MONOLITHIC AMPLIFIERS 50 Ω

BROADBAND DC to 2.5 GHz


MAR-SM


MAV-SM

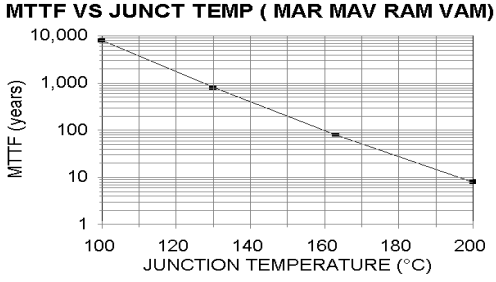
up to +17.5 dBm output

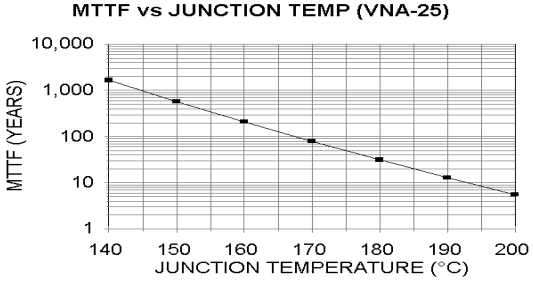
MODEL NO.	✪ FREQ. MHz	GAIN, dB Typical (at MHz) 100	1000	2000	note 1 Min.	MAXIMUM POWER, dBm Output (1 dB Comp.) Typ.	Input (no damage)	DYNAMIC RANGE NF dB Typ.	IP3 dBm Typ.	VSWR Typ. In	Out	ABSOLUTE MAXIMUM RATING[7] (25°C) I (mA)	P (mW)	DC OPERATING POWER at Pin 3 Current (mA)	Volt Typ.	THERMAL RESISTANCE[6] θjc °C/W	CAPD DATA	Case Style Note B	CONNECTION	Price $ Qty. 30
MAR-1SM	DC-1000	18.5	15.5	—	13.0	+1.5	+13	5.5	+14.0	1.3	1.2	40	200	17	5.00	115		WW107	cb	1.04
MAR-2SM	DC-2000	12.5	12.0	11.0	8.5	+4.5	+13	6.5	+17.0	1.5	1.4	60	325	25	5.00	105		WW107	cb	1.17
MAR-3SM	DC-2000	12.5	12.0	10.5	8.0	+10.0	+13	6.0	+23.0	1.5	1.7	70	400	35	5.00	115		WW107	cb	1.24
MAR-4SM	DC-1000	8.3	8.0	—	7.0	+12.5	+13	7.0	+25.5	1.5	1.9	85	500	50	5.25	100		WW107	cb	1.34
MAR-6SM	DC-2000	20.0	16.0	11.0	9.0	+2.0	+13	3.0	+14.5	1.7	1.7	50	200	16	3.50	120	(see YONI on our website)	WW107	cb	1.21
MAR-7SM	DC-2000	13.5	12.5	11.0	8.5	+5.5	+13	5.0	+19.0	1.7	1.7	60	275	22	4.00	120		WW107	cb	1.36
MAR-8SM	DC-1000	32.5	22.5	—	19.0	+12.5	+13	3.3	+27.0	#	#	65	500	36	7.80	140		WW107	cb	1.32
MAV-11SM	50-1000	12.7	10.5	—	9.0	+17.5	+13	3.6	+30.0	1.5	1.7	80	550	60	5.50	125		RRR137	cb	1.62

NOTES:
- ☆ Increases below 1500 MHz.
- * RAM models are hermetically sealed.
- ▮ Max. Voltage 7V at pin 1 (DC power). Max. voltage 10V at pins 3,6, DC or transient.
- ❖ Price of RAM models is for 1-9 quantity.
- # 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.
- ❄ Specification at 500 MHz.
- ❄❄ Specification at 2500 MHz.
- A. Environmental specifications and re-flow soldering information available in General Information Section.
- B. Units are non-hermetic unless otherwise noted. For details on case dimensions & finishes see "Case Styles & Outline Drawings".
- C. Prices and Specifications subject to change without notice.
- 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: 500 MHz for MAR-1SM, MAR-6SM, RAM-1, RAM-6, MAV-11SM, VAM-6, 1000 MHz for all other models.
- 4. Dash-6 models potentially unstable with very high VSWR terminations.
- 6. Thermal resistance θjc is from hottest junction in the device to the mounting surface of the leads.
- 7. Permanent damage may occur if any of these limits are exceeded.
- 8. For internal control an additional character may be present.

marking identification

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





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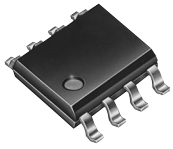
* RAM


