

## Cascadable Amplifier 10 to 250 MHz

EA54

V2

### Features

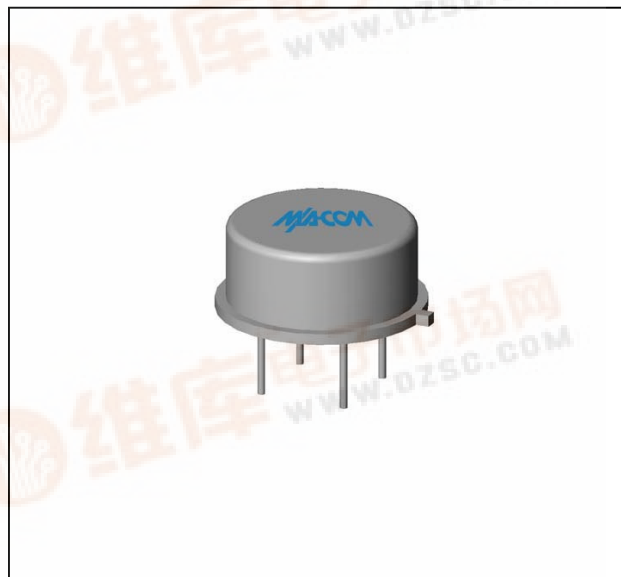
- TWO STAGE: 27 dB GAIN (TYP.)
- LOW VSWR: 1.2:1 (TYP.)
- EXTRA SMALL SIZE: TO-5 PACKAGE

### Description

The EA54 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	TO-5

### Electrical Specifications: $Z_0 = 50\Omega$ , $V_{CC} = +5 V_{DC}$

Parameter	Units	Typical	Guaranteed	
			0° to 50°C	-54° to +85°C
Frequency	MHz	5-350	10-250	10-250
Small Signal Gain (min)	dB	27.0	25.0	24.0
Gain Flatness (max)	dB	±0.7	±1.0	±1.2
Noise Figure (max)	dB	3.8	4.5	5.0
Power Output @ 1 dB Compression (min)	dBm	+5.0	+4.0	+2.0
IP3	dBm	+16		
IP2	dBm	+28		
2nd Order Harmonic IP	dBm	+33		
VSWR Input / Output (max)		1.2:1	1.7:1	1.8:1
DC Current @ 5 Volts (max)	mA	30	33	36

### Absolute Maximum Ratings

Parameter	Absolute Maximum
Storage Temperature	-62°C to +125°C
Case Temperature	+125°C
DC Voltage	+7 V
Continuous Input Power	13 dBm
CW 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: $V_{CC} = +5 V_{DC}$

Parameter	Rating
Thermal Resistance $\theta_{jc}$	45°C/W
Transistor Power Dissipation $P_d$	0.047 W
Junction Temperature Rise Above Case $T_{jc}$	2°C

**Cascadable Amplifier  
10 to 250 MHz**

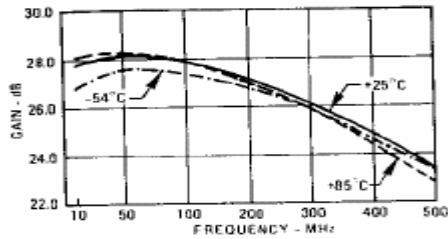
**EA54**

V2

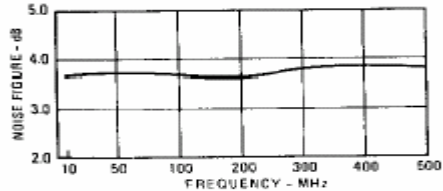
**Typical Performance Curves at +25°C**

**Outline Drawing: TO-5 \***

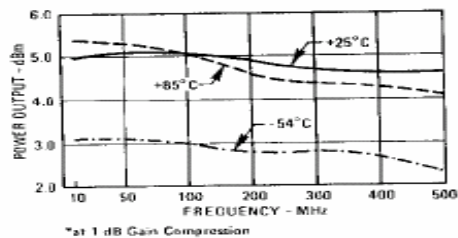
**Gain**



**Noise Figure**

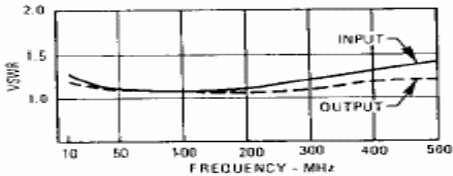


**Power Output\***

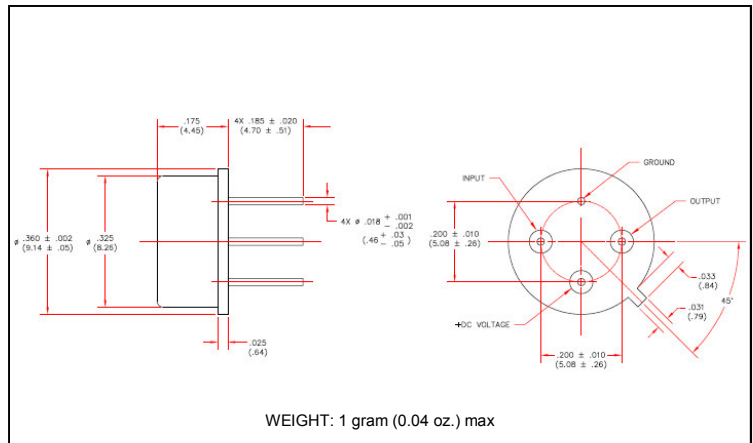
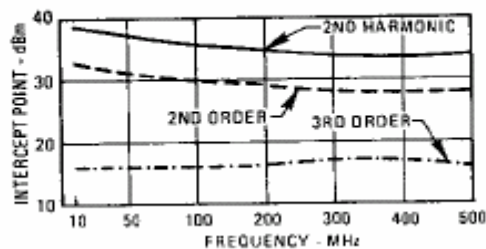


\*at 1 dB Gain Compression

**VSWR**



**Intercept Point**



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