

Surface Mount

# Monolithic Amplifier

VAM-77+

50Ω, Broadband, DC to 6 GHz



CASE STYLE: MMM168  
PRICE: Contact Sales Department

+ RoHS compliant in accordance  
with EU Directive (2002/95/EC)

The +Suffix has been added in order to identify RoHS  
Compliance. See our web site for RoHS Compliance  
methodologies and qualifications.

## Features

- low device voltage, 3.3V typ.
- gain flatness,  $\pm .55$  dB typ. to 2 GHz
- equivalent to MSA-0711

## Applications

- cellular
- PCN & instrumentation

## Electrical Specifications

MODEL NO.	FREQ.* (GHz)	GAIN, dB Typical								MAXIMUM POWER, dBm at 2 GHz		DYNAMIC RANGE at 2 GHz		VSWR (:1) Typ.				MAXIMUM RATING**		DC* OPERATING POWER @ Pin 3		THERMAL RESIS- TANCE
		over frequency, GHz								Output (1 dB Comp.) Typ.	Input (no dmg.)	NF dB Typ.	IP3 dBm Typ.	In DC-3 GHz	3-f <sub>l</sub> GHz	DC-3 GHz	3-f <sub>u</sub> GHz	I (mA)	P (mW)	Current (mA)	Volt	
		f <sub>L</sub> - f <sub>U</sub>	0.1	1	2	3	4	6	Min. @ 2 GHz	Flatness DC-2 GHz												
VAM-77+	DC-6	13.9	13.6	12.9	12.5	11.2	9.9	11	±0.55	4.0	13	3.8	18	1.3	1.2	1.5	1.9	50	175	22	3.3	194

\* Low frequency cutoff determined by external coupling capacitors.

\*\* Permanent damage may occur if any of these limits are exceeded. These ratings are not intended for continuous normal operation.

† Supply voltage must be connected to pin 3 through a bias resistor in order to prevent damage. See "Biasing MMIC Amplifiers" in [minicircuits.com/application.html](http://minicircuits.com/application.html). Reliability predictions are applicable at specified current & normal operating conditions.

## Maximum Ratings

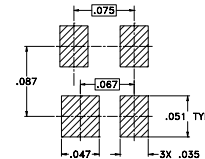
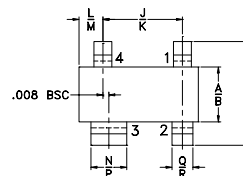
Operating Temperature -45°C to 85°C

Storage Temperature -55°C to 100°C

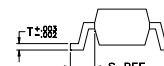
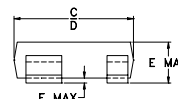
DC Voltage 2.8V min., 3.8V max.

## Outline Drawing

### PCB Land Pattern



Suggested Layout,  
Tolerance to be within  $\pm .002$



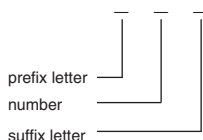
## Pin Configuration

RF IN	1
RF OUT	3
DC	3
GND EXT.	2,4
NOT USED	—

## model identification

Model	marking
VAM-77+	77

Note: Prefix letter (optional) designates assembly location. Suffix letters (optional) are for wafer identification.



## Outline Dimensions (inch mm)

A	B	C	D	E	F	G	H	J	K
.045	.055	.105	.120	.047	.005	.083	.104	.070	.080
1.14	1.40	2.67	3.05	1.19	0.13	2.11	2.64	1.78	2.03
L	M	N	P	Q	R	S	T	wt.	
.018	.024	.030	.036	.015	.021	.023	.004	grams	
0.46	0.61	0.76	0.91	0.38	0.53	0.58	0.10	1.0	

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IF/RF MICROWAVE COMPONENTS

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& shopping online see web site

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Notes: 1. Performance and quality attributes and conditions not expressly stated in this specification sheet are intended to be excluded and do not form a part of this specification sheet. 2. Electrical specifications and performance data contained herein are based on Mini-Circuit's applicable established test performance criteria and measurement instructions. 3. The parts covered by this specification sheet are subject to Mini-Circuits standard limited warranty and terms and conditions (collectively, "Standard Terms"); Purchasers of this part are entitled to the rights and benefits contained therein. For a full statement of the Standard Terms and the exclusive rights and remedies thereunder, please visit Mini-Circuits' website at [www.minicircuits.com/MCLStore/terms.jsp](http://www.minicircuits.com/MCLStore/terms.jsp).

REV. A  
M121747  
EE-7974L/1  
VAM-77+  
RS/TD/CP/AM  
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