

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

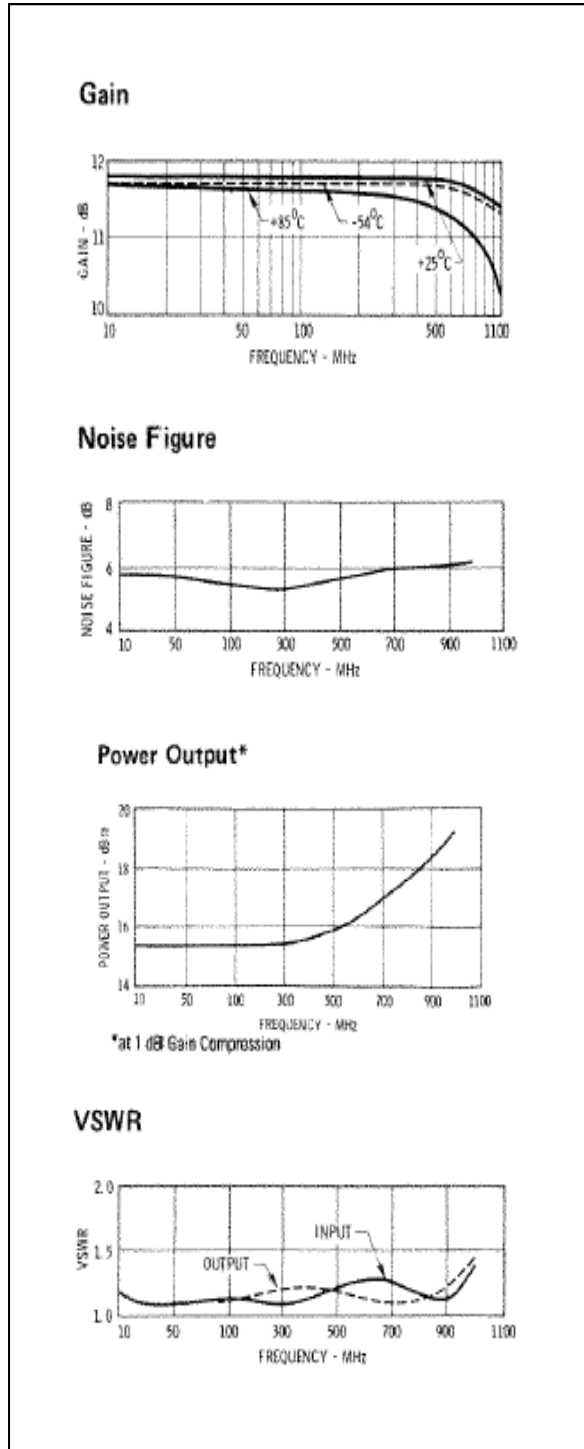
Parameter	Rating
Thermal Resistance $\theta_{jc}$	130°C/W
Transistor Power Dissipation $P_d$	0.376 W
Junction Temperature Rise Above Case $T_{jc}$	+49°C

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

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### Typical Performance Curves at +25°C



### Outline Drawing: TO-8 \*



### Outline Drawing: Surface Mount \*



### Outline Drawing: SMA Connectorized \*



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