tyco Electronics

RoHS Compliant

MACOM

Cascadable Amplifier 5 to 500 MHz

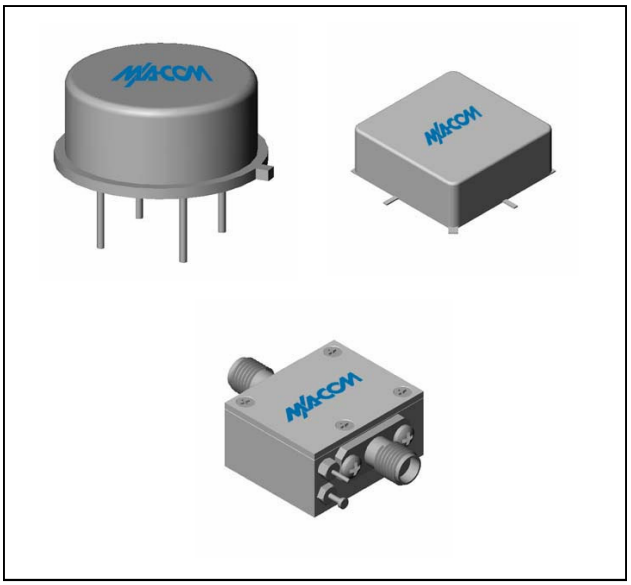
A75/ SMA75

V3

Features

- HIGH GAIN: 21.0 dB (TYP.)
- LOW NOISE: 2.1 dB (TYP.)
- MEDIUM OUTPUT LEVEL: +9 dBm (TYP.)
- WIDE POWER SUPPLY RANGE: +5 TO +20 VOLTS

Product Image



Description

The A75 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	TO-8
SMA75	Surface Mount
CA75**	SMA Connectorized

**The connectorized version is not RoHs compliant.

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

Parameter	Units	Typical	Guaranteed	
		25ºC	0º to 50ºC	-54º to +85ºC*
Frequency	MHz	1-600	5-500	5-500
Small Signal Gain (min)	dB	21.0	19.5	19.0
Gain Flatness (max)	dB	±0.2	±0.5	±0.7
Reverse Isolation	dB	25		
Noise Figure (max)	dB	2.1	2.7	3.0
Power Output @ 1 dB comp. (min)	dBm	9.0	8.0	7.0
IP3	dBm	+21		
IP2	dBm	+26		
Second Order Harmonic IP	dBm	+32		
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	24	27	29

Absolute Maximum Ratings

Parameter	Absolute Maximum
Storage Temperature	-62ºC to +125ºC
Case Temperature	125ºC
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)	125ºC

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

Parameter	Rating
Thermal Resistance θ_{jc}	170ºC/W
Transistor Power Dissipation P_d	0.194 W
Junction Temperature Rise Above Case T_{jc}	33ºC

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

M/A-COM Inc. and its affiliates reserve the right to make changes to the product(s) or information contained herein without notice. M/A-COM makes no warranty, representation or guarantee regarding the suitability of its products for any particular purpose, nor does M/A-COM assume any liability whatsoever arising out of the use or application of any product(s) or information.

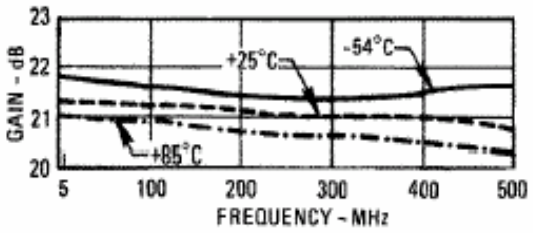
- **North America** Tel: 800.366.2266 / Fax: 978.366.2266
- **Europe** Tel: 44.1908.574.200 / Fax: 44.1908.574.300
- **Asia/Pacific** Tel: 81.44.844.8296 / Fax: 81.44.844.8298

