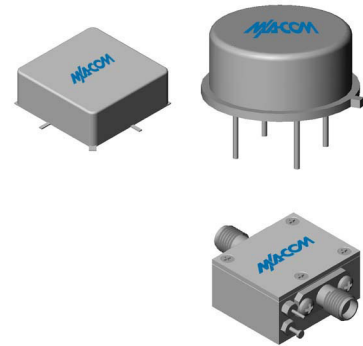




LA17 / SMLA17



10 TO 1000 MHz TO-8 CASCADABLE LIMITING AMPLIFIER

- SYMMETRICAL CLIPPING:
GOOD EVEN-ORDER SUPPRESSION
- MEDIUM OUTPUT LEVEL: +10 dBm (TYP.)
- HIGH THIRD-ORDER INTERCEPT POINT: +28 dBm (TYP.)
- FAST PULSE RECOVERY TIME: < 50 NSEC

Specifications (Rev. Date: 3/02)*

| Characteristic | Typical | Guaranteed | |
|---|-------------------|---------------|---------------|
| | | 0° to 50°C | -54° to +85°C |
| Frequency | 5-1100 MHz | 10-1000 MHz | 10-1000 MHz |
| Small Signal Gain (min.) | 11.5 dB | 10.5 dB | 9.5 dB |
| Gain Flatness (max.) | ±0.3 dB | ±0.5 dB | ±0.7 dB |
| Noise Figure (max.) | 5.8 dB | 6.7 dB | 7.2 dB |
| Power Output @ 1 dB comp. (min.) | +10.0 dBm | +7.0 dBm | +5.0 dBm |
| Output Limiting Level (max.) @ Pin = +20 dBm | +15.0 dBm | +16.0 dBm | +17.0 dBm |
| IP3 | +28 dBm | | |
| VSWR Input / Output (max.) | < 1.7:1 / < 1.7:1 | 1.9:1 / 1.9:1 | 2.0:1 / 2.0:1 |
| DC Current @ 15 Volts (max.) | 55 mA | 57 mA | 59 mA |

*Measured in a 50-ohm system at +15 Vdc Nominal. IP3 in the linear region range only.

Absolute Maximum Ratings

| | |
|---|---------------|
| Storage Temperature | -62 to +125°C |
| Maximum Case Temperature | 125°C |
| Maximum DC Voltage | +17 Volts |
| Maximum Continuous RF Input Power | +23 dBm |
| Maximum Short Term RF Input Power (1 minute max.) | 400 mW |
| Maximum Peak Power (3 µsec max.) | 1 W |
| “S” Series Burn-in Temperature (Case) | 125°C |

Thermal Data: V_{cc} = 15 Vdc

| | |
|--|---------|
| Thermal Resistance θ_{jc} | 45°C/W |
| Transistor Power Dissipation P _d | 0.448 W |
| Junction Temperature Rise Above Case T _{jc} | 20.2°C |

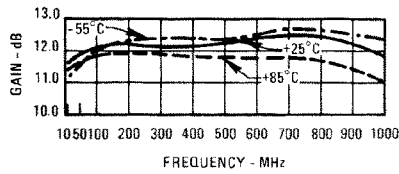
Outline Drawings

| | | | |
|---------|------|---------------|-------------------|
| Package | TO-8 | Surface Mount | SMA Connectorized |
| Figure | BG | AA | CE |
| Model | LA17 | SMLA17 | CLA17 |

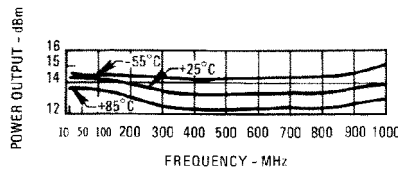
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Typical Performance at 25°C

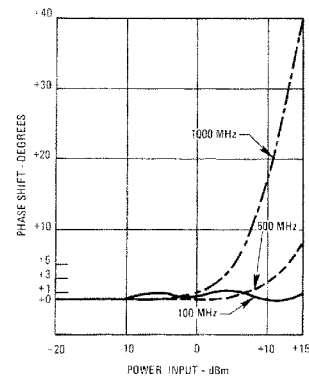
Gain



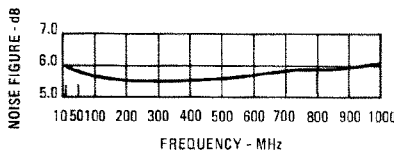
Maximum Limiting @ P_{IN} = +20 dBm



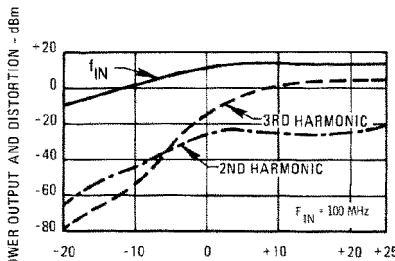
Phase Shift vs Input Power



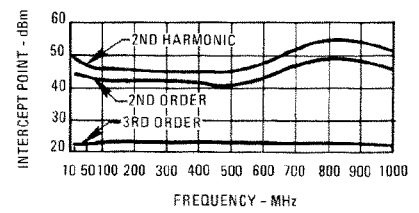
Noise Figure



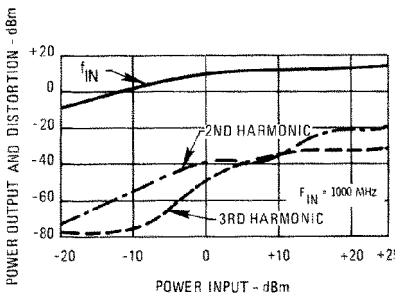
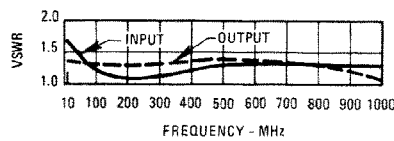
Power Output and Distortion



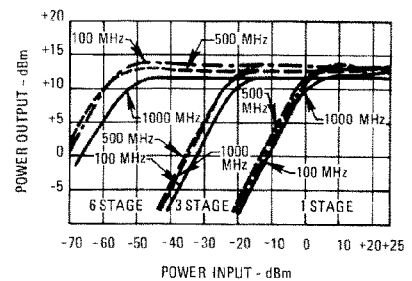
Intercept Point



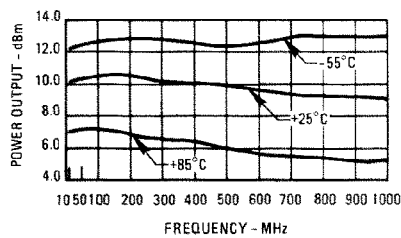
VSWR



Limiting Characteristics



Power Output*



*at 1 dB Gain Compression