Surface Mount

Monolithic Amplifier

MAV-11BSM+
MAV-11BSM

50Ω 50 to 1000 MHz

CASE STYLE: RRR137
PRICE: $1.50 ea. QTY. (30)

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

The +Suffix identifies RoHS Compliance. See our web site for RoHS Compliance methodologies and qualifications.

Features

- equivalent to Agilent MSA-1105 and Mini-Circuit's MAV-11SM
- high IP3, 34 dBm typ.
- excellent VSWR, 1.2:1 typ.
- medium gain
- output power, 18 dBm typ.

Applications

- cellular
- UHF/VHF receivers/transmitters

Electrical Specifications at 25°C

FREQ [1] (MHz)		GAIN (dB) Typical at MHz				MAXIMUM POWER (dBm)		DYNAMIC RANGE		VSWR (:1) Typ.		ABSOLUTE MAXIMUM RATING [5]		DC OPERATING POWER [6] at Pin 3		THERMAL RESISTANCE [4]
f_L	f_U	100	1000	2000	Min. [2]	Output (1 dB Compr.) Typ.	Input (no damage)	NF (dB) Typ.	IP3 (dBm) Typ.	In	Out	I (mA)	P (mW)	Current (mA)	Device Volt Typ.	θjc, Typ. °C/W
50	1000	12.7	11.3	9.5	9.5	+18.0	+13	4.4	+34.0	1.2	1.2	80	460	60	5.50	141

1. Low frequency cutoff determined by external coupling capacitors.
2. Minimum gain at highest frequency at full temperature range.
3. Frequency at which output power, NF and IP3 are specified: 1000 MHz
4. Thermal resistance θjc 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. 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

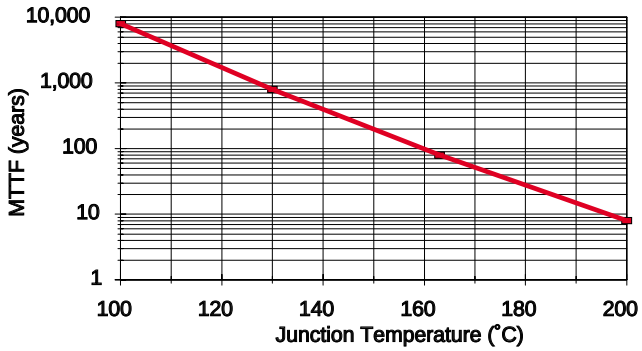
Pin Connections

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

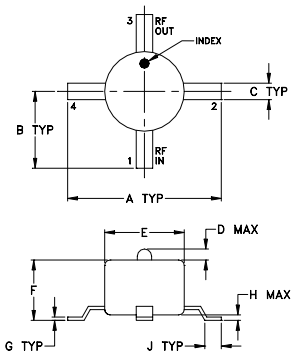
Model Identification

MAV-11BSM(+)	11

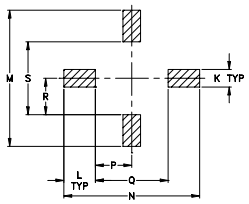
MTTF vs. Junction Temp.



Outline Drawing



PCB Land Pattern

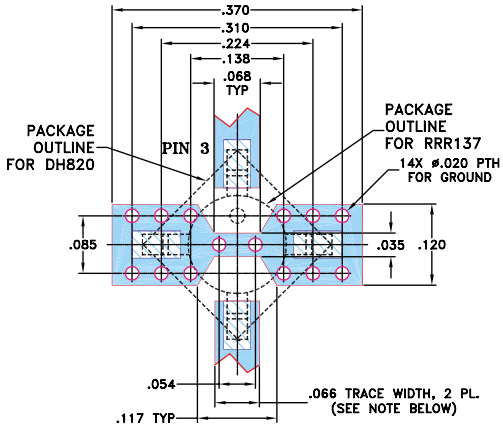


Suggested Layout,
Tolerance to be within ±.002

Outline Dimensions (inch / mm)

A	B	C	D	E	F	G	H	J
.28	.14	.030	.020	.145	.110	.007	.020	.03
7.11	3.56	0.76	0.51	3.68	2.79	0.18	0.51	0.76
K	**L**	**M**	**N**	**P**	**Q**	**R**	**S**	**wt.**
.040	.072	.310	.310	.084	.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-412-11B+
Suggested PCB Layout (PL-169)

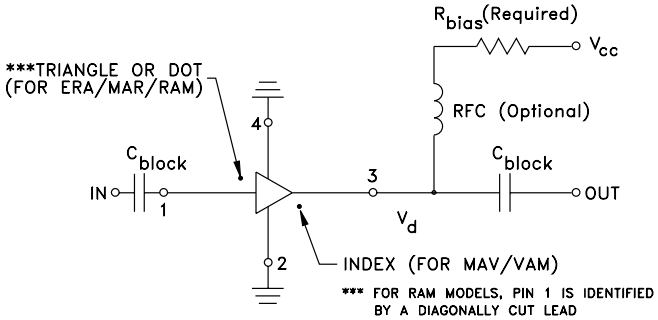


NOTE: 1. TRACE WIDTH IS SHOWN FOR ROGERS RO4350B WITH DIELECTRIC THICKNESS .030" ± .002"; COPPER: 1/2 OZ. EACH SIDE. FOR OTHER MATERIALS TRACE WIDTH MAY NEED TO BE MODIFIED.
2. BOTTOM SIDE OF THE PCB IS CONTINUOUS GROUND PLANE.

DENOTES PCB COPPER LAYOUT WITH SMOBC (SOLDER MASK OVER BARE COPPER)

DENOTES COPPER LAND PATTERN FREE OF SOLDER MASK

Typical Biasing Configuration



Resistor Values	
Vcc	**"1%" Res.**
7	28.0
8	45.3
9	61.9
10	78.7
11	95.3
12	113
13	127
14	143
15	158

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