

## Cascadable Amplifier 10 - 1000 MHz

Rev. V2

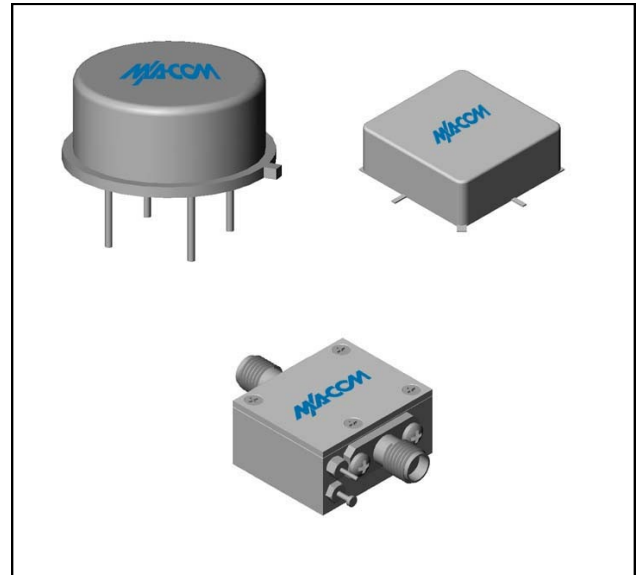
### Features

- 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

### Description

The LA17 limiting amplifier is a discrete hybrid design, which uses thin film manufacturing processes for accurate performance and high reliability. This design uses a Schottky diode limiter circuit at the input, and a single stage bipolar transistor feedback amplifier at the output. An RF choke is used for DC power supply decoupling. Both TO-8 and Surface Mount packages are hermetically sealed, and MIL-STD-883 environmental screening is available.

### Product Image



### Ordering Information

| Part Number | Package           |
|-------------|-------------------|
| LA17        | TO-8              |
| SMLA17      | Surface Mount     |
| CLA17 **    | SMA Connectorized |

\*\* The connectorized version is not RoHs compliant.

### Electrical Specifications: $Z_0 = 50\Omega$ , $V_{CC} = +15 V_{DC}$

| Parameter                                    | Units | Typical           | Guaranteed    |                |
|--|-------|-------------------|---------------|----------------|
|  |       | 25°C              | 0° to 50°C    | -54° to +85°C* |
| Frequency                                    | MHz   | 5-1100            | 10-1000       | 10-1000        |
| Small Signal Gain (min)                      | dB    | 11.5              | 10.5          | 9.5            |
| Gain Flatness (max)                          | dB    | ±0.3              | ±0.5          | ±0.7           |
| Noise Figure (max)                           | dB    | 5.8               | 6.7           | 7.2            |
| Power Output @ 1 dB comp. (min)              | dBm   | +10.0             | +7.0          | +5.0           |
| Output Limiting Level (max)<br>Pin = +20 dBm | dBm   | +15.0             | +16.0         | +17.0          |
| VSWR Input / Output (max)                    |       | <1.7:1/<br><1.7:1 | 1.9:1 / 1.9:1 | 2.0:1 / 2.0:1  |
| DC Current @ 15 Volts (max)                  | mA    | 55                | 57            | 59             |

