

Cascadable Amplifier 10 to 1500 MHz

Rev. V3

Features

- HIGH OUTPUT LEVEL: +15 dBm (TYP.)
- HIGH THIRD ORDER I.P.: +29 dBm (TYP.)
- WIDE POWER SUPPLY RANGE: +5 TO +15 VOLTS
- AVAILABLE IN SURFACE MOUNT

Description

The A28 RF amplifier is a discrete thin film hybrid design, which incorporates the use of 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. An active DC biasing network is used for temperature-stable performance, in addition to an RF Choke, used for power supply decoupling.

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

Ordering Information

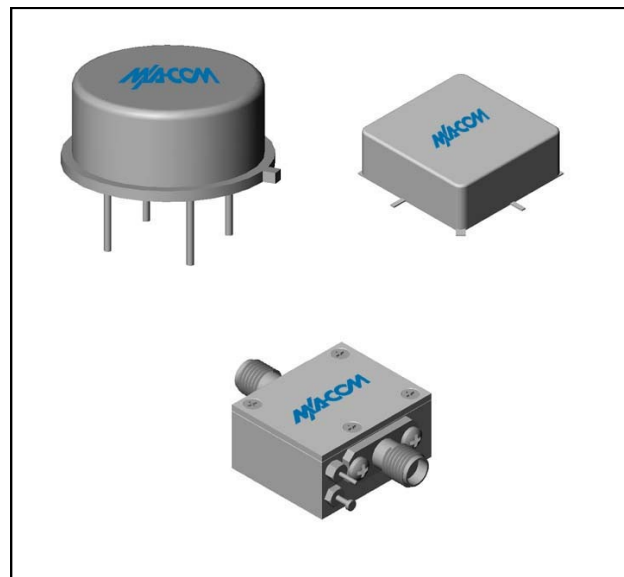
Part Number	Package
A28	TO-8
SMA28	Surface Mount
CA28	SMA Connectorized **

** The connectorized version is not RoHs compliant.

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	5-1600	10-1500	10-1500
Small Signal Gain (min)	dB	11.0	10.0	9.5
Gain Flatness (max)	dB	±0.2	±0.6	±1.0
Reverse Isolation	dB	17		
Noise Figure (max)	dB	6.0	7.0	7.5
Power Output @ 1 dB comp. (min)	dBm	15.0	14.0	13.5
IP3	dBm	+29		
IP2	dBm	+44		
Second Order Harmonic IP	dBm	+49		
VSWR Input / Output (max)		1.5:1 / 1.5:1	2.0:1 / 2.0:1	2.0:1 / 2.0:1
DC Current @ 15 Volts (max)	mA	45	50	53

Product Image



Absolute Maximum Ratings

Parameter	Absolute Maximum
Storage Temperature	-62°C to +125°C
Case Temperature	+125°C
DC Voltage	+17 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

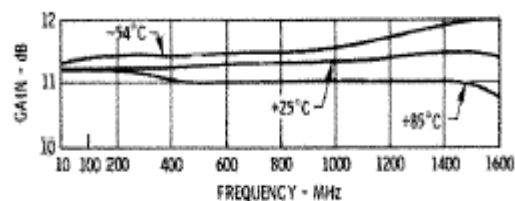
Thermal Data: $V_{CC} = +15 V_{DC}$

Parameter	Rating
Thermal Resistance θ_{jc}	145°C/W
Transistor Power Dissipation P_d	0.429 W
Junction Temperature Rise Above Case T_{jc}	+62°C

1 * Over temperature performance limits for part number CA28, guaranteed from 0°C to +50°C only.

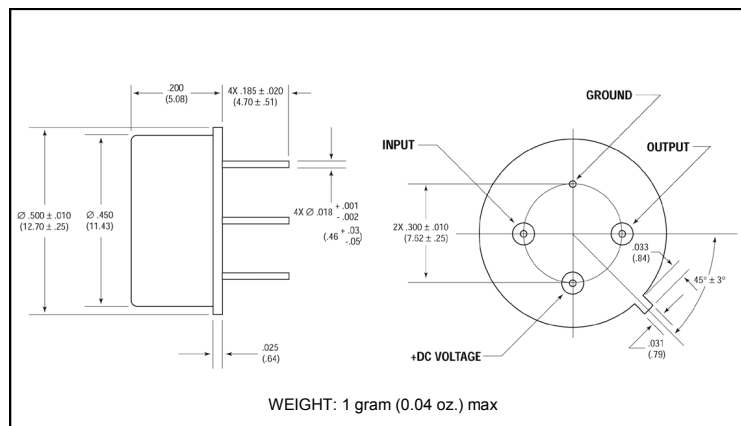
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Outline Drawing: TO-8 *



Frequency (MHz)	Noise Figure (dB)
10	5.1
20	4.8
50	4.8
100	4.8
200	4.8
500	4.8
700	5.2
900	5.6
1100	5.8
1300	5.8
1500	5.8

Frequency (MHz)	Power Output (dBm)
10	15.8
100	16.0
300	15.5
500	16.0
1000	16.2
1500	17.5

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