

Cascadable Amplifier 10 to 500 MHz

Rev. V2

Features

- AVAILABLE IN SURFACE MOUNT
- MEDIUM OUTPUT LEVEL: +11 dBm (TYP.)
- MEDIUM THIRD ORDER I.P. + 24 dBm (TYP.)

Description

The A55 RF amplifier is a discrete hybrid design, which uses thin film manufacturing processes for accurate performance and high reliability.

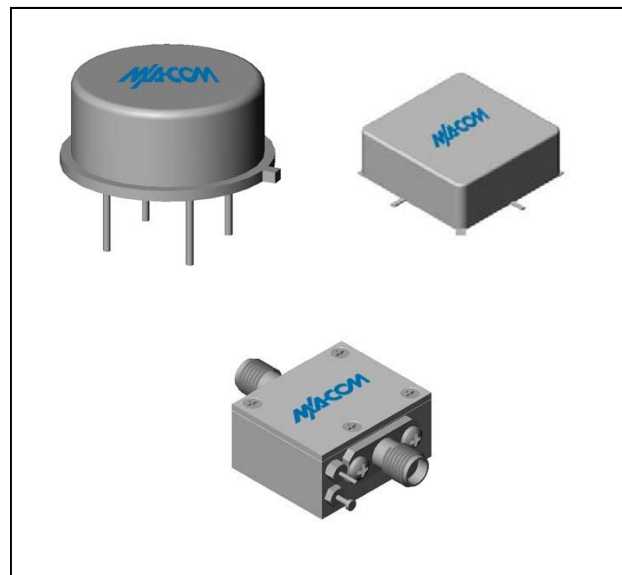
This single stage bipolar transistor feedback amplifier design displays impressive performance over a broadband frequency range. Both TO-8 and Surface Mount packages are Hermetically sealed, and MIL-STD-883 environmental screening is available.

Ordering Information

Part Number	Package
A55	TO-8
MAAM-008723-0SMA55	Surface Mount
CA55 **	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	5-600	10-500	10-500
Small Signal Gain (min)	dB	14.7	14.0	13.5
Gain Flatness (max)	dB	±0.5	±0.8	±1.0
Reverse Isolation	dB	20		
Noise Figure (max)	dB	5.0	6.0	6.5
Power Output @ 1 dB comp. (min)	dBm	11.0	9.0	8.0
IP3	dBm	+24		
IP2	dBm	+37		
Second Order Harmonic IP	dBm	+42		
VSWR Input / Output (max)		1.5:1 / 1.5:1	1.9:1 / 1.9:1	2.0:1 / 2.0:1
DC Current @ 15 Volts (max)	mA	30	35	37

Absolute Maximum Ratings

Parameter	Absolute Maximum
Storage Temperature	-62°C to +125°C
Case Temperature	+125°C
DC Voltage	+18 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}	45°C/W
Transistor Power Dissipation P_d	0.194 W
Junction Temperature Rise Above Case T_{jc}	9°C

* Over temperature performance limits for part number CA55, guaranteed from 0°C to +50°C only.

