A75-2 / SMA75-2

Cascadable Amplifier
5 to 250 MHz

Rev. V2

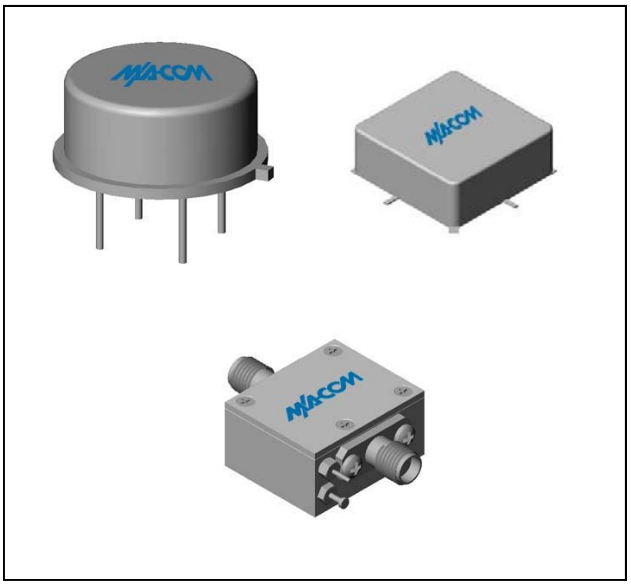
Features

- 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
MAAM-008730-SMA752	Surface Mount
MAAM-008730-0CA752	SMA Connectorized **

** The connectorized version is not RoHs compliant.

Electrical Specifications: Z_0 = 50Ω, V_{CC} = +15 V_{DC}

Parameter	Units	Typical	Guaranteed	
		25ºC	0º to 50ºC	-54º to +85ºC*
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	-62ºC to +125ºC
Case Temperature	125ºC
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)	125ºC

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

Parameter	Rating
Thermal Resistance θ_{jc}	45ºC/W
Transistor Power Dissipation P_d	0.191 W
Junction Temperature Rise Above Case T_{jc}	9ºC

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

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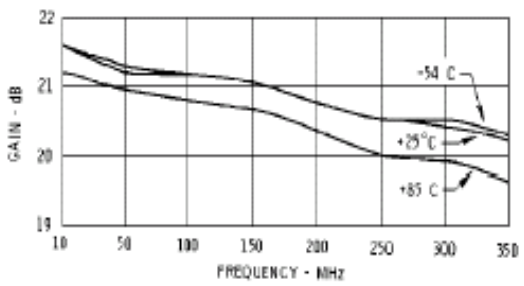
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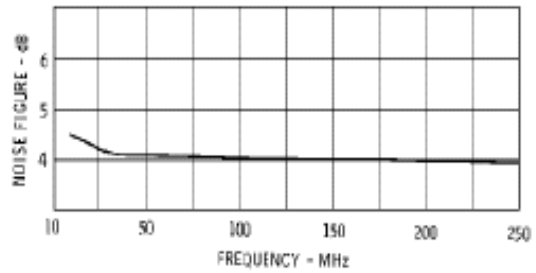
Rev. V2

Typical Performance Curves at +25°C

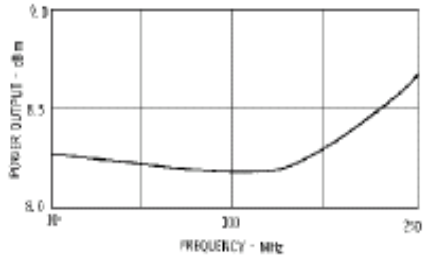
Gain



Noise Figure

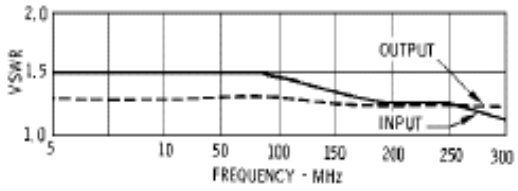


Power Output*

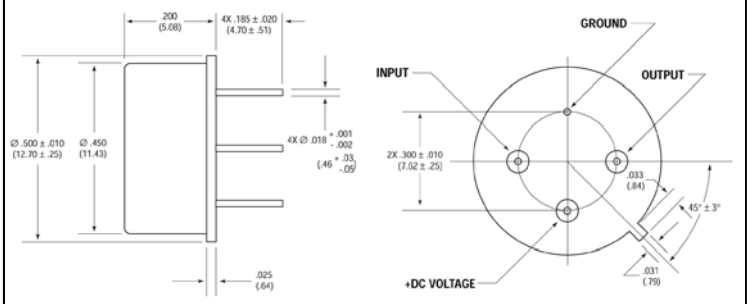


*at 1 dB Gain Compression

VSWR

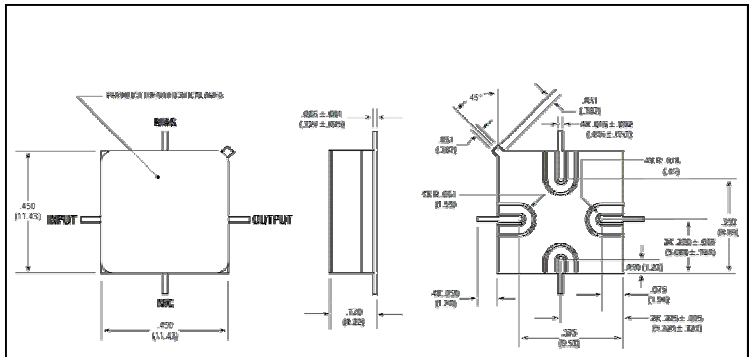


Outline Drawing: TO-8 *



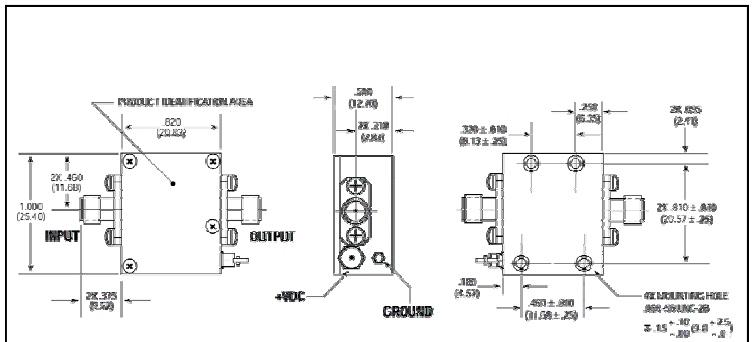
WEIGHT: 1 gram (0.04 oz.) max

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.

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