



查询"AP1309"供应商

AP1309 10 TO 1300 MHz TO-8 CASCADABLE AMPLIFIER

Typical Values

| | |
|------------------------------------|---------------|
| Low Noise Figure | AP1309 |
| High Output Power | <2.5 dB |
| High Third Order I.P. | +23.0 dBm |
| High Performance Thin Film | +36 dBm |
| Standard Size TO-8 | |

SPECIFICATIONS*

| Parameter | Typical | Guaranteed | |
|------------------------------------|---------------------|--------------------|--------------------|
| | | 0 to 50° C | -55 to +85° C |
| Frequency (Min.) | 10-1400 MHz | 10-1300 MHz | 10-1300 MHz |
| Small Signal Gain (Min.) | 12.5 dB | 12.0 dB | 11.5 dB |
| Gain Flatness (Max.) | ±0.2 dB | ±0.4 dB | ±0.5 dB |
| Noise Figure (Max.) 50-1200 MHz | <2.5 dB | 3.0 dB | 3.5 dB |
| SWR (Max.) | | | |
| Input | <1.5:1 [^] | 1.7:1 [^] | 1.9:1 [^] |
| Output | <1.7:1 | 1.9:1 | 2.0:1 |
| Power Output (Min.) @ 1dB comp. | +23.0 dBm | +22.0 dBm | +21.5 dBm |
| DC Current (Max.) | 100 mA | 105.0 mA | 110.0 mA |

* Measured in a 50-ohm system at +15 Vdc unless otherwise specified.
[^] 0.3 higher at 10 MHz.

INTERMODULATION PERFORMANCE

| Typical @ 25° C; 500 MHz | +12 Volts | +15 Volts |
|---|-----------|-----------|
| Second Order Harmonic Intercept Point | +57 dBm | +54 dBm |
| Second Order Two Tone Intercept Point | +51 dBm | +49 dBm |
| Third Order Two Tone Intercept Point | +35 dBm | +36 dBm |

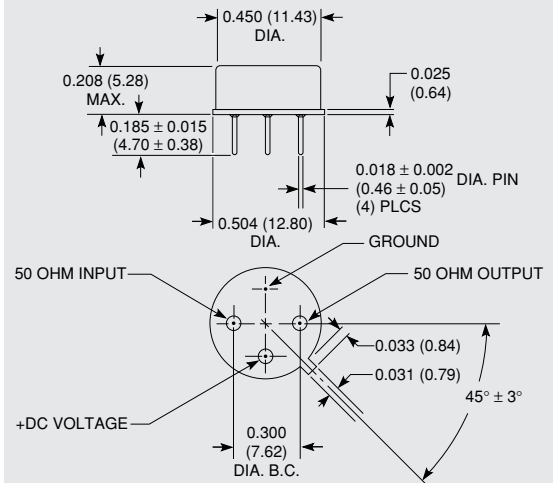
ABSOLUTE MAXIMUM RATINGS

| | |
|--|----------------|
| Storage Temperature | -62 to 125° C |
| Maximum Case Temperature | +125° C |
| Maximum DC Voltage | +17 Volts |
| Maximum Continuous RF Input Power | +20 dBm |
| Maximum Short Term Input Power (1 Minute Max.) | 250 Milliwatts |
| Maximum Peak Power (3 μsec Max.) | 0.5 Watt |
| Burn-in Temperature | +105° C |
| Thermal Resistance ¹ (θjc) | +14° C/Watt |
| Junction Temperature Rise Above Case (Tjc) | +22.4° C |

¹ Thermal resistance is based on total power dissipation.

