

## Low Noise Amplifier, 12 dB Gain, 300 - 1800 MHz

Rev. V3

### Features

- 1.9 dB Typical Midband Noise Figure
- +7.5 dBm Typical Midband Output Power
- +19 dBm Typical Midband Third Order Intercept

### Description

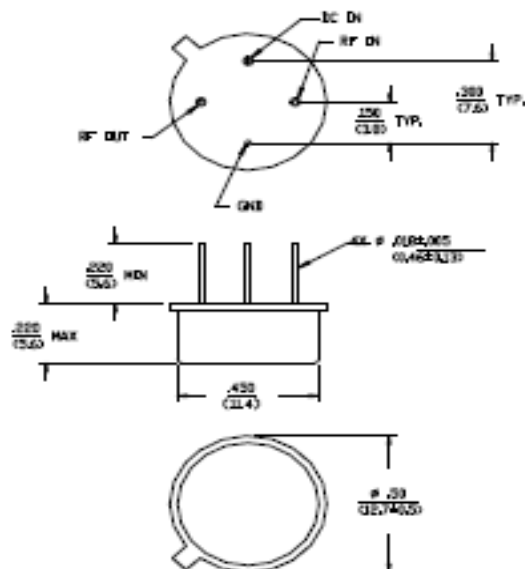
M/A-COM's AM-153 is a coupler feedback amplifier with low noise figure. The use of coupler feedback minimizes noise figure and current in a high intercept amplifier. This amplifier is packaged in a TO-8 package. This unique design features low noise figure over a wide bandwidth. AM-153 is ideally suited for use where a low noise, wideband, high reliability amplifier is required.

### Absolute Maximum Ratings <sup>1</sup>

Parameter	Absolute Maximum
Max. Input Power	+10 dBm
Vbias	+15.75 V
Operating Temperature	-55°C to +85°C
Storage Temperature	-65°C to +125°C

1. Operation of this device above any one of these parameters may cause permanent damage.

### TO-8-1



Dimensions in 0 are in mm  
 Unless Otherwise Noted: .001 = .0254 (.001 = .0254)  
 .005 = .127 (.005 = .127)  
 WEIGHT (APPROX) 0.10 OUNCES 2.8 GRAMS

### Electrical Specifications: <sup>2</sup> T<sub>A</sub> = -55°C to +85°C Case Temperature

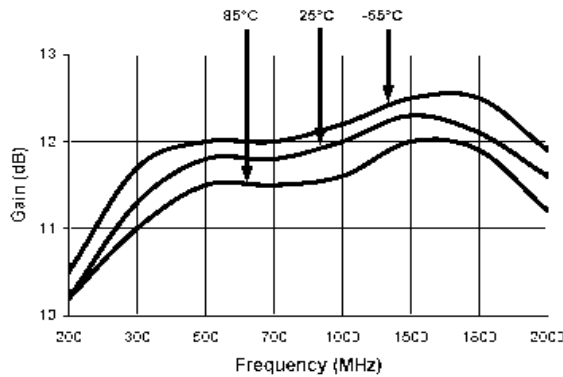
Parameter	Test Conditions	Frequency	Units	Min.	Typ.	Max.
Gain	@+25°C	600 MHz	dB	11.9	12.4	12.9
Frequency Response	—	300 - 1800 MHz	dB	—	—	±1.2
Gain Variation with Temperature	—	300 - 1800 MHz	dB	—	—	+0.5, -0.7
1 dB Compression	Output Power	300 - 1800 MHz	dBm	+6	—	—
Noise Figure	—	300 - 1800 MHz 1500 - 1800 MHz	dB dB	— —	— —	3.0 3.5
Reverse Transmission	—	300 - 1800 MHz	dB	—	-14	-12
VSWR Input	—	300 - 1800 MHz 1500 - 1800 MHz	Ratio Ratio	— —	— —	2.5:1 3.3:1
VSWR Output	—	300 - 400 MHz 400 - 1500 MHz 1500 - 1800 MHz	Ratio Ratio Ratio	— — —	— — —	3.5:1 3.0:1 2.5:1
Output IP <sub>2</sub>	Two-Tone inputs up to -5 dBm	300 - 1800 MHz	dBm	+22	—	—
Output IP <sub>3</sub>	Two-Tone inputs up to -5 dBm	300 - 1000 MHz 1000 - 1800 MHz	dBm dBm	+17 +15	— —	— —
Vbias	—	—	VDC	+14.5	+15.0	+15.5
Ibias	Vbias = +15.0 VDC	—	mA	—	13	15
Power Dissipation	@ +15 V Bias	—	mW	—	200	—

2. All specifications apply when operated at +15 VDC, with 50 ohms source and load impedance.

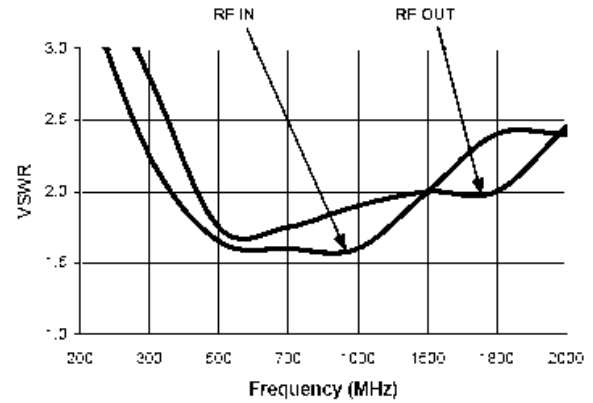
M/A-COM Technology Solutions Inc. (MACOM) and its affiliates reserve the right to make changes to the product(s) or information contained herein without notice. Visit [www.macom.com](http://www.macom.com) for additional data sheets and product information.

