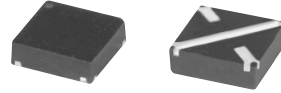


# Surface Mount Monolithic Amplifier

## MAV-11A+ MAV-11A

50Ω      50 to 2000 MHz



CASE STYLE: DH820  
PRICE: \$1.29 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

- medium gain
- output power, 18.5 dBm typ.

### Applications

- cellular
- cable
- defense communications
- UHF TV

### Electrical Specifications at 25°C

FREQ. (MHz)		GAIN (dB) Typical at MHz				MAXIMUM POWER (dBm)		DYNAMIC <sup>5</sup> RANGE		VSWR (:1) Typ.		ABSOLUTE MAXIMUM RATING <sup>2</sup> (25°C)		DC OPERATING POWER at Pin 3		THERMAL RESISTANCE <sup>3</sup>
f <sub>L</sub>	f <sub>U</sub>	100	1000	2000	Min. <sup>1</sup>	Output <sup>5</sup> (1 dB Compr.) Typ.	Input (no damage)	NF (dB) Typ.	IP3 (dBm) Typ.	In	Out	I (mA)	P (mW)	Current (mA)	Device Volt <sup>4</sup> Typ.	θ <sub>jc</sub> , Typ. °C/W
50	2000	12.5	11.5	10.2	9.0	+18.5	+13	4.8	+35	1.4	1.1	80	550	60	5.5	130

1. Minimum gain at highest frequency at full temperature range.
2. Permanent damage may occur if any of these limits are exceeded.
3. Thermal resistance θ<sub>jc</sub> is from hottest junction in device to mounting surface of leads.
4. Device voltage is 4.8 min. and 6.0 max. Temperature coefficient -4.6 mV/°C
5. At 1000 MHz.

### Maximum Ratings

Operating Temperature	-25°C to 85°C
Storage Temperature	-65°C to 150°C
Junction Temperature	200°C

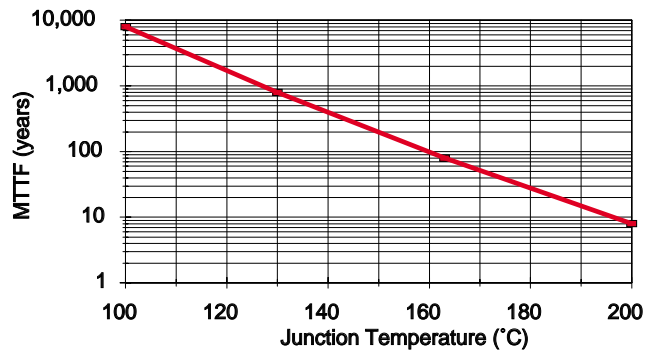
### Pin Connections

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

### Model Identification

MAV-11A	11
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MTTF vs. Junction Temp.



INTERNET <http://www.minicircuits.com>



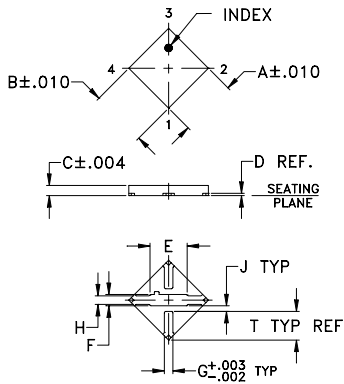
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Mini-Circuits ISO 9001 & ISO 14001 Certified

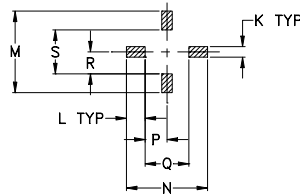
# MAV-11A+

## MAV-11A

### Outline Drawing

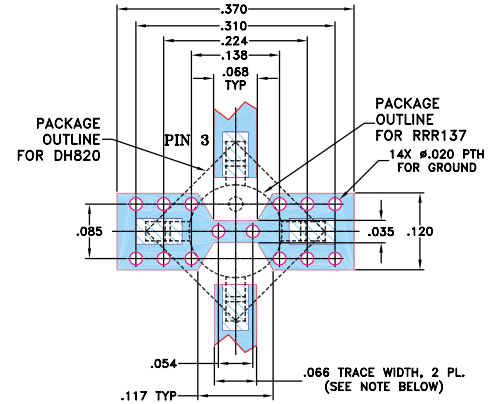


### PCB Land Pattern



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

Demo Board MCL P/N: MAV-TB-412-11A+  
Suggested PCB Layout (PL-169)

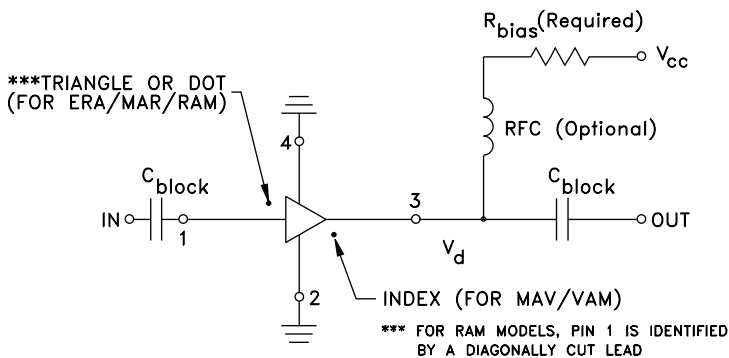


- NOTE: 1. TRACE WIDTH IS SHOWN FOR ROGERS RO4350B WITH DIELECTRIC THICKNESS  $.030 \pm .002$ ; COPPER: 1/2 OZ. EACH SIDE. FOR OTHER MATERIALS TRACE WIDTH MAY NEED TO BE MODIFIED.  
2. BOTTOM SIDE OF THE PCB IS CONTINUOUS GROUND PLANE.
- DENOTES PCB COPPER LAYOUT WITH SMOBC (SOLDER MASK OVER BARE COPPER)
  - DENOTES COPPER LAND PATTERN FREE OF SOLDER MASK

### Outline Dimensions (inch/mm)

A	B	C	D	E	F	G	H	J	K
.197	.197	.035	.008	.130	.039	.030	.030	.020	.040
5.00	5.00	0.89	0.20	3.30	0.99	0.76	0.76	0.51	1.02
L	M	N	P	Q	R	S	T	wt	
.072	.310	.310	.084	.167	.084	.167	.100	grams	
1.83	7.87	7.87	2.13	4.24	2.13	4.24	2.54	.06	

### 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