

**Cascadable Amplifier  
20 to 500 MHz**

**A80/ SMA80**

V2

**Features**

- HIGH REVERSE ISOLATION 39 dB (TYP.)
- VERY LOW NOISE 2.3 dB (TYP.)
- HIGH GAIN 29 dB (TYP.)
- MEDIUM LEVEL OUTPUT +14.3 dBm (TYP.)

**Description**

The A80 RF amplifier is a discrete hybrid design, which uses thin film manufacturing processes for accurate performance and high reliability. The 2 stage silicon bipolar feedback amplifier design displays impressive performance over a broadband frequency range. An isolation transformer is used in the feedback loop, with the benefit of high reverse isolation. 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
A80	TO-8
SMA80	Surface Mount
CA80	SMA Connectorized

**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	10-550	20-500	20-500
Small Signal Gain (min)	dB	29.0	27.5	26.5
Gain Flatness (max)	dB	±0.3	±0.7	±1.0
Reverse Isolation	dB	39		
Noise Figure (max)	dB	2.3	3.0	3.4
Power Output @ 1 dB comp. (min)	dBm	14.3	13.0	12.5
IP3	dBm	+27		
IP2	dBm	+33		
Second Order Harmonic IP	dBm	+40		
VSWR Input / Output (max)		1.4:1 / 1.8:1	1.8:1 / 2.1:1	2.0:1 / 2.3:1
DC Current @ 15 Volts (max)	mA	45	49	52

**Absolute Maximum Ratings**

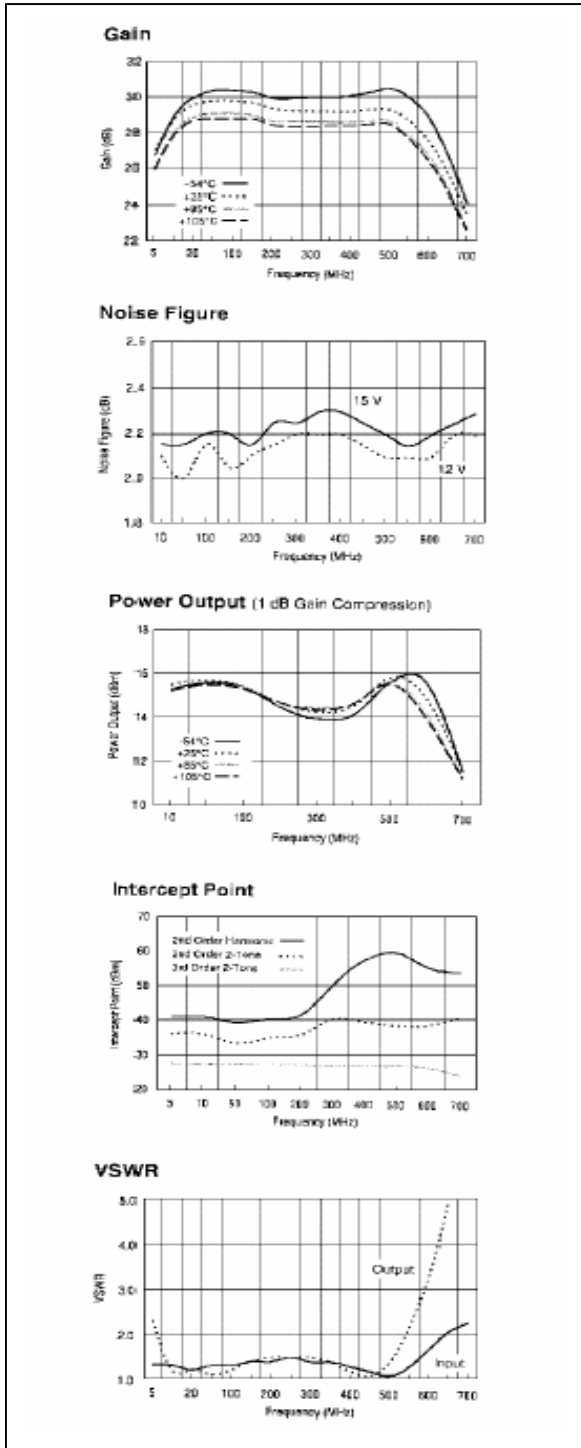
Parameter	Absolute Maximum
Storage Temperature	-62°C to +125°C
Case Temperature	125°C
DC Voltage	+17 V
Continuous Input Power	+6 dBm
Short Term Input power (1 minute max.)	50 mW
Peak Power (3 µsec max.)	0.5 W
"S" Series Burn-In Temperature (case)	125°C