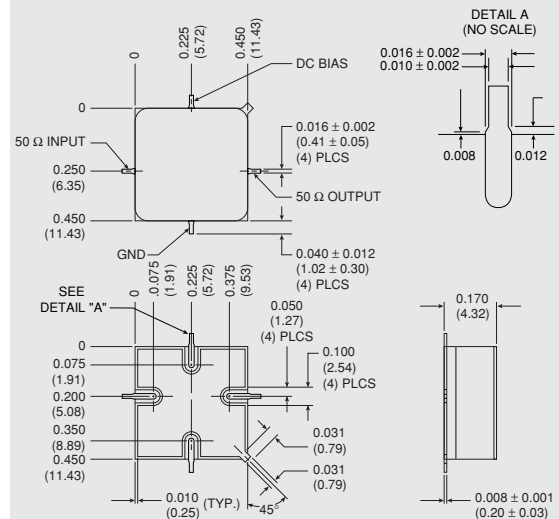
AP1309

TO-8 Package for Amplifiers



APS1309

SMT0-8 Package for Amplifiers

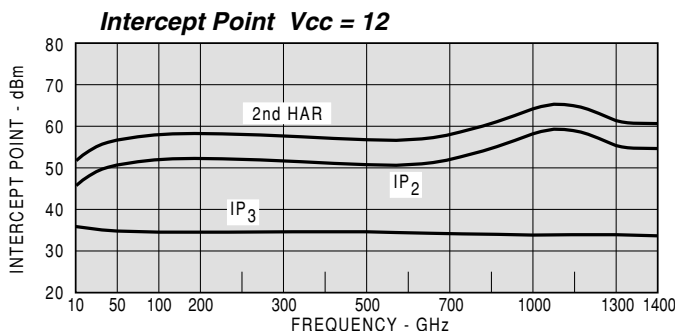
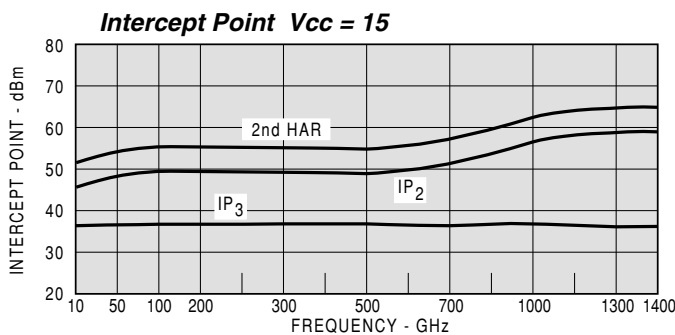
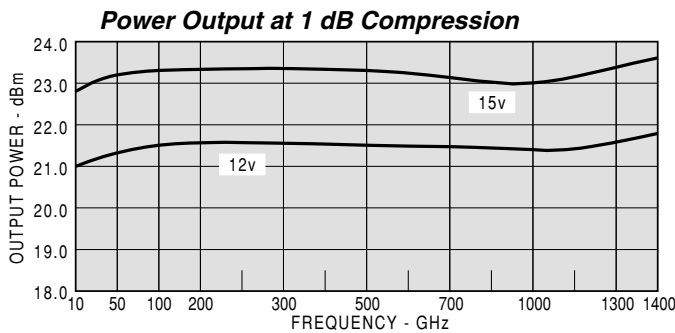
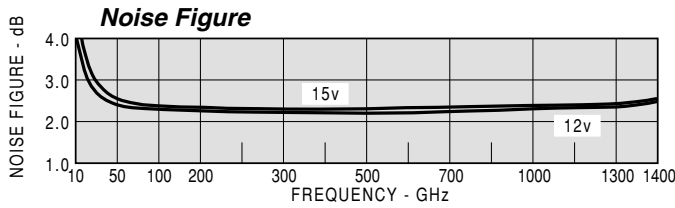
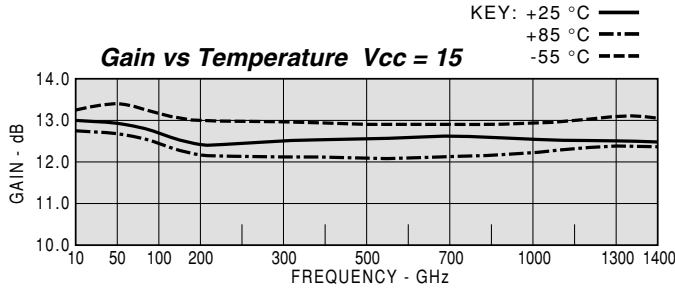


