

Cascadable Amplifier 10 to 500 MHz

Rev. V3

Features

- HIGH GAIN: 20.5 dB (TYP.)
- LOW NOISE: 1.7 dB (TYP.)

Description

The A75-3 RF amplifier is a discrete hybrid design, which uses thin film manufacturing processes for accurate performance and high reliability.

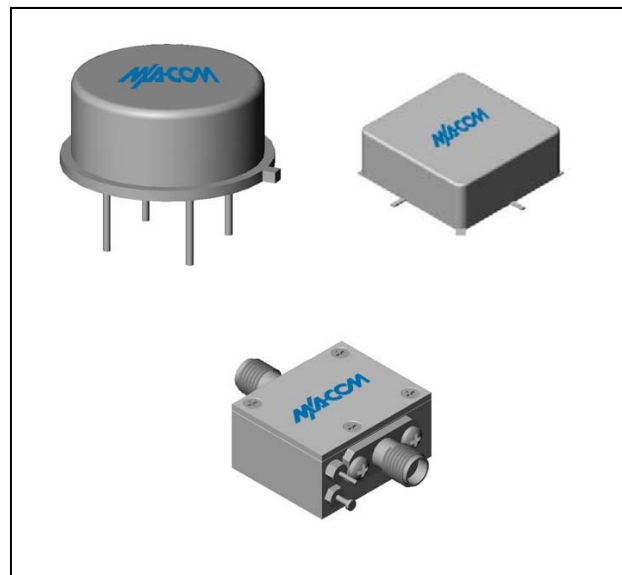
This single stage bipolar transistor feedback amplifier design displays impressive performance over a broadband frequency range. Both TO-8 and Surface Mount packages are Hermetically sealed, and MIL-STD-883 environmental screening is available.

Ordering Information

Part Number	Package
A75-3	TO-8
SMA75-3	Surface Mount
MAAM-008317-CA7503	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	1-600	10-500	10-500
Small Signal Gain (min)	dB	20.5	19.5	19.0
Gain Flatness (max)	dB	±0.2	±0.5	±0.7
Reverse Isolation	dB	25		
Noise Figure (max)	dB	1.7	2.3	2.8
Power Output @ 1 dB comp. (min)	dBm	3.0	2.0	1.5
IP3	dBm	+16		
IP2	dBm	+15		
Second Order Harmonic IP	dBm	+21		
VSWR Input / Output (max)		1.5:1 / 1.5:1	1.8:1 / 1.8:1	2.0:1 / 2.0:1
DC Current @ 15 Volts (max)	mA	14	16	18

Absolute Maximum Ratings

Parameter	Absolute Maximum
Storage Temperature	-62°C to +125°C
Case Temperature	125°C
DC Voltage	+21 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}	170°C/W
Transistor Power Dissipation P_d	0.099 W
Junction Temperature Rise Above Case T_{jc}	17°C

* Over temperature performance limits for part number CA75-3, guaranteed from 0°C to +50°C only.

ADVANCED: Data Sheets contain information regarding a product M/A-COM Technology Solutions is considering for development. Performance is based on target specifications, simulated results, and/or prototype measurements. Commitment to develop is not guaranteed.

PRELIMINARY: Data Sheets contain information regarding a product M/A-COM Technology Solutions has under development. Performance is based on engineering tests. Specifications are typical. Mechanical outline has been fixed. Engineering samples and/or test data may be available. Commitment to produce in volume is not guaranteed.

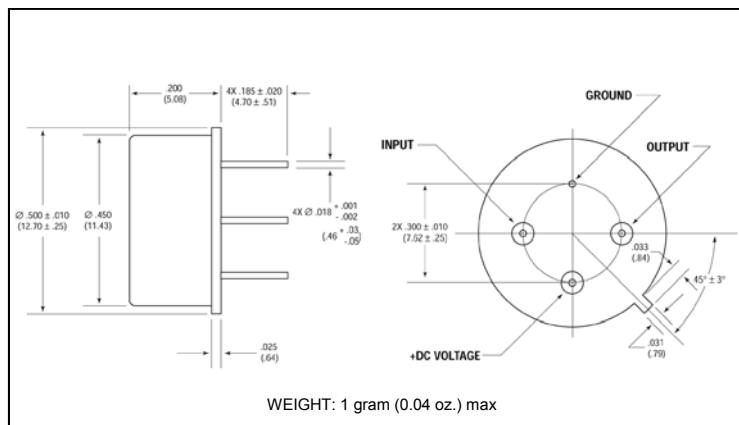
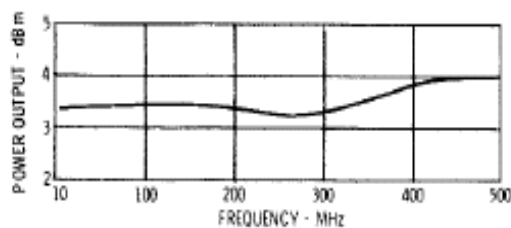
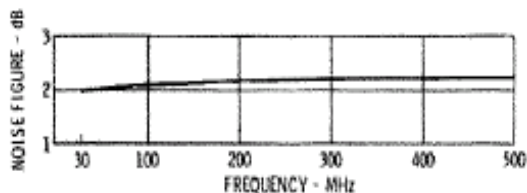
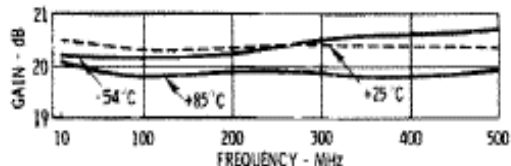
• **North America** Tel: 800.366.2266 • **Europe** Tel: +353.21.244.6400
 • **India** Tel: +91.80.4155721 • **China** Tel: +86.21.2407.1588
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Outline Drawing: TO-8^{*}

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