VAM

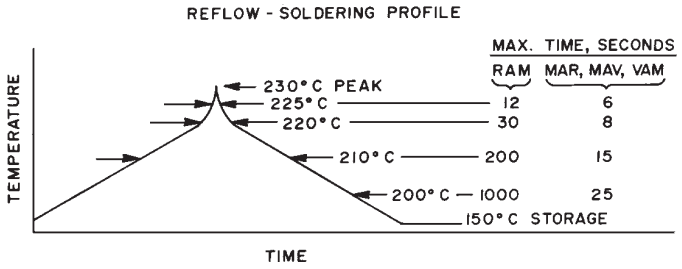

VNA

up to +18.2 dBm output

	MODEL NO.	FREQ. MHz	GAIN, dB Typical (at MHz) 100	1000	2000	note 1 Min.	MAXIMUM POWER, dBm Output (1 dB Comp.) Typ.	Input (no damage)	DYNAMIC RANGE NF dB Typ.	IP3 dBm Typ.	VSWR Typ. In	Out	ABSOLUTE MAXIMUM RATING[7] (25°C) I (mA)	P (mW)	DC OPERATING POWER at Pin 3 Current (mA)	Volt Typ.	THERMAL RESISTANCE[6] θjc °C/W	CAPD DATA	Case Style Note B	CONNECTION	Price $ Qty. 30
*	RAM-1	DC-1000	19.0	15.5	—	13.0	+1.5	+13	5.5	+14.0	1.3	1.3	40	200	17	5.00	150		AF190	cb	4.95
*	RAM-2	DC-2000	12.5	11.8	11.0	8.5	+4.5	+13	6.5	+17.0	1.2	1.4	60	325	25	5.00	145		AF190	cb	4.95
*	RAM-3	DC-2000	12.5	12.0	10.5	8.0	+10.0	+13	6.0	+23.0	1.6	1.7	80	425	35	5.00	150		AF190	cb	4.95
*	RAM-4	DC-1000	8.5	8.0	—	7.0	+12.5	+13	6.5	+25.5	1.4	1.9	100	540	50	5.25	140		AF190	cb	4.95
*	RAM-6	DC-2000	20.0	16.0	11.0	9.0	+2.0	+13	2.8	+14.5	1.4	1.3	50	200	16	3.50	155	(see YONI on our website)	AF190	cb	4.95
*	RAM-7	DC-2000	13.5	12.5	11.0	8.5	+5.5	+13	4.5	+19.0	2.0	1.8	60	275	22	4.00	155		AF190	cb	4.95
*	RAM-8	DC-1000	32.5	23.0	—	19.0	+12.5	+13	3.0	+27.0	#	#	65	420	36	7.80	175		AF190	cb	4.95
	VAM-3	DC-2000	11.5	11.0	9.5	7.5	+9.0	+13	6.0	+22.0	1.5	1.7	60	240	35	4.70	500		MMM168	cb	1.19
	VAM-6	DC-2000	19.5	15.0	10.0	8.0	+2.0	+13	3.0	+14.0	1.6	1.5	40	125	16	3.30	505		MMM168	cb	1.16
	VAM-7	DC-2000	13.0	12.0	9.8	7.8	+5.5	+13	5.0	+18.0	1.5	1.5	50	175	22	3.80	505		MMM168	cb	1.31
	VNA-25	500-2500	14.0*	18.0	16.0**	11.5	+18.2	+10	5.5	+27.0	1.5☆	1.6	105	1000	85	5.0▮	125		XX211	hj	4.25

features

- cascadable
- excellent repeatability
- wide bandwidth, DC to 2500 MHz
- unconditionally stable, most models
- low cost
- hermetically sealed, RAM models
- low noise figure, 2.8 dB typ
- high output power, up to +18 dBm typ



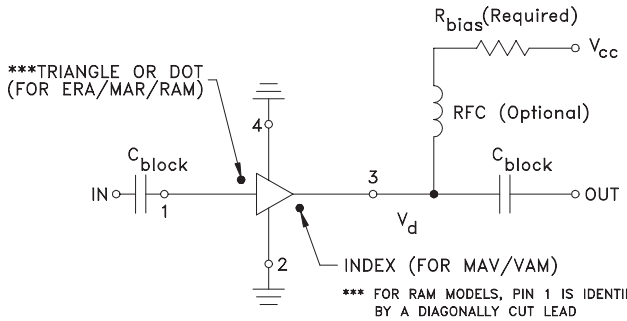
pin connections

PORT	cb	hj
RF IN	1	3
RF OUT	3	6
DC	3	1
GND EXT	2,4	2,4,5,7,8
NOT USED	—	—

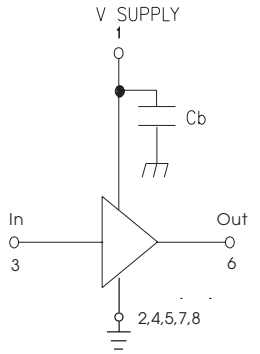
NSN GUIDE

MCL NO.	NSN
MAR-1SM	5962-01-414-8635
MAR-3SM	5962-01-423-1569
RAM-6	5996-01-450-5504

Typical Biasing Configuration
ERA/MAR/MAV/RAM/VAM



Biasing Configuration
VNA



DESIGNERS KITS AVAILABLE
SEE PAGES 16&17

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