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

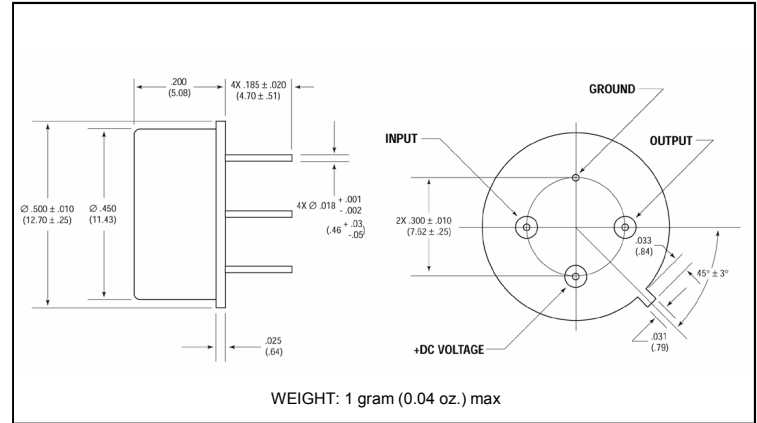
Parameter	Rating
Thermal Resistance $\theta_{jc}$	45°C/W
Transistor Power Dissipation $P_d$	0.27 W
Junction Temperature Rise Above Case $T_{jc}$	12.2°C

\* Over temperature performance limits for part number CA80, guaranteed from 0°C to +50°C only.

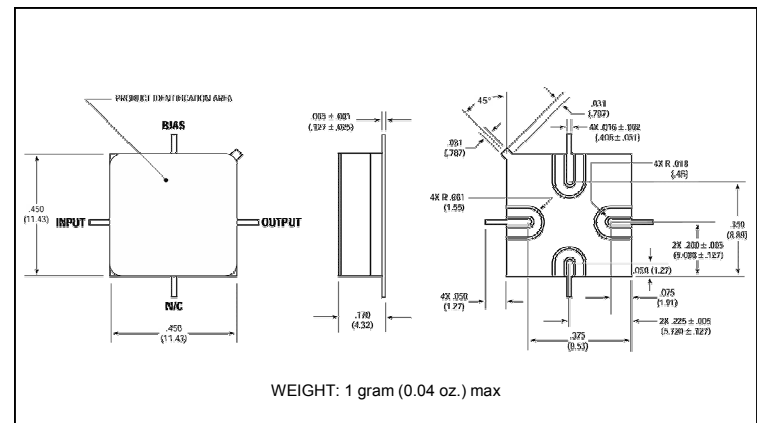
**Typical Performance Curves at +25°C**



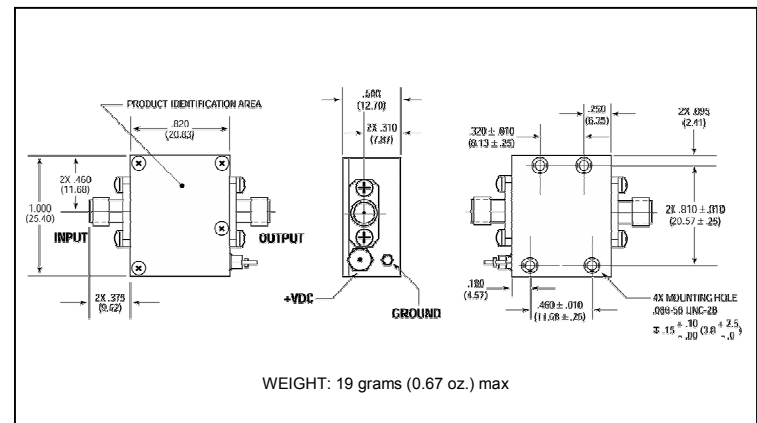
**Outline Drawing: TO-8 \***



**Outline Drawing: Surface Mount \***



**Outline Drawing: SMA Connectorized \***



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