## Typical Performance Curves

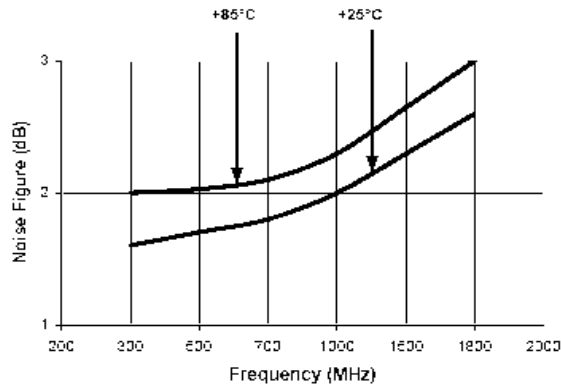
Gain vs. Frequency



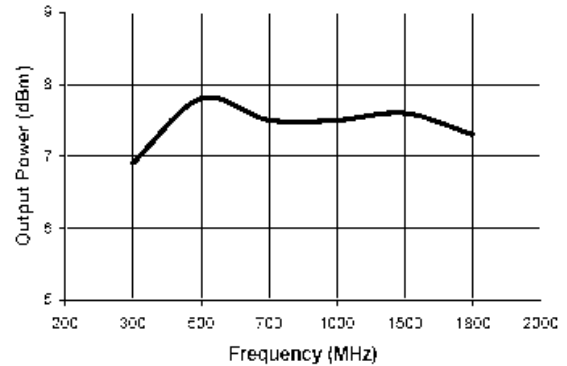
VSWR vs. Frequency



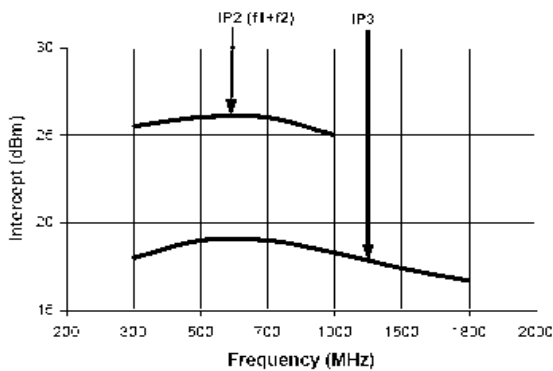
Noise Figure



1 dB Compression



Intermodulation Intercept



## Ordering Information

Part Number	Package
AM-153 PIN <sup>3</sup>	TO-8-1

3. Mounting kit part number AU00071 required for PCB applications.

M/A-COM Technology Solutions Inc. All rights reserved.

Information in this document is provided in connection with M/A-COM Technology Solutions Inc ("MACOM") products. These materials are provided by MACOM as a service to its customers and may be used for informational purposes only. Except as provided in MACOM's Terms and Conditions of Sale for such products or in any separate agreement related to this document, MACOM assumes no liability whatsoever. MACOM assumes no responsibility for errors or omissions in these materials. MACOM may make changes to specifications and product descriptions at any time, without notice. MACOM makes no commitment to update the information and shall have no responsibility whatsoever for conflicts or incompatibilities arising from future changes to its specifications and product descriptions. No license, express or implied, by estoppel or otherwise, to any intellectual property rights is granted by this document.

THESE MATERIALS ARE PROVIDED "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, RELATING TO SALE AND/OR USE OF MACOM PRODUCTS INCLUDING LIABILITY OR WARRANTIES RELATING TO FITNESS FOR A PARTICULAR PURPOSE, CONSEQUENTIAL OR INCIDENTAL DAMAGES, MERCHANTABILITY, OR INFRINGEMENT OF ANY PATENT, COPYRIGHT OR OTHER INTELLECTUAL PROPERTY RIGHT. MACOM FURTHER DOES NOT WARRANT THE ACCURACY OR COMPLETENESS OF THE INFORMATION, TEXT, GRAPHICS OR OTHER ITEMS CONTAINED WITHIN THESE MATERIALS. MACOM SHALL NOT BE LIABLE FOR ANY SPECIAL, INDIRECT, INCIDENTAL, OR CONSEQUENTIAL DAMAGES, INCLUDING WITHOUT LIMITATION, LOST REVENUES OR LOST PROFITS, WHICH MAY RESULT FROM THE USE OF THESE MATERIALS.

MACOM products are not intended for use in medical, lifesaving or life sustaining applications. MACOM customers using or selling MACOM products for use in such applications do so at their own risk and agree to fully indemnify MACOM for any damages resulting from such improper use or sale.

3