

Electronics

Cascadable Amplifier 20 to 250 MHz





Features

- HIGH OUTPUT POWER: +21 dBm (TYP.)
- LOW NOISE: 2.8 dB (TYP.)
- HIGH THIRD ORDER I.P.: +40 dBm
- LOW DC CURRENT: 37 mA (TYP.) AT +15 Vdc

Description

The A70-3 RF amplifier is a discrete hybrid design, which uses thin film manufacturing processes for accurate performance and high reliability.

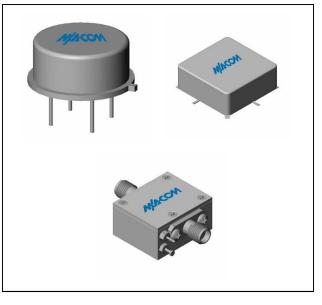
This single stage bipolar transistor feedback amplifier design displays impressive performance over a broadband frequency range. Use of an impedance transformer offers the benefit of high dynamic range and high efficiency.

Both TO-8 and Surface Mount packages are hermetically sealed, and MIL-STD-883 environmental screening is available

Ordering Information

Part Number	Package	
A70-3	TO-8	
SMA70-3	Surface Mount	
CA70-3	SMA Connectorized	

Product Image



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

Deremeter	Unito	Typical	Guaranteed	
Parameter	Units	25°C	0º to 50ºC	-54º to +85ºC*
Frequency	MHz	15-300	20-250	20-250
Small Signal Gain (min)	dB	8.0	7.0	6.5
Gain Flatness (max)	dB	±0.3	±0.5	±1.0
Reverse Isolation	dB	11		
Noise Figure (max)	dB	2.8	3.2	3.7
Power Output @ 1 dB comp. (min)	dBm	21.0	20.5	20.0
IP3	dBm	+40		
IP2	dBm	+45		
Second Order Harmonic IP	dBm	+51		
VSWR Input / Output (max)		1.9:1 / 1.9:1	2.1:1 / 2.1:1	2.3:1 / 2.3:1
DC Current @ 15 Volts (max)	mA	37	40	42

Absolute Maximum Ratings

Parameter	Absolute Maximum	
Storage Temperature	-62°C to +125°C	
Case Temperature	+125°C	
DC Voltage	+17 V	
Continuous Input Power	15 dBm	
Short Term Input power (1 minute max.)	100 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}	130°C/W
Transistor Power Dissipation P_d	0.336 W
Junction Temperature Rise Above Case T _{jc}	44°C

1

* Over temperature performance limits for part number CA70-3, 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.

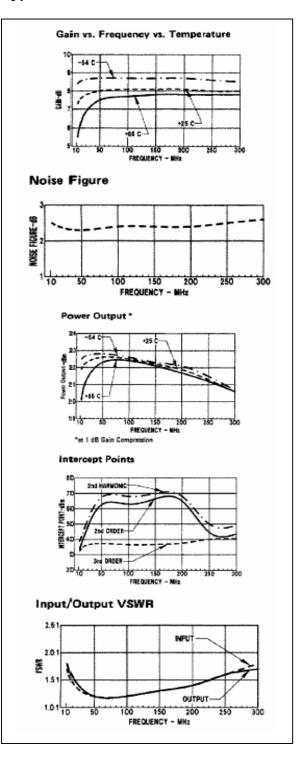


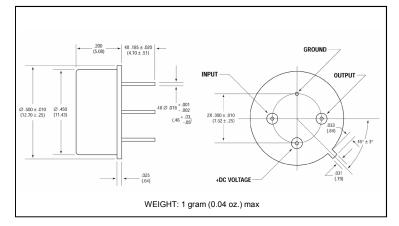
Cascadable Amplifier 20 to 250 MHz



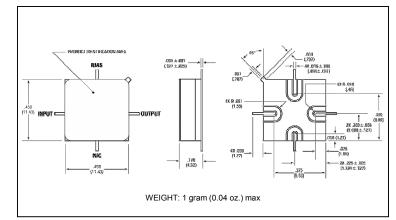
Typical Performance Curves at +25°C

Outline Drawing: TO-8 *

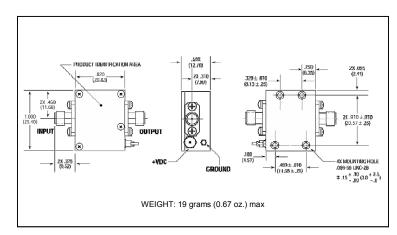




Outline Drawing: Surface Mount



Outline Drawing: SMA Connectorized *



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

- 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.

2

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.