### Absolute Maximum Ratings

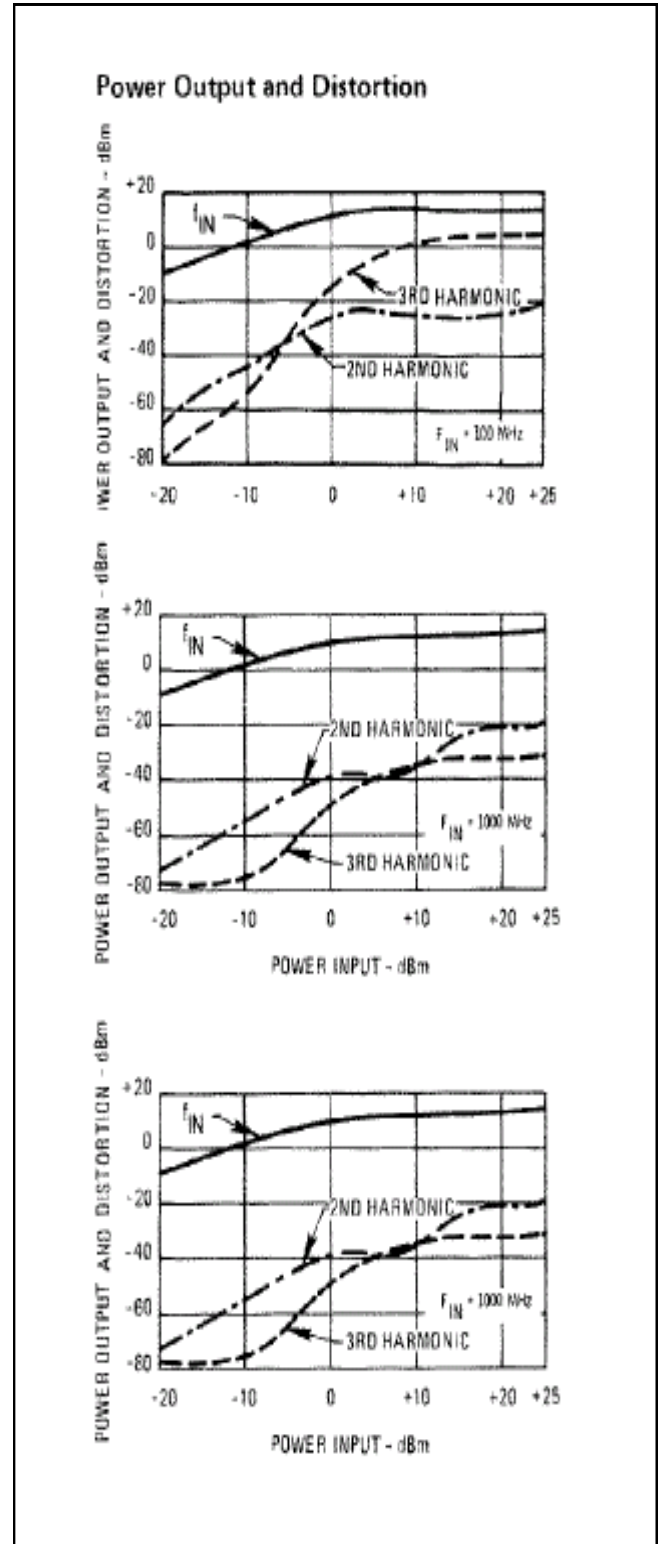
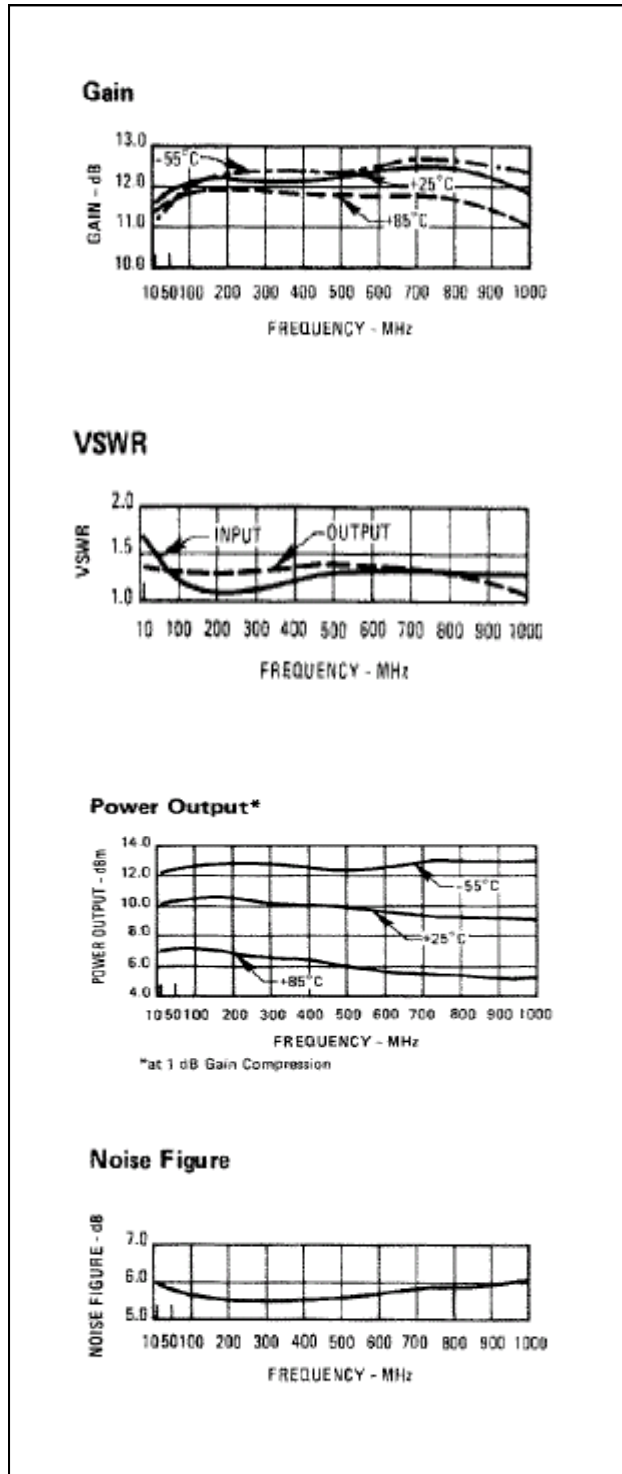
| Parameter                                 | Absolute Maximum |
|---|------------------|
| Storage Temperature                       | -62°C to +125°C  |
| Case Temperature                          | +125°C           |
| DC Voltage                                | +17 V            |
| Continuous Input Power                    | +23 dBm          |
| Short Term Input power<br>(1 minute max.) | 400 mW           |
| Peak Power (3 µsec max.)                  | 1 W              |
| "S" Series Burn-In<br>Temperature (case)  | 125°C            |

