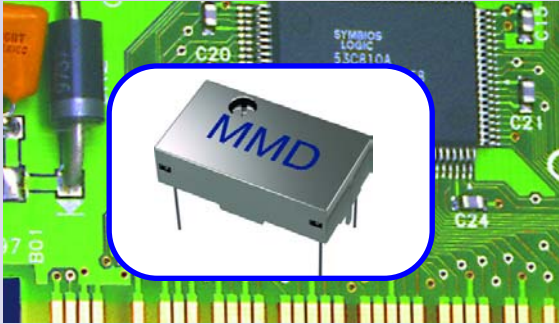


# MTA and MTB Series

**MMD**  
COMPONENTS

Full-Size (7.3mm or 4.7mm height)



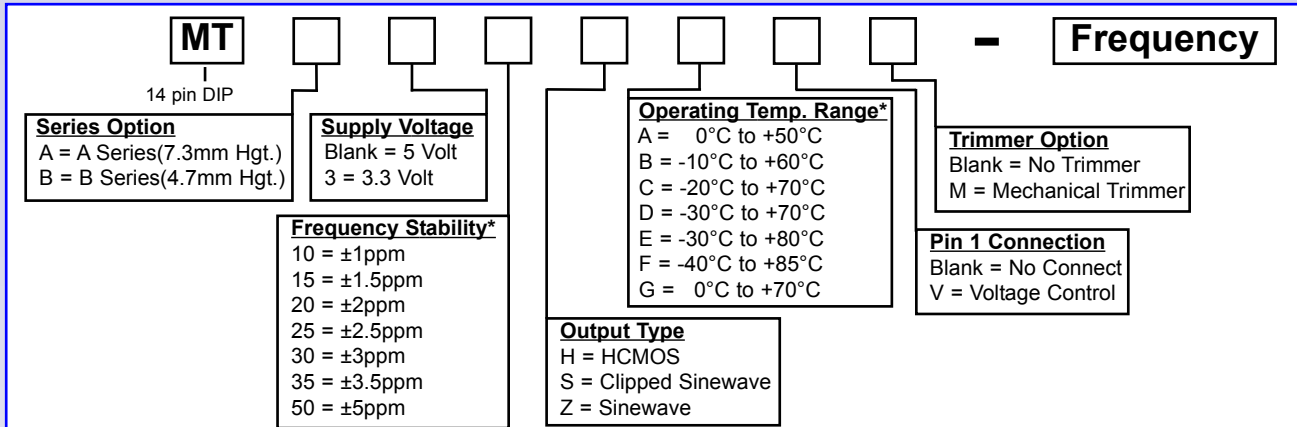
- **Industry Standard Package**
- **5.0 or 3.3 Volt**
- **HCMOS, Sinewave, Clipped Sine**
- **1.000MHz to 1.000GHz**
- **Stability Down to  $\pm 1$ ppm**

## Electrical Specifications

|                                |                                |  |
|--------------------------------|--------------------------------|--|
| H Option = HCMOS Output        | Frequency Range                | 1.000MHz to 160.000MHz                                       |
|                                | Frequency Stability            | Down to $\pm 1$ ppm  |
|                                | Load                           | 10K Ohms // 15pF   |
|                                | Supply Current                 | 35mA max   |
|                                | Output                         | Logic"1" Level = 0.9Vdd min.<br>Logic"0" Level = 0.1Vdd max. |
| S Option = Clipped Sine Output | Frequency Range                | 8.000MHz to 300.000MHz                                       |
|                                | Frequency Stability            | Down to $\pm 1$ ppm  |
|                                | Load                           | 10K Ohms // 15pF   |
|                                | Supply Current                 | 3mA max.   |
|                                | Output                         | 1.0V p-p min.  |
| Z Option = Sinewave Output     | Sinewave Output                | 8.000MHz to 1.000GHz   |
|                                | Frequency Stability            | Down to $\pm 1$ ppm  |
|                                | Load                           | 50 Ohms  |
|                                | Supply Current                 | 5mA max.   |
|                                | Output                         | 7dBm min.  |
| Operating Temperature Range    |                                | See Part Numbering Guide                                     |
| Storage Temperature Range      |                                | -40°C to +85°C   |
| Supply Voltage (Vdd)           | Vdd = 5V                       | 5.0Vdc $\pm 5\%$   |
|                                | Vdd = 3.3V                     | 3.3Vdc $\pm 5\%$   |
| Internal Trim (Top of can)     |                                | $\pm 3$ ppm min.   |
| Control Voltage                | Vdd = 5V                       | 2.5Vdc $\pm 2.0$ Vdc Positive Slope                          |
|                                | Vdd = 3.3V                     | 1.65Vdc $\pm 1.5$ Vdc Positive Slope                         |
| Pin 1 Connection               | Blank                          | No Connect   |
|                                | V Option                       | $\pm 10$ ppm min.  |
| Frequency Stability            | vs. Aging                      | $\pm 1$ ppm per year max.                                    |
|                                | vs. Voltage (with a 5% change) | $\pm 0.3$ ppm  |
|                                | vs. Load (with a 10% change)   | $\pm 0.3$ ppm  |
| Symmetry                       | @50% of waveform w/CMOS load   | 40/60%   |

