# A17 / SMA17

## Cascadable Amplifier 10 to 1000 MHz

Rev. V4

МАСОМ

#### Features

- HIGH OUTPUT POWER: +15.3 dB (TYP.)
- HIGH THIRD ORDER I.P. +27 dBm (TYP.)
- LOW VSWR:<1.3:1 (TYP.)
- WIDE POWER SUPPLY RANGE: +5 TO +15 VOLTS

#### Description

The A17 RF amplifier is a discrete hybrid design, which uses thin film manufacturing processes for accurate performance and high reliability.

This single stage bipolar transistor feedback amplifier design displays impressive performance over a broadband frequency range. Both TO-8 and Surface Mount packages are Hermetically sealed, and MIL-STD-883 environmental screening is available.

#### **Ordering Information**

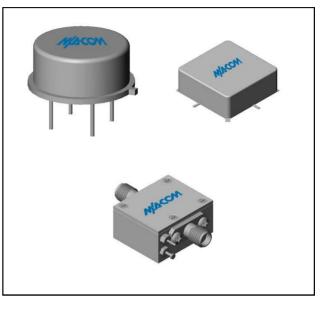
Part Number	Package		
A17	TO-8		
SMA17	Surface Mount		
CA17	SMA Connectorized **		

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

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

Parameter	Units	Typical	Guaranteed	
Parameter		25°C	0º to 50ºC	-54º to +85ºC*
Frequency	MHz	2-1100	10-1000	10-1000
Small Signal Gain (min)	dB	12.0	10.5	10.00
Gain Flatness (max)	dB	±0.2	±0.7	±1.0
Reverse Isolation	dB	16		
Noise Figure (max)	dB	6.0	6.5	7.0
Power Output @ 1 dB comp. (min)	dBm	15.3	14.0	13.5
IP3	dBm	+27		
IP2	dBm	+49		
Second Order Harmonic IP	dBm	+48		
VSWR Input / Output (max)		1.3:1 / 1.3:1	1.8:1 / 1.8:1	2.0:1 / 2.0:1
DC Current @ 15 Volts (max)	mA	44	47	49

#### **Product Image**



#### **Absolute Maximum Ratings**

Parameter	Absolute Maximum	
Storage Temperature	-62°C to +125°C	
Case Temperature	+125°C	
DC Voltage	+17 V	
Continuous Input Power	13 dBm	
Short Term Input power (1 minute max.)	50 mW	
Peak Power (3 µsec max.)	0.5 W	
"S" Series Burn-In Temperature (case)	+125°C	

#### Thermal Data: V<sub>CC</sub> = +15 V<sub>DC</sub>

Parameter	Rating
Thermal Resistance $\theta_{jc}$	130°C/W
Transistor Power Dissipation $P_d$	0.376 W
Junction Temperature Rise Above Case T <sub>jc</sub>	+49°C

1 \* Over temperature performance limits for part number CA17, guaranteed from 0°C to +50°C only.

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Gain

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CAIN-

10 10

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Noise Figure

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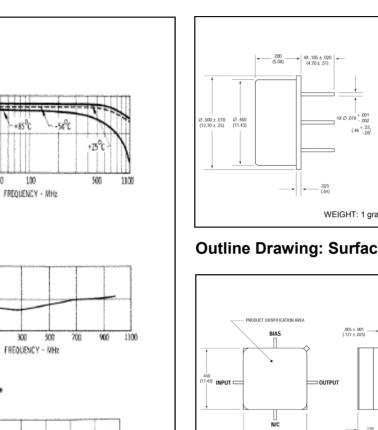
Power Output\*

10

100

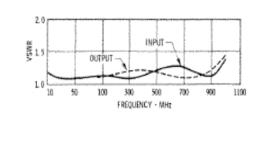
#### Typical Performance Curves at +25°C

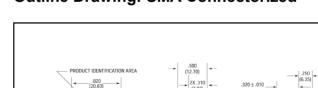
50

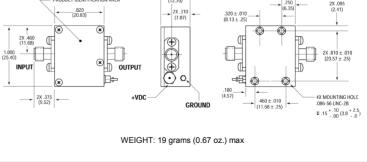


5 12 DUTPUT PONER ( 14 50 100 300 900 1100 \$00 700 FREQUENCY - MHD \*at 1 dB Gain Compression

VSWR



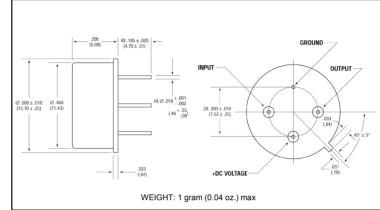




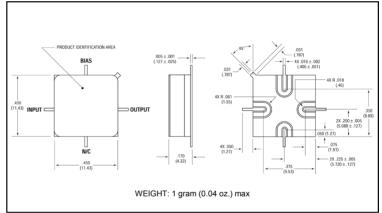
\* Dimensions are inches (millimeters) ±0.015 (0.38) unless otherwise specified.

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# Outline Drawing: TO-8 \*



### Outline Drawing: Surface Mount



# Outline Drawing: SMA Connectorized \*

For further information and support please visit: https://www.macom.com/support

2

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3

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