

Cascadable Amplifier 5 to 600 MHz

Rev. V3

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

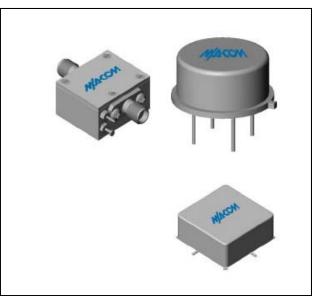
Part Number	Package	
A77-1	TO-8	
SMA77-1	Surface Mount	
CA77-1**	SMA Connectorized	

^{**} The connectorized version is not RoHs compliant.

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

Donomoton	l lmita	Typical	Guaranteed	
Parameter	Units	25°C	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 Pd	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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PRELIMINARY: Data Sheets contain information regarding a product M/A-COM Technology Solutions has under development. Performance is based on engineering typical. Mechanical outline has been fixed. Engineering samples and Commitment to produce in volume is not guatan ted.

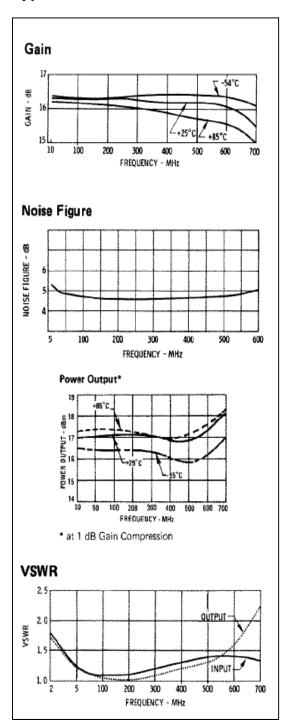
Visit www.macomtech.com for additional data sheets and product information.



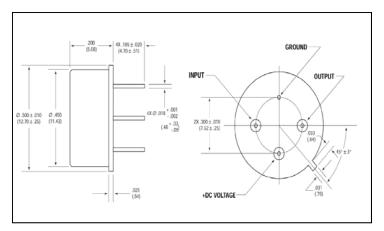
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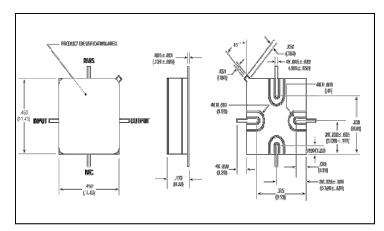
Typical Performance Curves



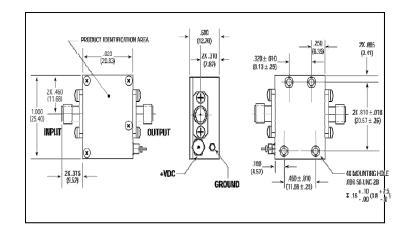
Outline Drawing: TO-8 *



Outline Drawing: Surface Mount



Outline Drawing: SMA Connectorized



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

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Visit www.macomtech.com for additional data sheets and product information.