

# MONOLITHIC AMPLIFIERS

50 Ω

Flat-Pack

## BROADBAND DC to 2 GHz



up to +17.5 dBm output

MODEL NO.	FREQ. MHz f <sub>L</sub> f <sub>H</sub>	GAIN, dB Typical (at MHz)					MAXIMUM POWER, dBm		DYNAMIC RANGE		VSWR Typ. (:1)		ABSOLUTE MAXIMUM RATING <sup>7</sup> (25 °C)		DC POWER at Pin 3		THERMAL RESISTANCE <sup>6</sup>	CAPD DATA	Case Style	CONNECTION
		100	500	1000	2000	note 1 MIN.	Typ. Output (1 dB Comp.)	Input (no damage)	NF dB Typ.	IP3 dBm Typ.	In	Out	I (mA)	P (mW)	Current (mA)	Volt Typ.	θ <sub>jc</sub> °C/W	(see RF/IF Designer Handbook) Page	Note B	
□ MAR-1	DC-1000	18.5	17.5	15.5	—	13.0	+1.5	+13	5.5	+14.0	1.3	1.3	40	200	17	5.00	105	3-22	VV105	cb
□ MAR-2	DC-2000	12.5	12.3	12.0	11.0	8.5	+4.5	+13	6.5	+17.0	1.3	1.4	60	325	25	5.00	95	3-22	VV105	cb
□ MAR-3	DC-2000	12.5	12.2	12.0	10.5	8.0	+10.0	+13	6.0	+23.0	1.5	1.7	70	400	35	5.00	105	3-22	VV105	cb
□ MAR-4	DC-1000	8.3	8.2	8.0	—	7.0	+12.5	+13	6.5	+25.5	1.6	2.0	85	500	50	5.25	90	3-23	VV105	cb
□ MAR-6	DC-2000	20.0	18.5	16.0	11.0	9.0	+2.0	+13	3.0	+14.5	1.5	1.4	50	200	16	3.50	110	3-23	VV105	cb
□ MAR-7	DC-2000	13.5	13.1	12.5	11.0	8.5	+5.5	+13	5.0	+19.0	1.4	1.5	60	275	22	4.00	110	3-23	VV105	cb
□ MAR-8	DC-1000	32.5	28.0	22.5	—	19.0	+12.5	+13	3.3	+27.0	#	#	65	500	36	7.80	130	3-24	VV105	cb
□ MAV-11	50-1000	12.7	12.0	10.5	—	9.0	+17.5	+13	3.6	+30.0	1.5	1.7	80	550	60	5.50	115	3-25	BBB123	cb

TYPICAL BIASING CONFIGURATION AND REFLOW SOLDERING PROFILE  
SEE PREVIOUS PAGE

### features

- cascadable
- excellent repeatability
- wide bandwidth DC-2000 MHz
- unconditionally stable, except MAR-6, MAR-8
- low cost, MAR, MAV models
- low noise figure, 2.8 to 3.6 dB typ. MAR-6, MAR-8, MAV-11
- high output power, +17 dBm typ., MAV-11

### marking identification

Model	Alphanumeric Code	OR	Color Dot
MAR-1	A01		Brown
MAR-2	A02		Red
MAR-3	A03		Orange
MAR-4	A04		Yellow
MAR-6	A06		White
MAR-7	A07		Violet
MAR-8	A08		Blue
MAV-11	A		—

DESIGNERS KITS AVAILABLE  
SEE PAGES 16&17

### NSN GUIDE

MCL NO.	NSN
MAR-2	5962-01-417-4110
MAR-3	5962-01-339-2933
MAR-4	5962-01-414-8631
MAR-6	5962-01-416-1462
MAR-8	5998-01-360-6957
MAV-11	5998-01-360-6958

### pin connections

PORT	cb
RF IN	1
RF OUT	3
DC	3
CASE GND	2,4
NOT USED	—

### NOTES:

- Non-hermetic
- # Dash-8 models input and output impedances are not 50 ohms, see S-parameter data. Conditionally stable, source and load VSWR<3:1 required. Dash-6 models conditionally stable, source and load VSWR<5:1 required.
- ⊕ Low frequency cutoff determined by external coupling capacitors.
- B. Connector types and case mounted options, case finishes are given in section 0, see "Case styles & outline drawings".
- C. Prices and specifications subject to change without notice.
- D. For Quality Control Procedures see Table of Contents, Section 0, "Mini-Circuits Guarantees Quality" article. For Environmental Specifications see Amplifier Selection Guide.
- 1. Minimum gain at highest frequency. Full temperature range, except room temperature for Dash-4 models.
- 2. Model number designated by color dot or alphanumeric code marking.
- 3. Frequency at which output power, NF and IP3 are specified: 500MHz for MAR-1, MAR-6, MAV-11, 1000MHz for all other models.
- 4. Dash-6 models potentially unstable with very high VSWR terminations.
- 6. Thermal resistance θ<sub>jc</sub> is from hottest junction of the device to the mounting surface of the leads.
- 7. Permanent damage may occur if any of these limits are exceeded.

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