DIMENSIONS ARE IN INCHES (MILLIMETERS)



TYPICAL PERFORMANCE

TYPICAL AUTOMATIC TEST DATA



| Model: AP1309 | | | Vcc= +15V | | | Icc=100.89 | |
|---------------|------|------|-----------|-------|-------|------------|--|
| FREQ | SWR | SWR | GAIN | PHASE | DELAY | REV/ISO | |
| MHZ | IN | OUT | DB | DEG | NSEC | DB | |
| 10 | 1.82 | 1.64 | 12.99 | -153 | | -20.8 | |
| 30 | 1.40 | 1.67 | 13.05 | -176 | | -21.0 | |
| 50 | 1.38 | 1.67 | 12.99 | 177 | 0.84 | -21.1 | |
| 100 | 1.39 | 1.61 | 12.78 | 167 | 0.51 | -20.8 | |
| 300 | 1.41 | 1.50 | 12.52 | 141 | 0.36 | -20.4 | |
| 500 | 1.36 | 1.52 | 12.56 | 114 | 0.38 | -20.2 | |
| 700 | 1.31 | 1.53 | 12.55 | 86 | 0.38 | -19.8 | |
| 900 | 1.27 | 1.55 | 12.55 | 58 | 0.40 | -19.3 | |
| 1000 | 1.27 | 1.56 | 12.57 | 44 | 0.39 | -19.1 | |
| 1100 | 1.29 | 1.62 | 12.57 | 30 | 0.41 | -18.9 | |
| 1200 | 1.34 | 1.71 | 12.56 | 14 | 0.43 | -18.5 | |
| 1300 | 1.43 | 1.83 | 12.55 | -1 | 0.42 | -18.3 | |
| 1400 | 1.58 | 2.01 | 12.54 | -18 | 0.47 | -18.1 | |

| Model: AP1309 | | | Vcc=+15V | | | | Icc= 100.89 | |
|---------------|------|--------|----------|--------|-------|--------|-------------|--------|
| FREQ | S11 | | S21 | | S12 | | S22 | |
| MHz | MAG | ANG | MAG | ANG | MAG | ANG | MAG | ANG |
| 10 | 0.29 | -50.0 | 4.46 | -152.9 | 0.091 | 15.6 | 0.24 | -177.0 |
| 30 | 0.17 | -25.5 | 4.49 | -175.9 | 0.089 | 3.6 | 0.25 | 178.9 |
| 50 | 0.16 | -17.1 | 4.46 | 177.3 | 0.088 | 0.9 | 0.25 | 173.2 |
| 100 | 0.16 | -11.4 | 4.35 | 166.7 | 0.091 | -1.8 | 0.23 | 161.1 |
| 300 | 0.17 | -39.3 | 4.22 | 140.9 | 0.096 | -17.8 | 0.20 | 151.8 |
| 500 | 0.15 | -63.0 | 4.25 | 113.7 | 0.097 | -30.8 | 0.21 | 131.5 |
| 700 | 0.13 | -90.5 | 4.24 | 86.3 | 0.102 | -44.9 | 0.21 | 110.8 |
| 900 | 0.12 | -129.5 | 4.24 | 58.3 | 0.108 | -60.5 | 0.22 | 88.3 |
| 1000 | 0.12 | -153.1 | 4.25 | 44.4 | 0.111 | -68.8 | 0.22 | 74.6 |
| 1100 | 0.13 | -179.5 | 4.25 | 29.5 | 0.114 | -77.9 | 0.24 | 60.0 |
| 1200 | 0.14 | 153.3 | 4.25 | 14.1 | 0.120 | -88 | 0.26 | 45.9 |
| 1300 | 0.18 | 127.6 | 4.24 | -1.1 | 0.122 | -99.1 | 0.29 | 31.4 |
| 1400 | 0.23 | 100.6 | 4.24 | -18 | 0.125 | -111.4 | 0.34 | 15.6 |
| 1500 | 0.30 | 76.1 | 4.16 | -35.6 | 0.127 | -124.6 | 0.38 | -0.5 |

