A72 / SMA72

Cascadable Amplifier 5 to 500 MHz

Features

- LOW POWER DRAIN 31 mA (TYP.)
- HIGH OUTPUT LEVEL: +12.5 dBm (TYP.)
- HIGH IP3: +28 dBm (TYP.) AT Vcc = +8 Vdc

Description

The A72 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		
A72	TO-8		
SMA72	Surface Mount		
CA72 **	SMA Connectorized		

** The connectorized version is not RoHs compliant.

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

Parameter	Units	Typical	Guaranteed	
Parameter		25°C	0º to 50ºC	-54º to +85ºC*
Frequency	MHz	2-700	5-500	5-500
Small Signal Gain (min)	dB	15.0	14.0	13.5
Gain Flatness (max)	dB	±0.2	±0.7	±1.0
Reverse Isolation	dB	20		
Noise Figure (max)	dB	3.3	4.0	4.5
Power Output @ 1 dB comp. (min)	dBm	12.5	11.5	11.0
IP3	dBm	+26		
IP2	dBm	+36		
Second Order Harmonic IP	dBm	+42		
VSWR Input / Output (max)		1.3:1 / 1.3:1	1.7:1 / 1.7:1	1.8:1 / 1.8:1
DC Current @ 5 Volts (max)	mA	31	34	36

Product Image

ARCON HIRCON

Absolute Maximum Ratings

Parameter	Absolute Maximum	
Storage Temperature	-62°C to +125°C	
Case Temperature	125°C	
DC Voltage	+9 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} = +5 V_{DC}

Parameter	Rating
Thermal Resistance θ_{jc}	140°C/W
Transistor Power Dissipation P_d	0.126 W
Junction Temperature Rise Above Case T _{jc}	18°C

1 * Over temperature performance limits for part number CA72, guaranteed from 0°C to +50°C only.

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МАСОМ

Rev. V3

A72 / SMA72



Cascadable Amplifier 5 to 500 MHz

Gain 15

SAUN.

100

Noise Figure

86

- 380014

Ë3 1030

10

100

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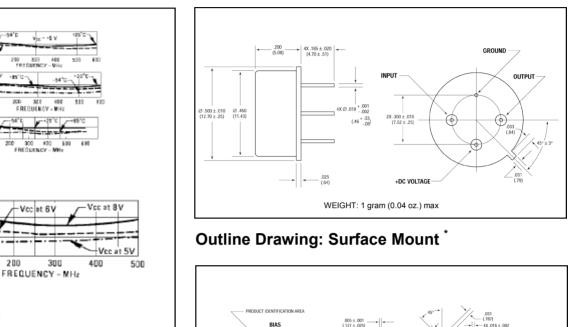
+85' 14 16 _{IVos} =

85

201

200

Typical Performance Curves at +25°C



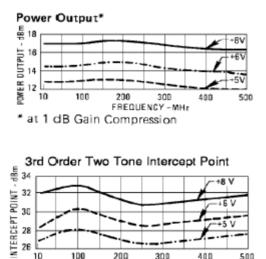
BIAS

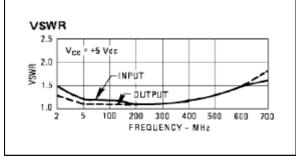
|| N/C

.450

INPUT □

Outline Drawing: TO-8 *





200

300

FREQUENCY - MHz

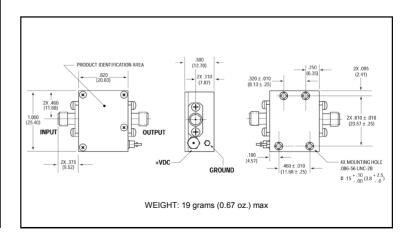
400

500

Outline Drawing: SMA Connectorized *

.170 (4.32)

WEIGHT: 1 gram (0.04 oz.) max



4X R .06

4X .050 (1.27)

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

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Rev. V3

2X .20

2X .225 ± .005 (5.720 ± .127)

_.075 (1.91)