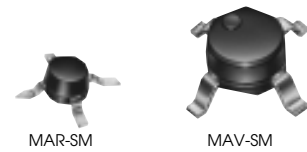


# MONOLITHIC AMPLIFIERS 50 $\Omega$

BROADBAND DC to 2.5 GHz



MAR-SM

MAV-SM

up to +18 dBm output

| MODEL NO. | *FREQ. MHz | GAIN, dB<br>Typical (at MHz) |      |        |                | MAXIMUM POWER, dBm<br>note 5<br>Typ. Output (1 dB Comp.)    Input (no damage) |                   | DYNAMIC RANGE<br>NF dB    IP3 dBm<br>Typ.    Typ. |              | VSWR Typ. |     | ABSOLUTE MAXIMUM RATING <sup>7</sup> (25 °C) |        | DC POWER at Pin 3 |           | THERMAL RESIS-TANCE <sup>6</sup> | CAPD DATA<br>(see RF/IF Designer Handbook)<br>Page | Case Style | CONNECTION | Price \$ |
|-----------|------------|------------------------------|------|--------|----------------|-------------------------------------------------------------------------------|-------------------|---------------------------------------------------|--------------|-----------|-----|----------------------------------------------|--------|-------------------|-----------|----------------------------------|----------------------------------------------------|------------|------------|----------|
|           |            | 100                          | 1000 | 2000   | note 1<br>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. | θjc °C/W                         |                                                    | Note B     |            | (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                              | 3-22                                               | 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                              | 3-22                                               | 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                              | 3-22                                               | 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                              | 3-23                                               | 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                              | 3-23                                               | 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                              | 3-23                                               | 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                              | 3-24                                               | WW107      | cb         | 1.32     |
| MAV-1SM   | DC-1000    | 18.5                         | 15.0 | —      | 12.5           | +1.5                                                                          | +13               | 5.5                                               | +14.0        | 1.4       | 1.3 | 40                                           | 200    | 17                | 5.00      | 110                              | 3-24                                               | RRR137     | cb         | 1.04     |
| MAV-2SM   | DC-1500    | 12.5                         | 11.0 | 10.0** | 7.5            | +4.5                                                                          | +13               | 6.5                                               | +17.0        | 1.3       | 1.4 | 60                                           | 325    | 25                | 5.00      | 100                              | 3-24                                               | RRR137     | cb         | 1.17     |
| MAV-3SM   | DC-1500    | 12.5                         | 11.0 | 10.0** | 7.5            | +10.0                                                                         | +13               | 6.0                                               | +23.0        | 1.3       | 1.6 | 70                                           | 400    | 35                | 5.00      | 110                              | 3-25                                               | RRR137     | cb         | 1.24     |
| MAV-4SM   | DC-1000    | 8.3                          | 7.5  | —      | 7.0            | +11.5                                                                         | +13               | 7.0                                               | +24.5        | 1.4       | 1.8 | 85                                           | 500    | 50                | 5.25      | 95                               | 3-25                                               | RRR137     | cb         | 1.34     |
| MAV-5SM   | 50-1500    | 8.0                          | 7.0  | 6.5**  | 5.5            | +18.0                                                                         | +20               | 6.5                                               | +29.0        | 1.6       | 2.0 | 135                                          | 1500   | 80                | 8.4       | 85                               | —                                                  | RRR137     | cb         | 1.90     |
| 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                              | 3-25                                               | RRR137     | cb         | 1.62     |

## NOTES:

- ☆ Increases below 1500 MHz.
- \* RAM models are hermetically sealed.
- Max. Voltage 7V (DC power at pin 1).
- \*\* Typical gain at 1500 MHz
- ❖ 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 and Dash-5 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-5 and Dash-6 models potentially unstable with very high VSWR terminations.
- 5. Minimum output at 1 dB compression: +16.0 dBm for MAV-5SM at room temperature.
- 6. Thermal resistance  $\theta_{jc}$  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.

## marking identification

| Model    | Alphanumeric Code | 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-1SM  | 1                 | —         |
| MAV-2SM  | 2                 | —         |
| MAV-3SM  | 3                 | —         |
| MAV-4SM  | 4                 | —         |
| MAV-5SM  | 5                 | —         |
| MAV-11SM | A                 | —         |
| VAM-3    | A03               | —         |
| VAM-6    | A06               | —         |
| VAM-7    | A07               | —         |