| Model: AP1309 | | | Vcc= +12V | | | Icc=88.0 | |
|---------------|------|------|-----------|-------|-------|----------|--|
| FREQ | SWR | SWR | GAIN | PHASE | DELAY | REV/ISO | |
| MHZ | IN | OUT | DB | DEG | NSEC | DB | |
| 10 | 1.82 | 1.68 | 12.75 | -153 | | -20.9 | |
| 30 | 1.44 | 1.71 | 12.80 | -176 | | -21.1 | |
| 50 | 1.42 | 1.72 | 12.75 | 177 | 0.82 | -21.2 | |
| 100 | 1.44 | 1.65 | 12.55 | 167 | 0.50 | -20.9 | |
| 300 | 1.45 | 1.54 | 12.32 | 141 | 0.36 | -20.5 | |
| 500 | 1.40 | 1.57 | 12.34 | 114 | 0.38 | -20.2 | |
| 700 | 1.35 | 1.59 | 12.34 | 86 | 0.38 | -19.7 | |
| 900 | 1.31 | 1.61 | 12.36 | 58 | 0.40 | -19.1 | |
| 1000 | 1.31 | 1.62 | 12.39 | 44 | 0.39 | -18.8 | |
| 1100 | 1.33 | 1.69 | 12.39 | 29 | 0.42 | -18.4 | |
| 1200 | 1.39 | 1.79 | 12.39 | 14 | 0.43 | -18.1 | |
| 1300 | 1.48 | 1.91 | 12.37 | -2 | 0.43 | -17.9 | |
| 1400 | 1.64 | 2.10 | 12.37 | -19 | 0.47 | -17.6 | |

| Model: AP1309 | | | Vcc=+12V | | | | Icc= 88.0 | |
|---------------|------|--------|----------|--------|-------|--------|-----------|--------|
| FREQ | S11 | | S21 | | S12 | | S22 | |
| MHz | MAG | ANG | MAG | ANG | MAG | ANG | MAG | ANG |
| 5 | 0.52 | -48.4 | 3.99 | -121.8 | 0.091 | 34.9 | 0.32 | -176.7 |
| 10 | 0.29 | -46.9 | 4.34 | -153.5 | 0.09 | 14.9 | 0.25 | -174.9 |
| 30 | 0.18 | -22.8 | 4.37 | -176 | 0.088 | 3.4 | 0.26 | 179.5 |
| 50 | 0.17 | -15.8 | 4.34 | 177.3 | 0.087 | 1.4 | 0.26 | 174.0 |
| 100 | 0.18 | -11.9 | 4.24 | 166.7 | 0.09 | -1.8 | 0.25 | 162.4 |
| 300 | 0.19 | -39.3 | 4.13 | 141 | 0.095 | -16.9 | 0.21 | 153.3 |
| 500 | 0.17 | -63.6 | 4.14 | 113.7 | 0.097 | -29.2 | 0.22 | 133.7 |
| 700 | 0.15 | -91.3 | 4.14 | 86.3 | 0.103 | -42.9 | 0.23 | 113.8 |
| 900 | 0.13 | -129.2 | 4.15 | 58.2 | 0.111 | -58.3 | 0.23 | 92.1 |
| 1000 | 0.13 | -152.4 | 4.16 | 44.3 | 0.114 | -66.6 | 0.24 | 79.3 |
| 1100 | 0.14 | -177.5 | 4.17 | 29.3 | 0.12 | -76.2 | 0.26 | 64.7 |
| 1200 | 0.16 | 156.4 | 4.16 | 13.9 | 0.124 | -86.7 | 0.28 | 50.7 |
| 1300 | 0.19 | 130.4 | 4.16 | -1.6 | 0.128 | -97.8 | 0.31 | 36.3 |
| 1400 | 0.24 | 103.5 | 4.16 | -18.5 | 0.132 | -110.1 | 0.36 | 20.5 |
| 1500 | 0.32 | 77.9 | 4.07 | -36.3 | 0.135 | -123.7 | 0.40 | 3.7 |