Surface Mount

Monolithic Amplifier

RAM-7+
RAM-7

50Ω DC to 2000 MHz

CASE STYLE: AF190

+ 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

- wideband, DC to 2000 MHz
- cascadable ceramic package
- low noise figure, 4.5 dB typ.
- excellent repeatability
- protected under US Patent 6,943,629

Applications

- cellular
- UHF/VHF
- communication system
- transmition receivers

Electrical Specifications

FREQ.[1] (MHz)		GAIN (dB) Typical at MHz				MAXIMUM POWER (dBm)		DYNAMIC RANGE [3]		VSWR (:1) Typ.		ABSOLUTE MAXIMUM RATING [5] (25°C)		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
DC	2000	13.5	12.5	11.0	8.5	+5.5	+13	4.5	+19.0	2.0	1.8	60	275	22	4.0	155

1. Low frequency cutoff determined by external coupling capacitors.
2. Minimum gain at highest frequency. 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	-54°C to 100°C
Storage Temperature	-65°C to 150°C

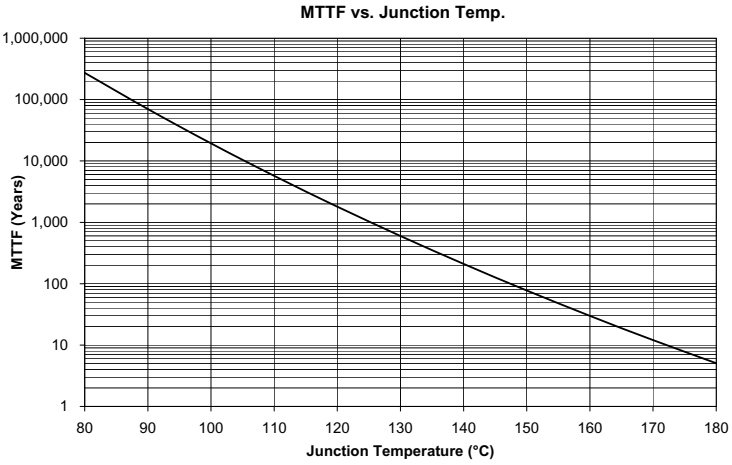
Pin Connections

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

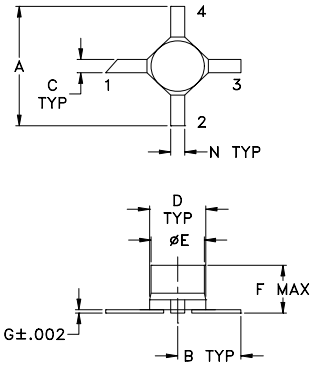
Model Identification

RAM-7(+)	7 or 07

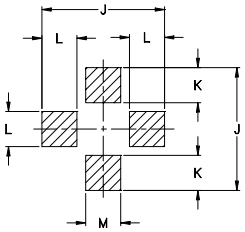
Prefix letter (optional) designates assembly location



Outline Drawing



PCB Land Pattern



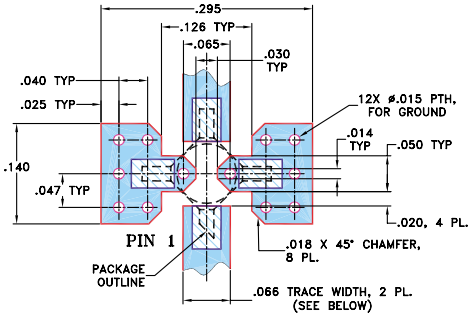
Suggested Layout,
Tolerance to be within ±.002

Outline Dimensions (inch / mm)

A	B	C	D	E	F	G
.180	.090	.020	.100	.083	.072	.005
4.57	2.29	0.51	2.54	2.11	1.83	0.13

H	J	K	L	M	N	wt
--	.210	.060	.060	.06	0.20	grams
--	5.33	1.52	1.52	1.52	5.08	0.04

Demo Board MCL P/N: TB-414-7+
Suggested PCB Layout (PL-254)



NOTES:
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.
3. IF PCB DESIGN RULES ALLOW, PLACE GROUND VIAS UNDER THE LAND PATTERN FOR BETTER RF PERFORMANCE. OTHERWISE PLACE GROUND VIAS AS CLOSE TO LAND PATTERN AS POSSIBLE.

DENOTES PCB COPPER LAYOUT WITH SMOBC (SOLDER MASK OVER BARE COPPER)
DENOTES COPPER LAND PATTERN FREE OF SOLDER MASK

Typical Biasing Configuration