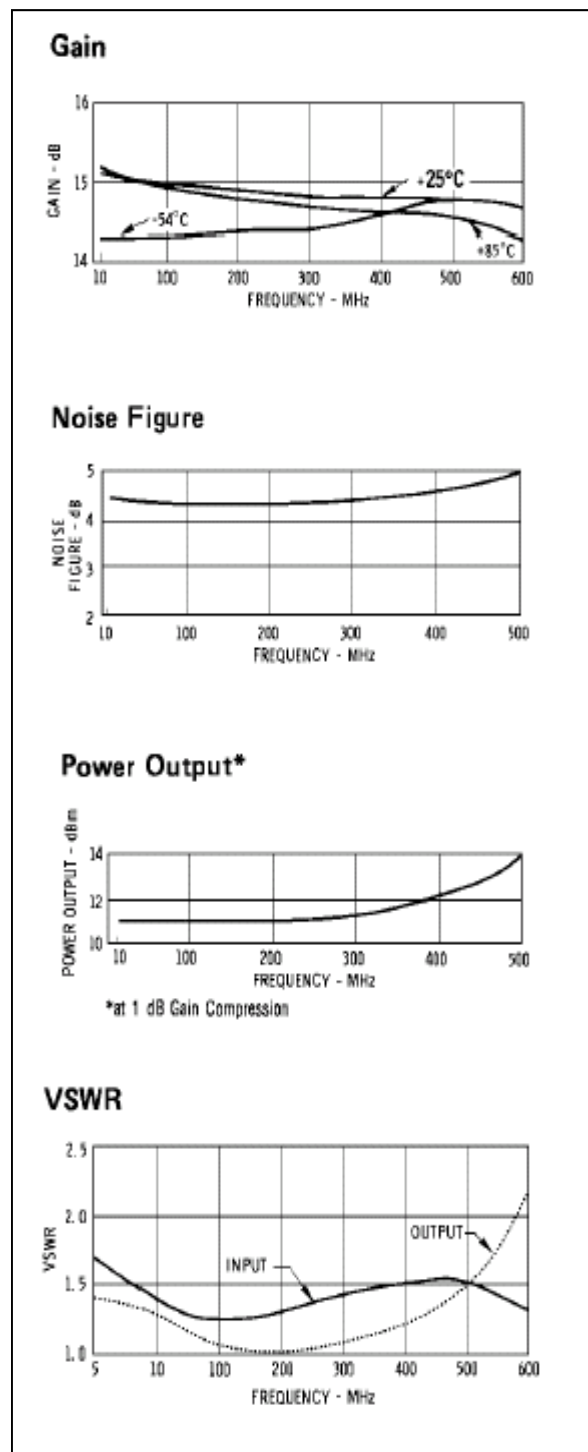
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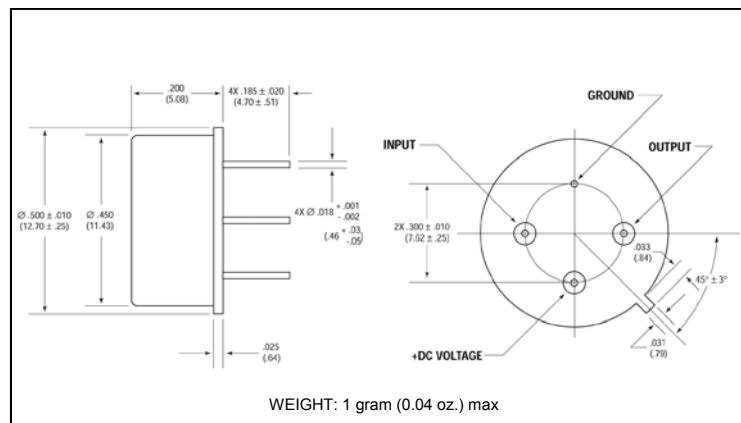
• **North America** Tel: 800.366.2266 • **Europe** Tel: +353.21.244.6400
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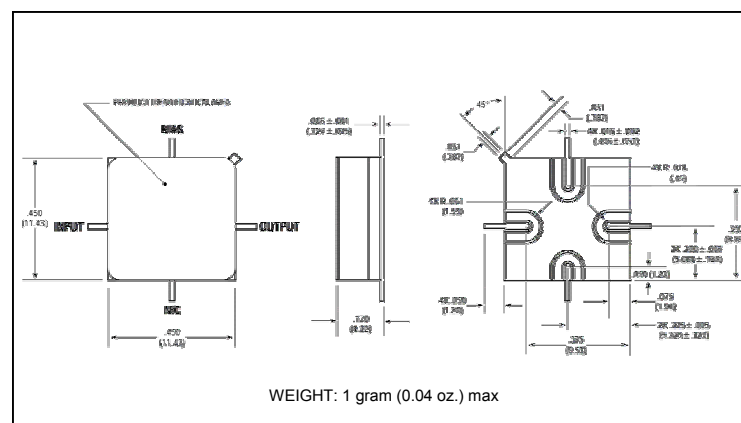
Typical Performance Curves at +25°C



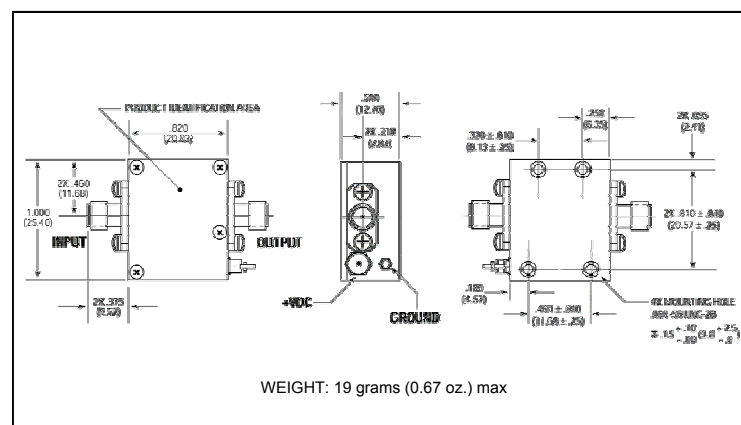
Outline Drawing: TO-8 *



Outline Drawing: Surface Mount *



Outline Drawing: SMA Connectorized *



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