

Cascadable Amplifier 10 to 500MHz

Rev. V6

Features

- HIGH POWER OUTPUT: +21 dBm (TYP.)
 HIGH THIRD ORDER IP3: +33 dBm (TYP.)
- HIGH EFFICIENCY: 52 mA (TYP.) @ +15 Vdc

Description

M/A-COM's AM-147 is a coupler feedback amplifier with high intercept and compression points. The use of coupler feedback minimizes noise figure and current in a high intercept amplifier. This amplifier is packaged in a TO-8 package. Due to the internal power dissipation the thermal rise minimized. The ground plane on the PC board should be configured to remove heat from under the package. AM-147 is ideally suited for use where a high intercept, high reliability amplifier is required.

Ordering Information

Part Number	Package	
AM-147-PIN	TO-8	
AMC-147- SMA *	Connectorized	

^{*} SMA Connectorized part is not RoHs compliant.

Product Image



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	3-500	5-500	5-500
Small Signal Gain (min)	dB	17.0	16.0	15.5
Gain Flatness (max)	dB	±0.4	±0.8	±1.0
Reverse Isolation	dB	20.0	16.0	
Noise Figure (max)	dB	3.4	4.2	4.7
Power Output @ 1 dB comp. (min)	dBm	20.0	19.0	18.5
IP3	dBm	+31		
IP2	dBm	+40		
Second Order Harmonic IP	dBm	+46		
VSWR Input / Output (max)		1.7:1 / 1.7:1	1.9:1 / 1.9:1	2.0:1 / 2.0:1
DC Current @ 15 Volts (max)	mA	52	56	58

Absolute Maximum Ratings

Parameter	Absolute Maximum			
Storage Temperature	-62°C to +150°C			
Case Temperature	125°C			
DC Voltage	+17 V			
Continuous Input Power	+13 dBm			
Short Term Input power (1 minute max.)	100 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}	143°C/W	
Transistor Power Dissipation P _d	0.47 W	
Junction Temperature Rise Above Case T _{jc}	68°C	

^{*} Over temperature performance limits for part number AMC-147, guaranteed from 0°C to +50°C only.

Commitment to produce in volume is not guaranteed.

ADVANCED: Data Sheets contain information regarding a product M/A-COM Technology Solutions is considering for development. Performance is based on target specifications, simulated results, and/or prototype measurements. Commitment to develop is not guaranteed.

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Solutions has under development. Performance is based on engineering tests. Specifications are
typical. Mechanical outline has been fixed. Engineering samples and/or test data may be available.

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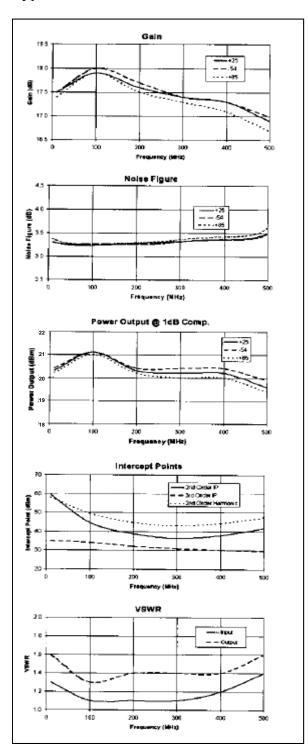
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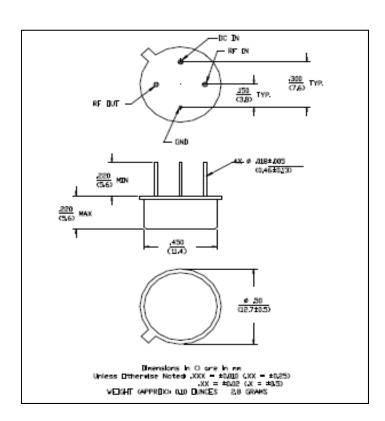
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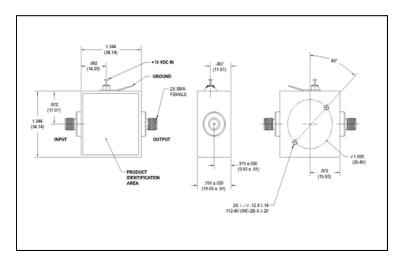
Typical Performance Curves at +25°C



Outline Drawing: TO-8-1



Outline Drawing: SMA Connectorized *



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

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