

# Surface Mount Monolithic Amplifier

50Ω

50 to 1000 MHz

MAV-11SM+  
MAV-11SM



CASE STYLE: RRR137

## Features

- wideband, 50 to 1000MHz
- high output power, up to +18.5dBm
- low noise, 3.6 dB typ.

## Applications

- UHF - TV
- cellular
- defense communication
- UHF/VHF receivers/transmitters

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

See our web site for RoHS Compliance methodologies  
and qualifications.

## Electrical Specifications at 25°C

MODEL NO.	FREQ. <sup>2</sup> (MHz)		GAIN (dB) Typical at MHz				MAXIMUM POWER (dBm)		DYNAMIC RANGE		VSWR (:1) Typ.		ABSOLUTE MAXIMUM RATING <sup>5</sup>		DC OPERATING POWER <sup>6</sup> at Pin 3		THERMAL RESISTANCE <sup>4</sup> °C/W	PRICE \$
	f <sub>L</sub>	f <sub>H</sub>	100	1000	2000	Note 1 Min.	Output (1 dB Compr.) Typ.	Input (no damage) Typ.	NF (dB) Typ.	IP3 (dBm) Typ.	In	Out	I (mA)	P (mW)	Current (mA)	Device Volt Typ.		Qty. (30)
MAV-11SM(+)	50	1000	12.7	10.5	—	9.0	+17.5	+13	3.6	+30.0	1.5	1.7	80	550	60	5.50	125	1.62

### NOTES:

1. Minimum gain at highest frequency at full temperature range.
2. Low frequency cutoff determined by external coupling capacitors.
3. Frequency at which output power, NF and IP3 are specified: 500 MHz
4. Thermal resistance  $\theta_{JC}$  is from hottest junction in device to mounting surface of leads.
5. Permanent damage may occur if any of these limits are exceeded. These ratings are not intended for continuous normal operation.
6. 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

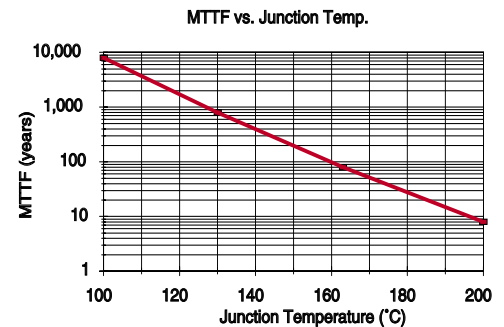
Operating Temperature	-20°C to 85°C
Storage Temperature	-55°C to 100°C

## Pin Connections

RF IN	1
RF OUT	3
DC	3
GROUND	2,4

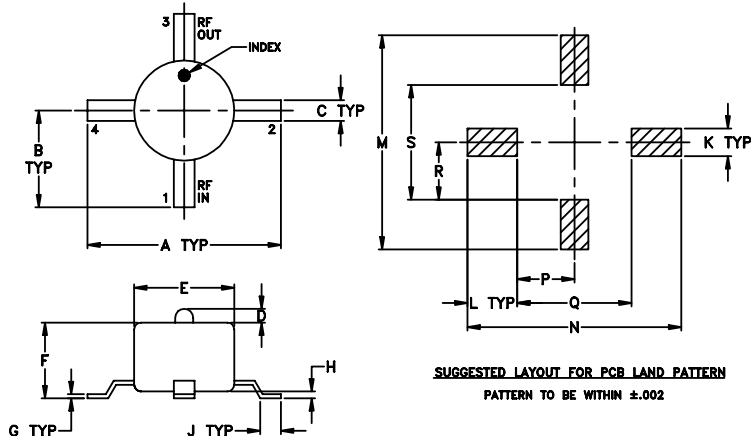
## Model Identification

Model	Marking
MAV-11SM(+)	A



# MAV-11SM+ MAV-11SM

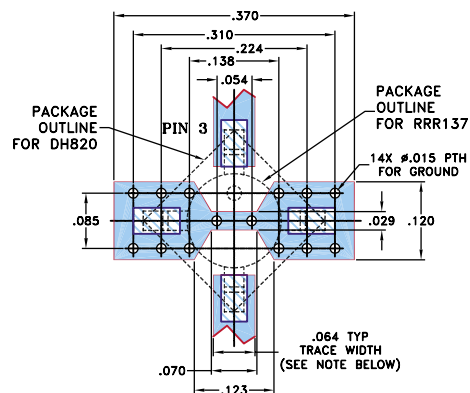
## Outline Drawing



## Outline Dimensions (inch/mm)

A	B	C	D	E	F	G	H	J
.28	.14	.030	.020	.145	.110	.006	.010	.030
7.11	3.56	0.76	0.51	3.68	2.79	0.15	0.25	0.76
K	L	M	N	P	Q	R	S	wt.
.040	.072	.310	.310	.084	0.167	.084	.167	grams
1.02	1.83	7.87	7.87	2.13	4.24	2.13	4.24	.015

Demo Board MCL P/N: MAV-TB  
Suggested PCB Layout (PL-169)



NOTE: 1. TRACE WIDTH IS SHOWN FOR ROGERS R04350 WITH DIELECTRIC THICKNESS  $.030 \pm .002$ , COPPER: 1/2 OZ. EACH SIDE. FOR OTHER MATERIALS TRACE WIDTH MAY NEED TO BE MODIFIED.  
2. BOTTOM SIDE OF THE PCB IS CONTINUOUS GROUND PLANE.

- DENOTES PCB COPPER LAYOUT
- DENOTES COPPER LAND PATTERN FREE OF SOLDERMASK

## Typical Biasing Configuration

