A77-1 / SMA77-1

Cascadable Amplifier 5 to 600 MHz

Features

- High Level Output: +16.5 dBm (TYP.)
- High Third Order I.P.: +30 dBm (TYP.) •
- Extended Bandwidth: 5-600 MHz
- Wide Power Supply Range: +8 to +15 Volts

Description

The A77-1 RF amplifier is a discrete hybrid design, which incorporates the use of thin film manufacturing processes for accurate performance and high reliability.

The single stage silicon bipolar transistor feedback amplifier design displays impressive performance over a broadband frequency range. An active DC biasing network is used for temperature-stable performance, in addition to an RF Choke, used for power supply decoupling. Both TO-8 and Surface Mount packages are hermetically sealed, and MIL-STD-883 environmental screening is available.

Ordering Information

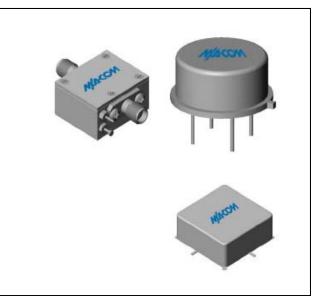
Part Number	Package
A77-1	TO-8
SMA77-1	Surface Mount
CA77-1**	SMA Connectorized

** The connectorized version is not RoHs compliant.

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

Deremeter	Units	Typical	Guaranteed	
Parameter		25ºC	0º to 50ºC	-54º to +85ºC
Frequency	MHz	2-700	5-600	5-600
Small Signal Gain (min)	dB	16.0	15.0	14.5
Gain Flatness (max)	dB	±0.3	±0.7	±1.0
Reverse Isolation	dB	17		
Noise Figure (max)	dB	5.0	6.5	7.0
Power Output @ 1 dB comp. (min)	dBm	16.5	15.0	14.5
IP3	dBm	+30		
IP2	dBm	+43		
Second Order Harmonic IP	dBm	+49		
VSWR Input / Output (max)		1.5:1 / 1.5:1	1.8:1 / 1.8:1	2.0:1 / 2.0:1
DC Current (max)	mA	50	53	56

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.)	100 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	0.464 W
Junction Temperature Rise Above Case T _{jc}	60°C

* Over temperature performance limits for part number CA77-1, guaranteed from 0°C to +50°C only.

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Rev. V3

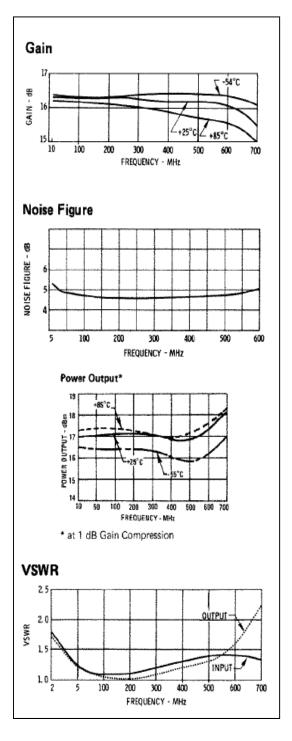
A77-1 / SMA77-1



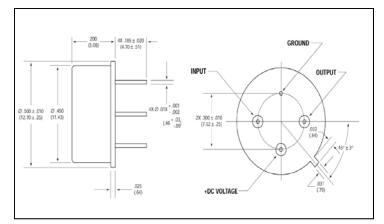
Rev. V3

Cascadable Amplifier 5 to 600 MHz

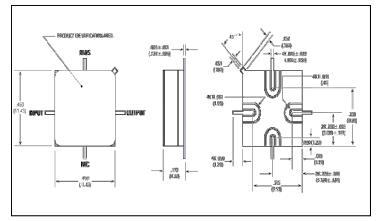
Typical Performance Curves



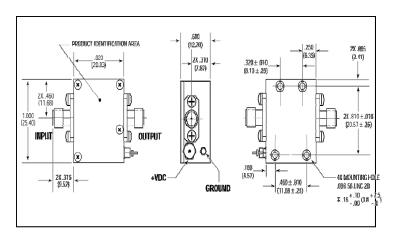
Outline Drawing: TO-8^{*}



Outline Drawing: Surface Mount



Outline Drawing: SMA Connectorized



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

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