EA54-2

Cascadable Amplifier
5 to 500 MHz

Rev. V2

Features

- TWO STAGE: 29.5 dB GAIN (TYP.)
- MEDIUM OUTPUT POWER: 9.5 dBm (TYP.)
- EXTRA SMALL SIZE: TO-5 PACKAGE

Description

The EA54-2 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. The unit is packaged in a TO-5 hermetically sealed, and MIL-STD-883 environmental screening is available.

Product Image

Ordering Information

Part Number	Package
EA54-2	TO-5

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

Parameter	Units	Typical	Guaranteed	
			0º to 50ºC	-54º to +85ºC
Frequency	MHz	3-600	5-500	5-500
Small Signal Gain (min)	dB	29.5	28.5	27.5
Gain Flatness (max)	dB	±0.4	±0.8	±1.0
Noise Figure (max)	dB	4.5	5.0	5.5
Power Output @ 1 dB Compression (min)	dBm	+9.5	+8.0	+6.0
IP3	dBm	+20		
IP2	dBm	+34		
2nd Order Harmonic IP	dBm	+38		
VSWR Input / Output (max)		1.3:1 / 1.6:1	1.8:1 / 2.0:1	2.0:1 / 2.1:1
DC Current @ 15 Volts (max)	mA	55	59	62

Absolute Maximum Ratings

Parameter	Absolute Maximum
Storage Temperature	-62ºC to +125ºC
Case Temperature	+100ºC
DC Voltage	+17 V
Continuous Input Power	12 dBm
CW Input power (1 minute max.)	100 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	0.330 W
Junction Temperature Rise Above Case T_{jc}	15ºC

• **North America** Tel: 800.366.2266 • **Europe** Tel: +353.21.244.6400
• **India** Tel: +91.80.4155721 • **China** Tel: +86.21.2407.1588
Visit www.macomtech.com for additional data sheets and product information.

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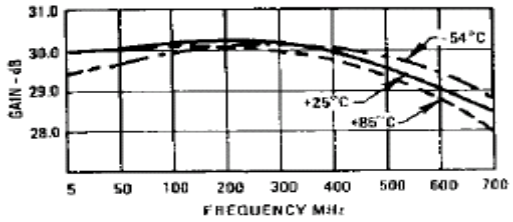
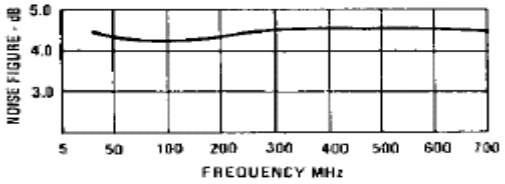
Typical Performance Curves at +25°C

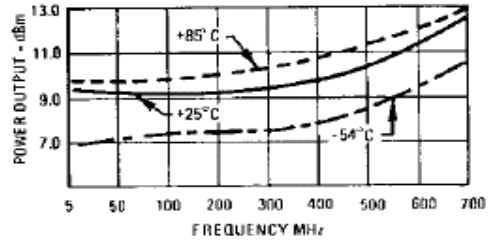
Gain



Noise Figure

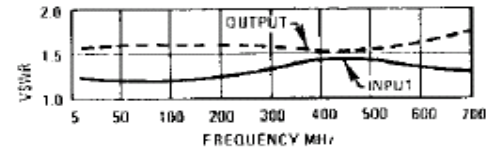


Power Output*

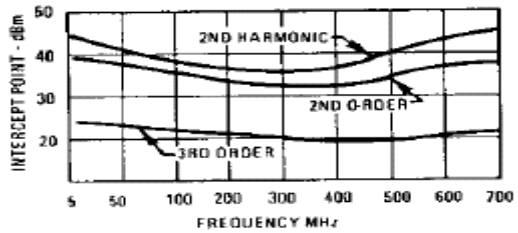


*at 1 dB Gain Compression

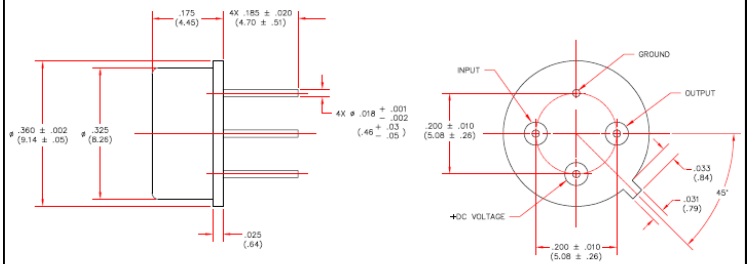
VSWR



Intercept Point



Outline Drawing: TO-5 *



WEIGHT: 1 gram (0.04 oz.) max

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

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