

## Cascadable Amplifier 5 to 250 MHz

**A75-2/ SMA75-2**

V2

### Features

- AVAILABLE IN SURFACE MOUNT
- HIGH GAIN: 21.0 dB (TYP.)
- MEDIUM OUTPUT LEVEL: +8.0 dBm (TYP.)

### Description

The A75-2 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.

### Product Image



### Ordering Information

Part Number	Package
A75-2	TO-8
SMA75-2	Surface Mount
CA75-2	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	1-300	5-250	5-250
Small Signal Gain (min)	dB	21.0	20.0	19.0
Gain Flatness (max)	dB	±0.3	±0.7	±1.0
Reverse Isolation	dB	28		
Noise Figure (max)	dB	4.2	4.5	5.0
Power Output @ 1 dB comp. (min)	dBm	8.0	7.0	6.5
IP3	dBm	+19		
IP2	dBm	+26		
Second Order Harmonic IP	dBm	+30		
VSWR Input / Output (max)		1.4:1 / 1.4:1	1.7:1 / 1.7:1	2.0:1 / 2.0:1
DC Current @ 15 Volts (max)	mA	24	26	28

### 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.)	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 $P_d$	0.191 W
Junction Temperature Rise Above Case $T_{jc}$	9°C

\* Over temperature performance limits for part number CA75-2, guaranteed from 0°C to +50°C only.

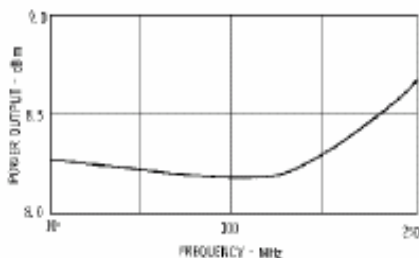
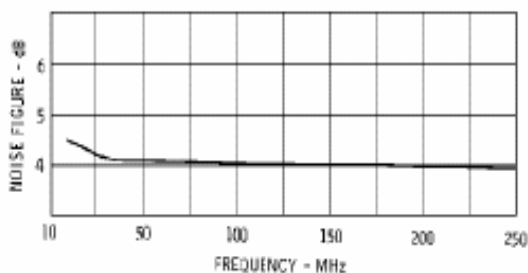
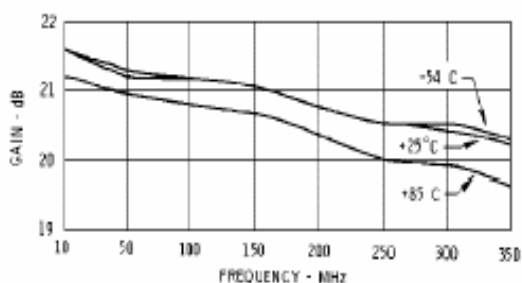
M/A-COM Inc. and its affiliates reserve the right to make changes to the product(s) or information contained herein without notice. M/A-COM makes no warranty, representation or guarantee regarding the suitability of its products for any particular purpose, nor does M/A-COM assume any liability

• **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

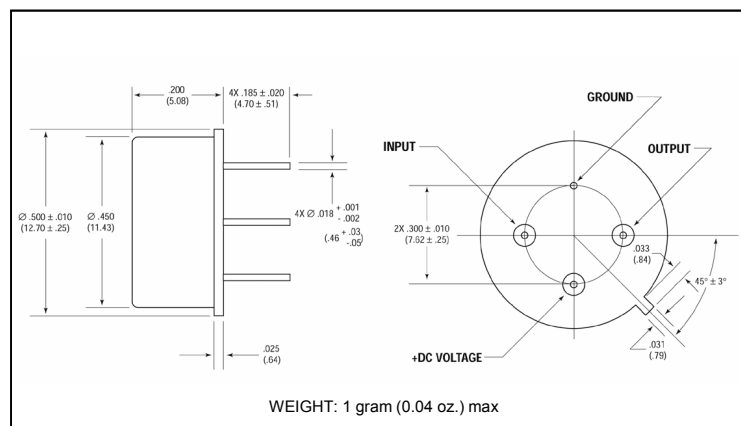
## A75-2/ SMA75-2

V2

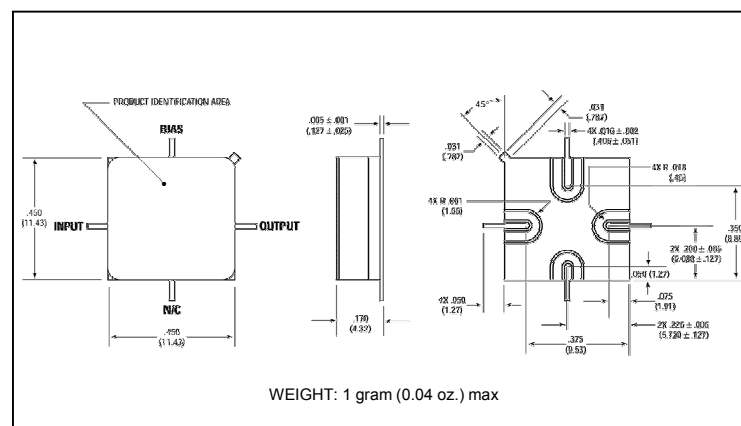
## Outline Drawing: TO-8 \*



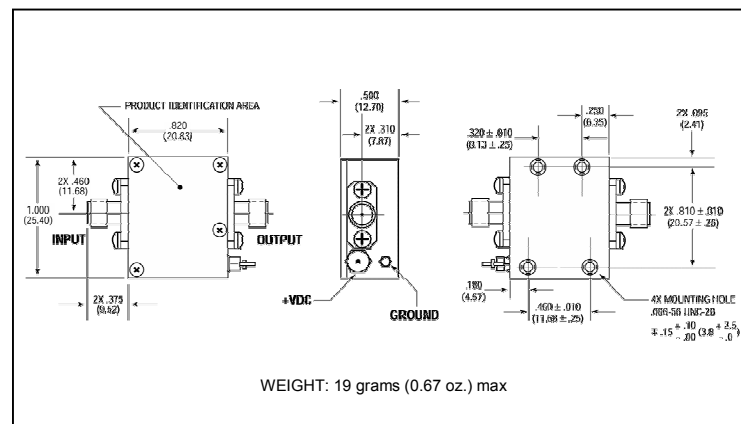
Frequency (MHz)	Input VSWR (dashed line)	Output VSWR (solid line)
5	1.30	1.50
10	1.30	1.50
50	1.30	1.50
100	1.30	1.50
150	1.28	1.40
200	1.25	1.25
250	1.25	1.25
300	1.25	1.25



## Outline Drawing: Surface Mount \*



### Outline Drawing: SMA Connectorized \*



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