

Drop-In

NON-CATALOG

Monolithic Amplifier

MAR-2+

50Ω

DC to 2000 MHz



CASE STYLE: VV105

+ 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

- wideband, DC to 2000 MHz
- high gain, up to 32.5 dB @ 100 MHz
- low noise
- MAR-2+ is equivalent to MSA-0285
- cascadable
- protected by US Patent, 6,943,629 (except MAR-6+)

Applications

- cellular
- PCN instrumentation

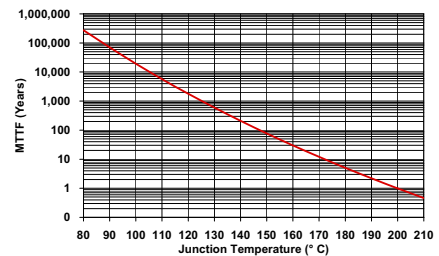
Electrical Specifications *

FREQ. ² (MHz)		GAIN (dB) Typical at MHz				MAXIMUM POWER (dBm)		DYNAMIC RANGE		VSWR (:1) Typ.		ABSOLUTE MAXIMUM RATING ⁵ (25°C)		DC OPERATING POWER ⁷ at Pin 3		THERMAL RESISTANCE ⁶
f _L	f _U	100	1000	2000	Note 1 Min.	Output (1 dB Compr.) Typ.	Input (no dam- age)	NF (dB) Typ.	IP3 (dBm) Typ.	In	Out	I (mA)	P (mW)	Current (mA)	Device Volt Typ.	°C/W
DC	2000	12.5	12.0	11.0	8.5	+6.0	+13	6.5	+17.0	1.5	1.4	60	325	25	5.0	105

* Test data based on models tested with bent leads per case style WW107

1. Minimum gain over the full frequency range and temperature range.
2. Low frequency cutoff determined by external coupling capacitors.
5. Thermal resistance t_{jc} is from hottest junction in device to mounting surface of leads.
6. Permanent damage may occur if any of these limits are exceeded. These ratings are not intended for continuous normal operation.
7. 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.

MTTF vs. Junction Temp.



Maximum Ratings

Operating Temperature	-40°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 No.	Marking
MAR-2+	02

Mini-Circuits
ISO 9001 ISO 14001 AS 9100 CERTIFIED

For detailed performance specs
& shopping online see web site

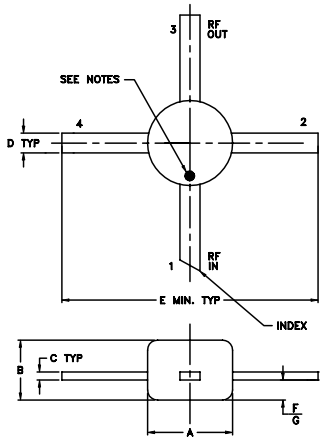
P.O. Box 350166, Brooklyn, New York 11235-0003 (718) 934-4500 Fax (718) 332-4661 The Design Engineers Search Engine  Provides ACTUAL Data Instantly at minicircuits.com

IF/RF MICROWAVE COMPONENTS

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.

REV. OR
M107249
MAR-2+
100222
Page 1 of 2

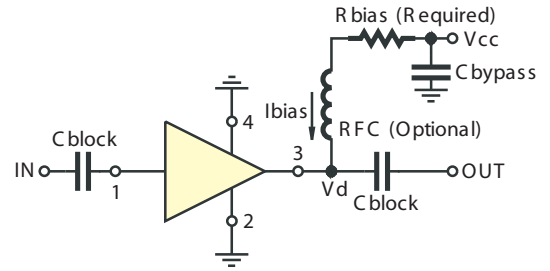
Outline Drawing



Outline Dimensions (inch mm)

A	B	C	D	E	F	G	wt
.085	.060	.008	.020	.250	.012	.025	grams
2.16	1.52	0.20	0.51	6.35	0.30	0.64	.015

Typical Biasing Configuration



Resistor Values ("1%" Res.)	
Vcc	MAR-2+
7	80.6
8	121
9	162
10	200
11	243
12	280
13	324
14	357
15	402