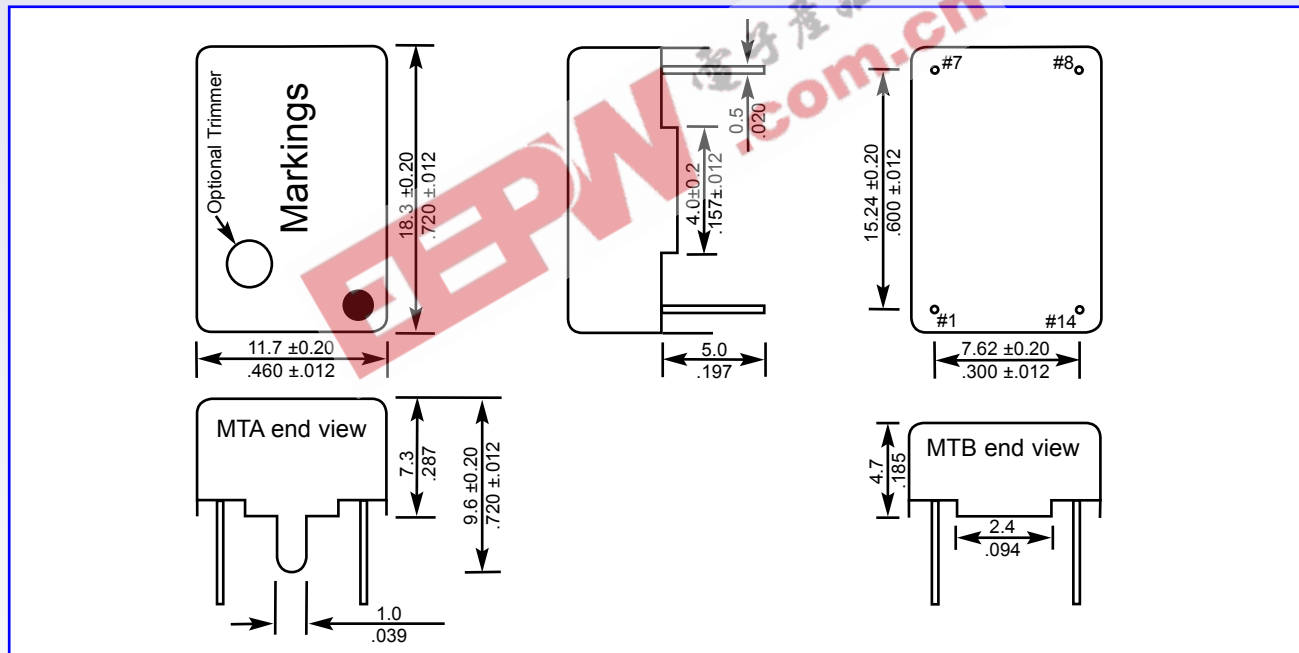
Notes

## Part Numbering Guide



\* Check with factory for additional stability vs. temperature options  
Cut Leads and Gull-Wing are available for this package.  
See VA1 and VA3 for specs.

### Mechanical Dimensions



### Pin Connections

Pin 1: Control Voltage or N/C  
Pin 7: Case Ground  
Pin 8: Output  
Pin 14: Supply Voltage

### Markings

Line 1: MMD  
Line 2: Part Number  
Line 3: Frequency  
Line 4: Date Code