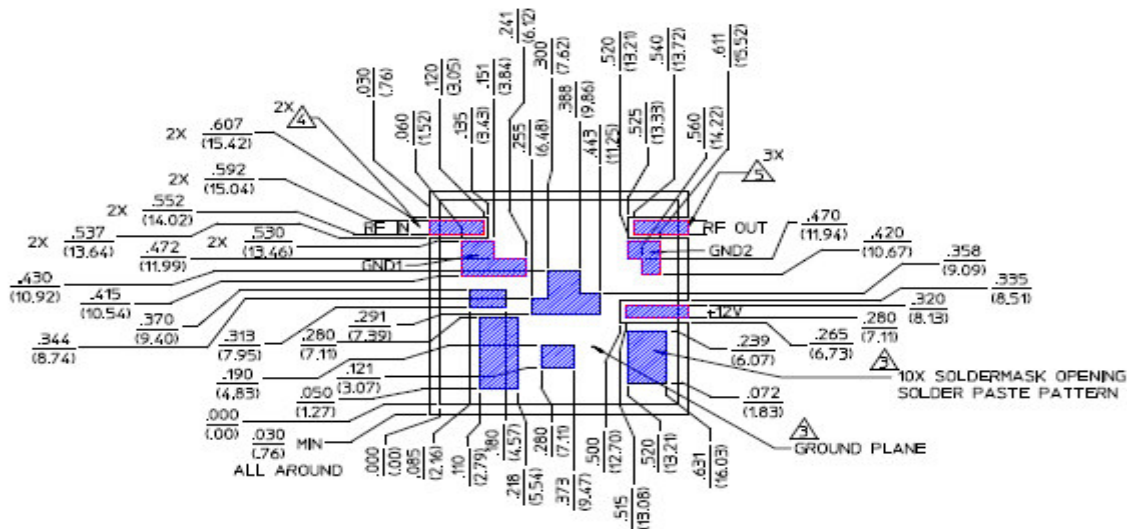
| Pin No. | Function | Pin No. | Function |
|---------|----------|---------|-------------------|
| 1 | RF IN | 6 | V _{bias} |
| 2 | GND 1 | 7 | GND 2 |
| 3 | GND | 8 | RF OUT |
| 4 | GND | 9 | GND |
| 5 | VDC | 10 | GND |

Absolute Maximum Ratings ¹

| Parameter | Absolute Maximum |
|-----------------------|------------------|
| Max. Input Power | +15 dBm |
| V _{bias} | -0.5 to +14.0 V |
| Operating Temperature | -40°C to +85°C |
| Storage Temperature | -65°C to +125°C |

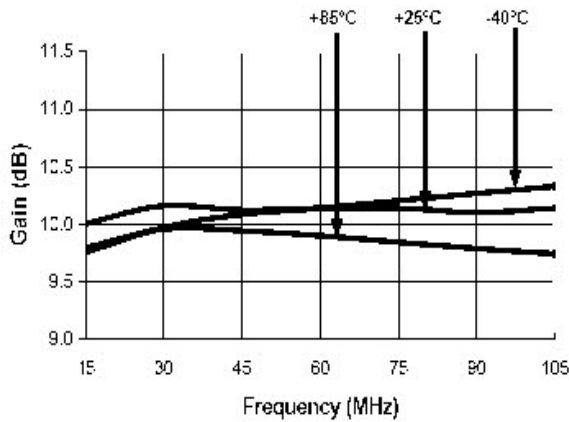
1. Operation of this device above any one of these parameters may cause permanent damage.

Recommended Board Layout

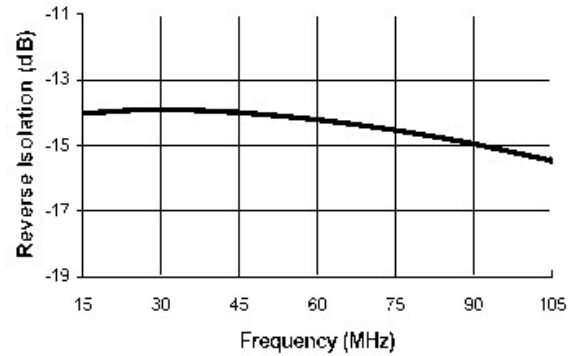


Typical Performance Curves

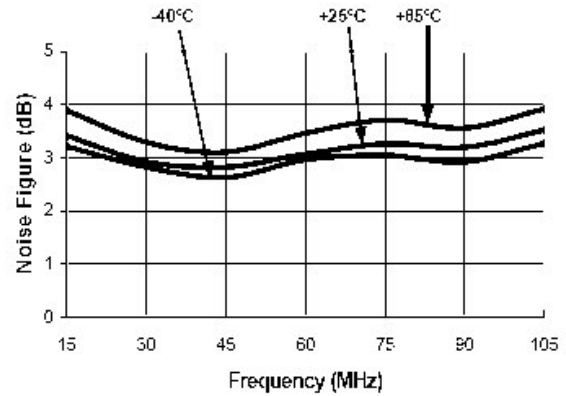
Insertion Loss vs. Frequency



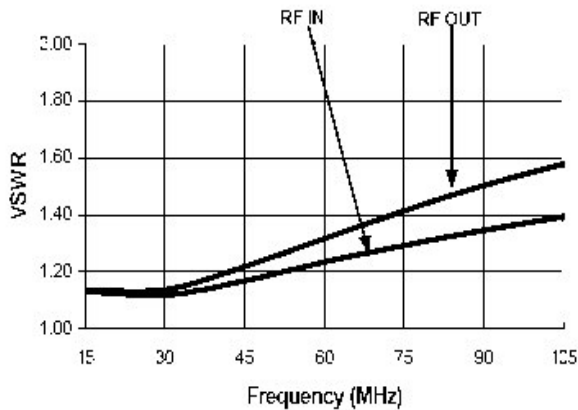
Reverse Isolation vs. Frequency



Noise Figure vs. Frequency



VSWR vs. Frequency



Ordering Information

| Part Number | Package |
|--------------|-------------------------------|
| AM05-0006 | Bulk Packaging |
| AM05-0006TR | Tape and Reel (1K Reel) |
| AM05-0006-TB | Device provided on Test Board |