EA1

Cascadable Amplifier
5 to 400 MHz

Rev. V2

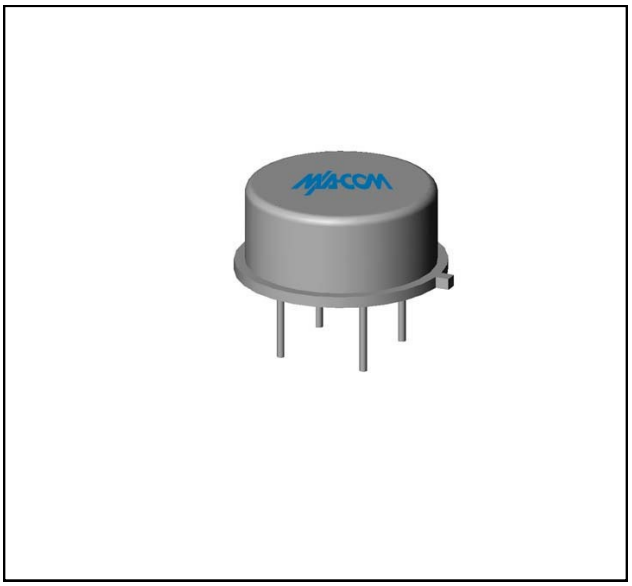
Features

- LOW COST
- LOW NOISE: 4.3 dB (TYP.)
- ULTRA SMALL SIZE

Description

The EA1 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
EA1	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	5-400	5-400	5-400
Small Signal Gain (min)	dB	14.5	14.0	13.5
Gain Flatness (max)	dB	±0.5	±0.8	±1.0
Noise Figure (max)	dB	4.3	6.0	6.5
Power Output @ 1 dB Compression (min)	dBm	-3.5	-4.5	-7.5
IP3	dBm	+13		
IP2	dBm	+15		
2nd Order Harmonic IP	dBm	+19		
VSWR Input / Output (max)		1.9:1	2.0:1	2.1:1
DC Current @ 15 Volts (max)	mA	10	12	15

Absolute Maximum Ratings

Parameter	Absolute Maximum
Storage Temperature	-62ºC to +125ºC
Case Temperature	+125ºC
DC Voltage	+17 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)	+125ºC

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

Parameter	Rating
Thermal Resistance θ_{jc}	45ºC/W
Transistor Power Dissipation P_d	0.001 W
Junction Temperature Rise Above Case T_{jc}	0ºC

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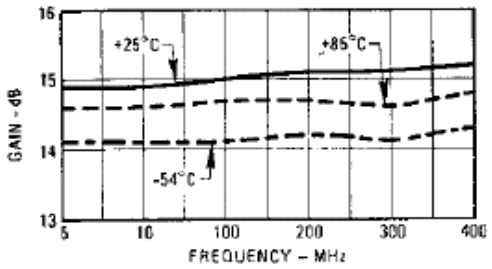
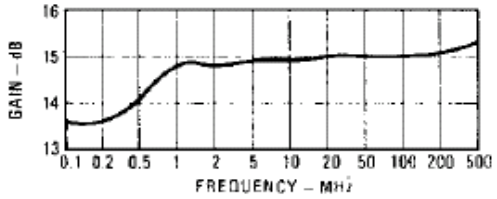
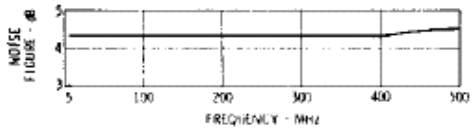
Typical Performance Curves at +25°C

Gain

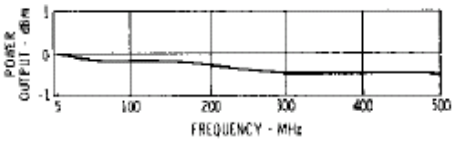




Noise Figure

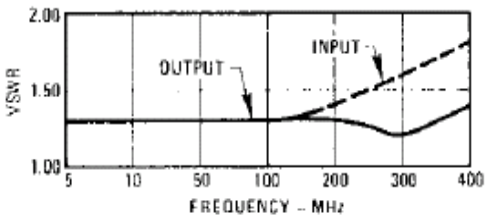


Power Output*

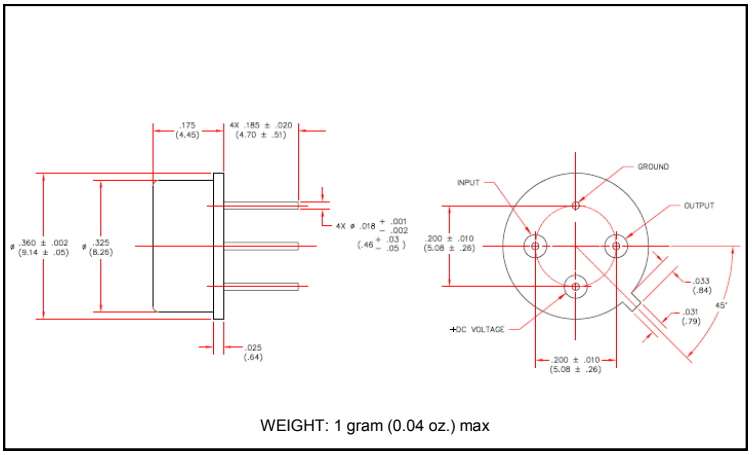


*at 1 dB Gain Compression

VSWR



Outline Drawing: TO-5 *



WEIGHT: 1 gram (0.04 oz.) max

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

Mouser Electronics

Authorized Distributor

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MACOM:
EA1