Drop-In

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

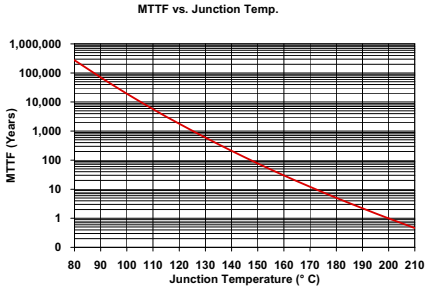
- cellular
- PCN instrumentation

Electrical Specifications *

FREQ.[2] (MHz)		GAIN (dB) Typical at MHz				MAXIMUM POWER (dBm)		DYNAMIC RANGE		VSWR (:1) Typ.		ABSOLUTE MAXIMUM RATING[6] (25°C)		DC OPERATING POWER[7] at Pin 3		THERMAL RESISTANCE[5]
f_L	f_U	100	1000	2000	Note 1 Min.	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.	°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 θjc 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.



Maximum Ratings

Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C

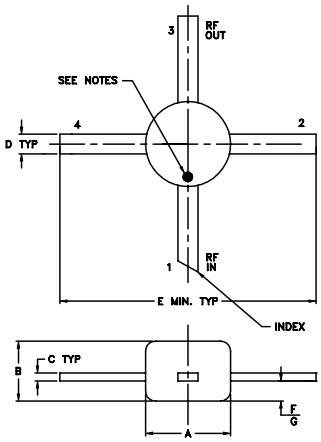
Pin Connections

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

Model Identification

Model No.	Marking
MAR-2+	02

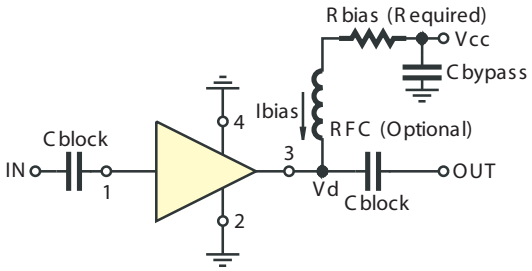
Outline Drawing



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