# A64 / SMA64

# Cascadable Amplifier 10 to 1200 MHz



Rev. V3

#### Features

- LOW NOISE: 3.0 dB (TYP.)
- HIGH GAIN TWO STAGES: 26 dB (TYP.)
- ULTRA LOW PHASE DEVIATION FROM LINEARITY: <±2<sup>0</sup>, 100-1000 MHz
- LOW VSWR: 1.2:1 (TYP.)

#### Description

The A64 RF amplifier is a discrete hybrid design, which uses thin film manufacturing processes for consistent performance and high reliability.

This 2 stage bipolar transistor feedback amplifier design displays impressive performance over a broadband frequency range. An active DC biasing network insures temperature-stable performance.

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

#### **Ordering Information**

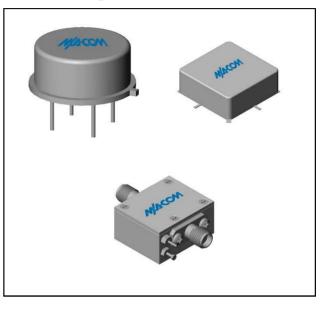
Part Number	Package	
A64	TO-8	
SMA64	Surface Mount	
CA64 **	SMA Connectorized	

\*\* the connectorized version is not RoHs compliant.

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

Parameter	Units	Typical	Guaranteed	
Farameter		25°C	0º to 50ºC	-54º to +85ºC*
Frequency	MHz	2-1250	10-1200	10-1200
Small Signal Gain (min)	dB	26.0	24.0	23.0
Gain Flatness (max)	dB	±0.5	±0.8	±1.0
Reverse Isolation	dB	32		
Noise Figure (max)	dB	3.4	4.3	4.8
Power Output @ 1 dB comp. (min)	dBm	8.0	7.0	6.5
IP3	dBm	+20		
IP2	dBm	+41		
Second Order Harmonic IP	dBm	+47		
VSWR Input / Output (max)		1.5:1 / 1.5:1	1.9:1 / 1.9:1	2.0:1 / 2.0:1
DC Current @ 15 Volts (max)	mA	35	38	40

#### **Product Image**



### Absolute Maximum Ratings

Parameter	Absolute Maximum	
Storage Temperature	-62°C to +125°C	
Case Temperature	+125°C	
DC Voltage	+20 V	
Continuous Input Power	6 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<sub>CC</sub> = +15 V<sub>DC</sub>

Parameter	Rating
Thermal Resistance $\theta_{jc}$	141°C/W
Transistor Power Dissipation $P_d$	0.187 W
Junction Temperature Rise Above Case T <sub>jc</sub>	26°C

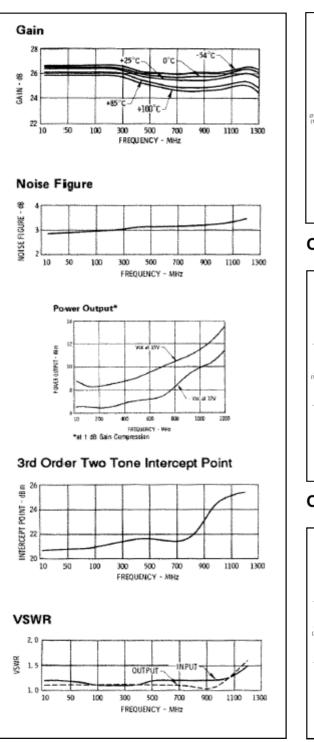
1 \* Over temperature performance limits for part number CA64, guaranteed from 0°C to +50°C only.

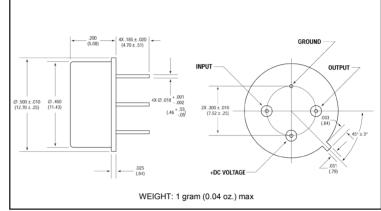
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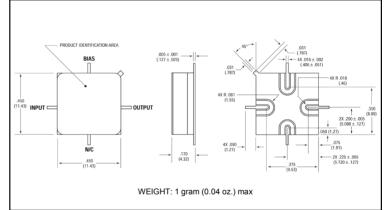
#### Typical Performance Curves at +25°C



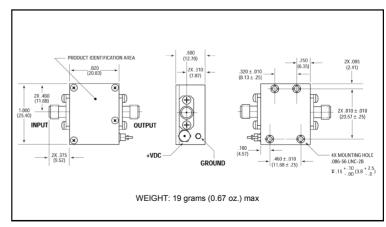


#### Outline Drawing: Surface Mount

Outline Drawing: TO-8 \*



### Outline Drawing: SMA Connectorized \*



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

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МАСОМ

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