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

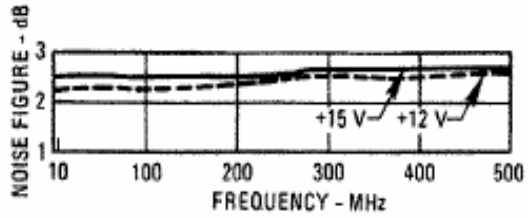
Cascadable Amplifier
5 to 500 MHz

Typical Performance Curves at +25°C

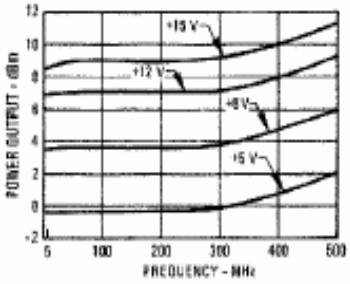
Gain



Noise Figure

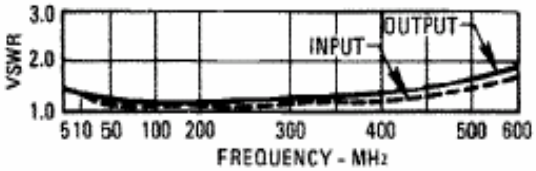


Power Output*

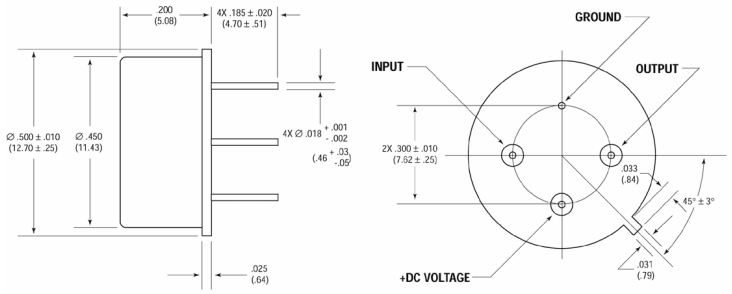


at 1 dB Gain Compression

VSWR

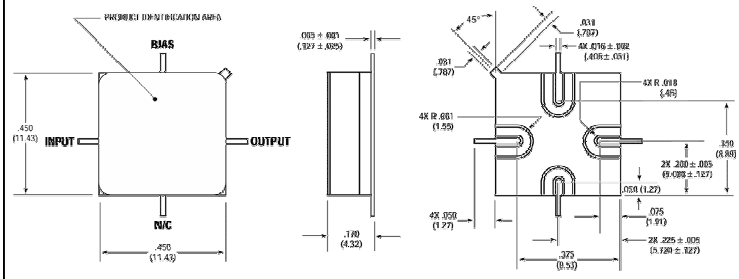


Outline Drawing: TO-8 *



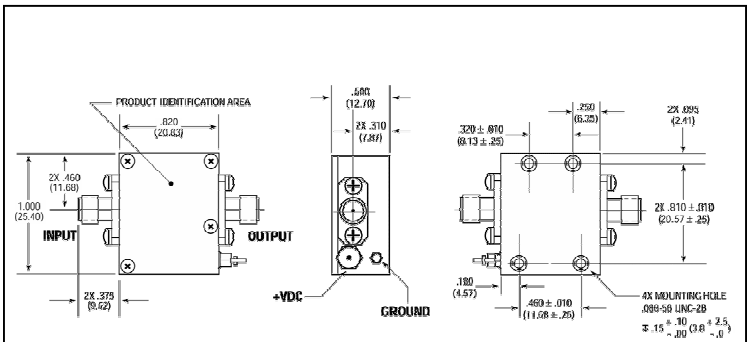
WEIGHT: 1 gram (0.04 oz.) max

Outline Drawing: Surface Mount *



WEIGHT: 1 gram (0.04 oz.) max

Outline Drawing: SMA Connectorized *



WEIGHT: 19 grams (0.67 oz.) max

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

M/A-COM Inc. and its affiliates reserve the right to make changes to the product(s) or information contained herein without notice. M/A-COM makes no warranty, representation or guarantee regarding the suitability of its products for any particular purpose, nor does M/A-COM assume any liability whatsoever arising out of the use or application of any product(s) or information.

- **North America** Tel: 800.366.2266 / Fax: 978.366.2266
- **Europe** Tel: 44.1908.574.200 / Fax: 44.1908.574.300
- **Asia/Pacific** Tel: 81.44.844.8296 / Fax: 81.44.844.8298

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