

## Cascadable Amplifier 5 to 500 MHz

Rev. V3

#### **Features**

HIGH GAIN - TWO STAGES: 32 dB (TYP.)

LOW NOISE: 3.5 dB (TYP.)

THIRD ORDER IP: +15 dBm (TYP.)

LOW VSWR: <1.4:1 (TYP.)

#### **Description**

The A73 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**

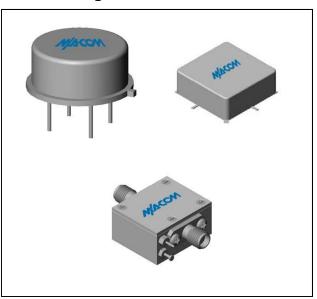
Part Number	Package	
A73	TO-8	
SMA73	Surface Mount	
CA73 **	SMA Connectorized	

<sup>\*\*</sup> The connectorized version is not RoHs compliant.

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

Devementer	Units	Typical	Guaranteed	
Parameter		25°C	0º to 50ºC	-54º to +85ºC*
Frequency	MHz	1-600	5-500	5-500
Small Signal Gain (min)	dB	32.0	30.0	29.0
Gain Flatness (max)	dB	±0.3	±0.7	±1.0
Reverse Isolation	dB	37		
Noise Figure (max)	dB	3.5	4.0	4.5
Power Output @ 1 dB comp. (min)	dBm	1.5	1.0	0.5
IP3	dBm	+15		
IP2	dBm	+19.5		
Second Order Harmonic IP	dBm	+26		
VSWR Input / Output (max)		1.4:1 / 1.4:1	1.8:1 / 1.8:1	2.0:1 / 2.0:1
DC Current @ 15 Volts (max)	mA	20	23	25

### 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	+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: $V_{CC} = +15 V_{DC}$

Parameter	Rating	
Thermal Resistance $\theta_{jc}$	171°C/W	
Transistor Power Dissipation Pd	0.105 W	
Junction Temperature Rise Above Case T <sub>jc</sub>	18°C	

<sup>\*</sup> Over temperature performance limits for part number CA73, guaranteed from 0°C to +50°C only.

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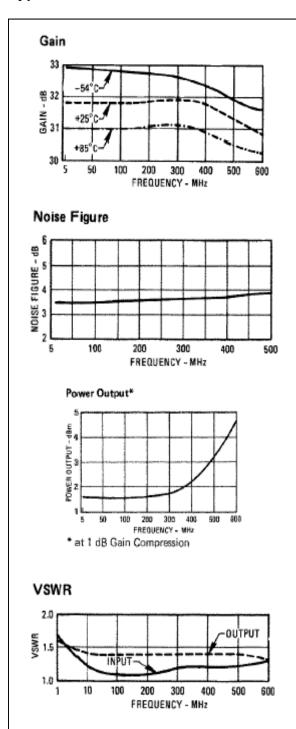
ADVANCED: Data Sheets contain information regarding a product M/A-COM Technology Solutions



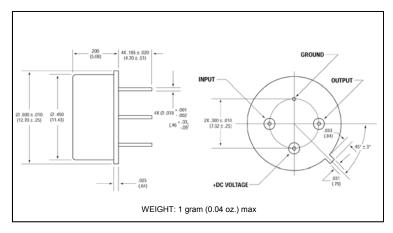
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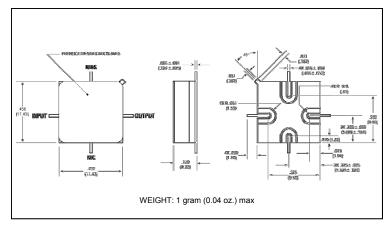
### Typical Performance Curves at +25°C



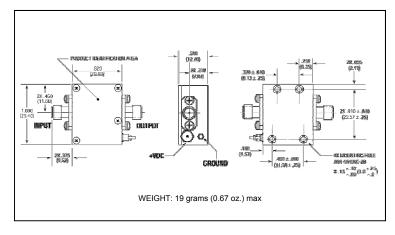
# Outline Drawing: TO-8 \*



## Outline Drawing: Surface Mount



# Outline Drawing: SMA Connectorized \*



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