

Cascadable Amplifier 10 to 1000 MHz

Rev. V4

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.

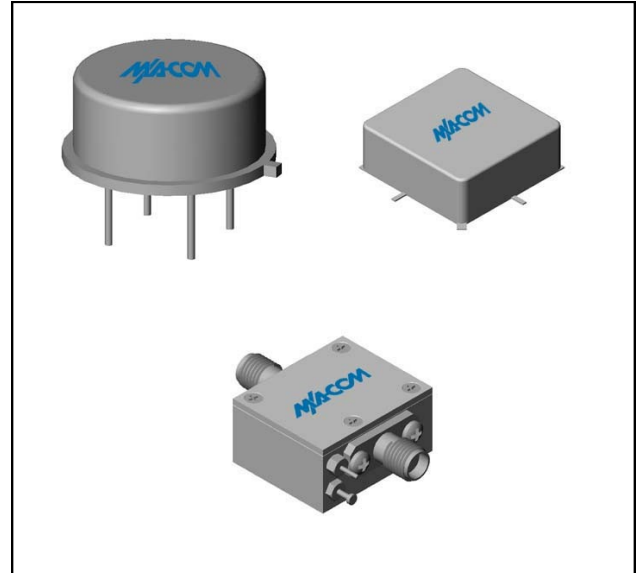
This single stage bipolar transistor feedback amplifier design displays impressive performance over a broadband frequency range. Both TO-8 and Surface Mount packages are Hermetically sealed, and MIL-STD-883 environmental screening is available.

Ordering Information

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

** The connectorized version is not RoHs compliant.

Product Image



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	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

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

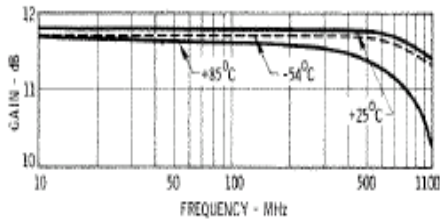
Thermal Data: $V_{CC} = +15 V_{DC}$

Parameter	Rating
Thermal Resistance θ_{jc}	130°C/W
Transistor Power Dissipation P_d	0.376 W
Junction Temperature Rise Above Case T_{jc}	+49°C

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

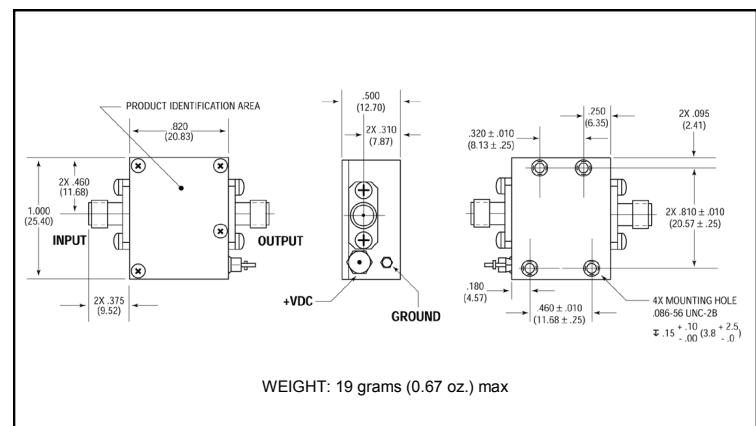
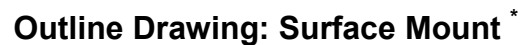
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Outline Drawing: TO-8 *



Frequency (MHz)	Noise Figure (dB)
10	5.8
50	5.8
100	5.5
300	5.3
500	5.8
700	6.0
900	6.2
1000	6.5

Frequency (MHz)	Power Output (dBm)
10	15.5
50	15.5
100	15.5
200	15.5
300	15.5
400	15.8
500	16.5
600	17.5
700	18.5
800	19.2
900	19.8
1000	20.0
1100	19.5



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