### Thermal Data: $V_{CC} = +15 V_{DC}$

| Parameter  | Rating  |
|--|---------|
| Thermal Resistance $\theta_{jc}$                 | 45°C/W  |
| Transistor Power Dissipation $P_d$               | 0.448 W |
| Junction Temperature Rise<br>Above Case $T_{jc}$ | 20.2°C  |

1 \* Over temperature performance limits for part number CLA17, guaranteed from 0°C to +50°C only.

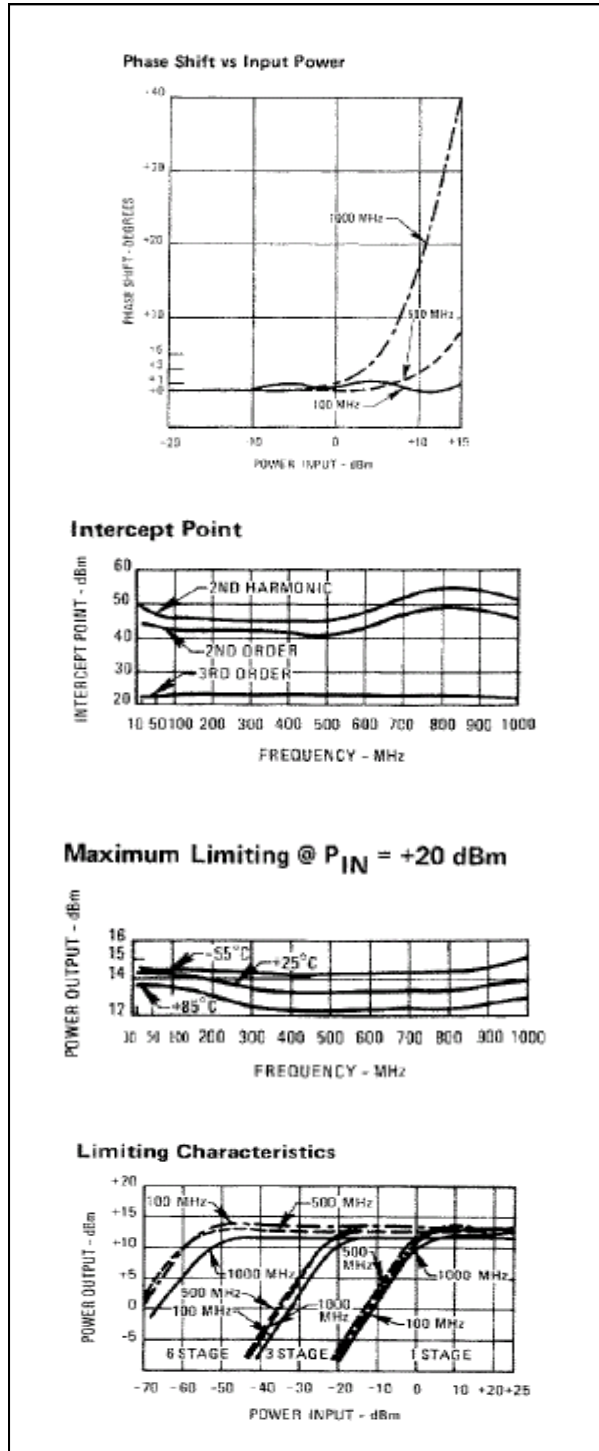
## Typical Performance Curves at +25°C



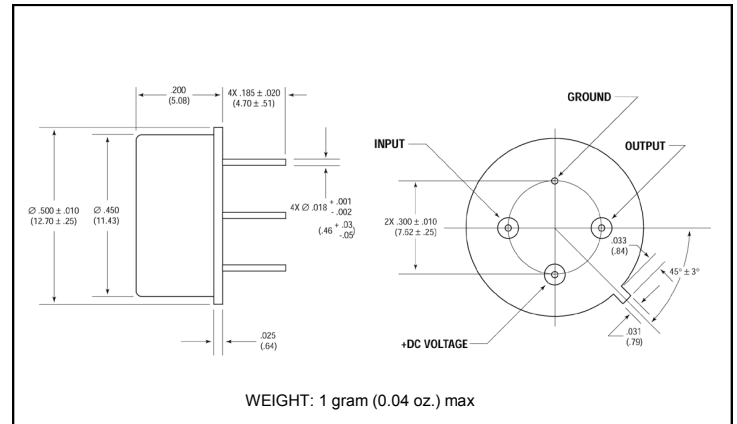
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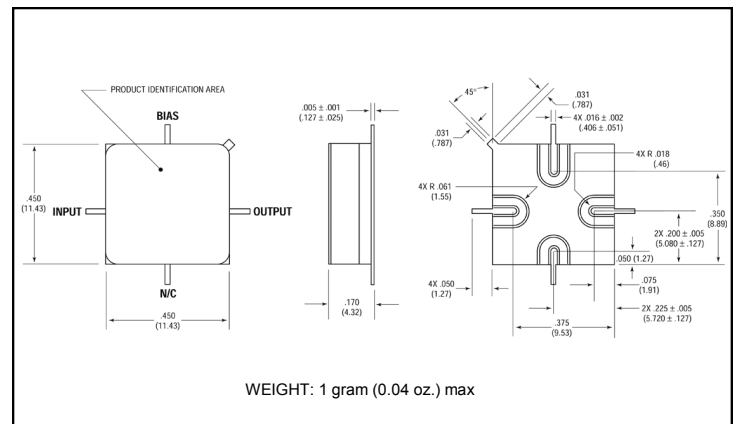
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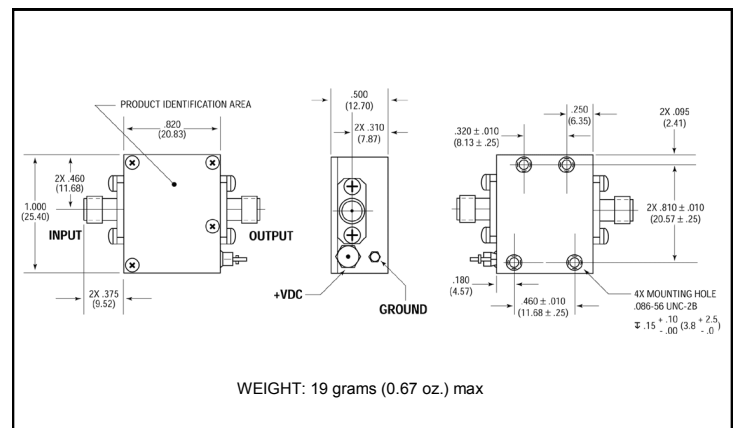
### Outline Drawing: TO-8 \*



### Outline Drawing: Surface Mount \*



### Outline Drawing: SMA Connectorized \*



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