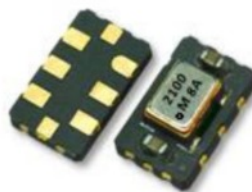


**FEATURES**

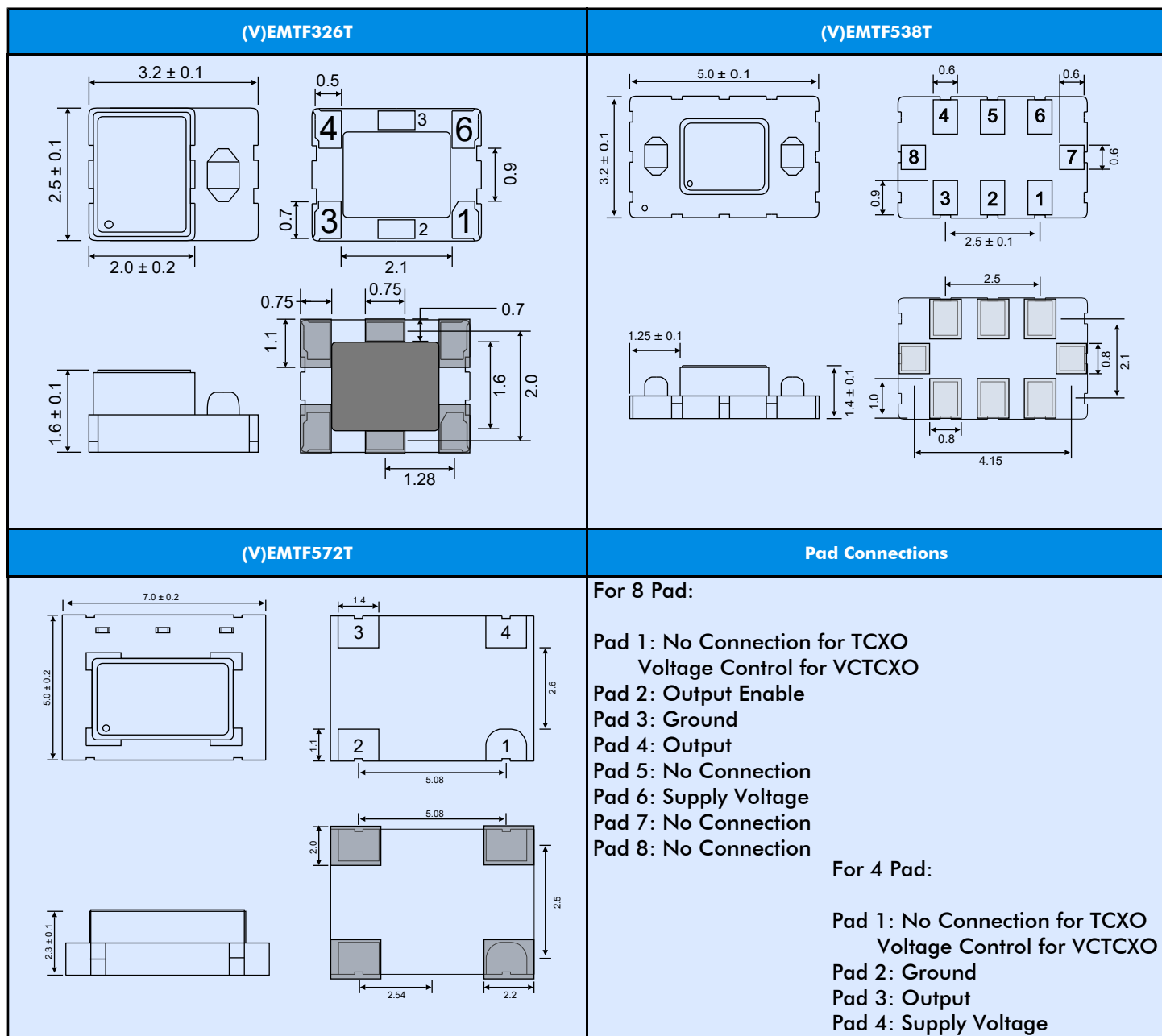
- Square Wave output
- Programmable CMOS
- $\pm 2.0$  ppm over  $-40^{\circ}\text{C}$  to  $+85^{\circ}\text{C}$  Stability


**General Specifications at Ta = +25°C**

| Output Logic                          | CMOS                                      |   |                                 |      |       |        |
|---------------------------------------|---|---|---------------------------------|------|-------|--------|
| Model                                 | (V)EMTF326T (3.2 x 2.5 x 1.6 mm)          | (V)EMTF538T (5.0 x 3.2 x 1.4 mm)                            | (V)EMTF572T (7.0 x 5.0 x 2.3mm) |      |       |        |
| Supply Voltage (V <sub>DD</sub> )     | +1.8V                                     | +2.5V   | +3.3V                           |      |       |        |
| Frequency Range                       | 1MHz (min.)<br>125MHz (max.)              | 1MHz (min.)<br>200MHz (max.)                                |                                 |      |       |        |
| Current Consumption                   | 30 mA                                     | 35 mA   | 40 mA                           |      |       |        |
| Output Logic "High", "1"              | V <sub>DD</sub> - 0.4V (min.)             |   |                                 |      |       |        |
| Output Logic "Low", "0"               | 0.4V (max.)                               |   |                                 |      |       |        |
| Output Load                           | 15pF                                      |   |                                 |      |       |        |
| Rise / Fall Time                      | 10.0 nsec (max.)<br>(10% to 90% Waveform) |   |                                 |      |       |        |
| Duty Cycle                            | 1 ~ 150MHz: 50±5%<br>150 ~ 200MHz: 50±10% |   |                                 |      |       |        |
| Start-up Time                         | 5 msec. (Typ.), 10 msec (max.)            |   |                                 |      |       |        |
| RMS Jitter (typ.)<br>(12KHz to 20MHz) | 1.2 psec (typ.)                           |   |                                 |      |       |        |
| Storage Temperature                   | -55°C to 150°C                            |   |                                 |      |       |        |
| Initial Calibration Tolerance         | ± 2.0 ppm (max.) at +25°C ± 2°C           |   |                                 |      |       |        |
| Frequency Stability Codes             | Temperature (ref to +25°C)                | ± 2.0 ppm (max.) over -40°C to +85°C (default)              |                                 |      |       |        |
|                                       | Aging at Ta = +25°C                       | ± 1.0 ppm (max.) Per year                                   |                                 |      |       |        |
|                                       | Voltage Change                            | ± 0.3 ppm (max.), For a ±5% input voltage change            |                                 |      |       |        |
|                                       | Load Change                               | ± 0.3 ppm (max.), For a ±10% load condition change          |                                 |      |       |        |
|                                       | Reflow                                    | ± 1.0 ppm (max.), 1 reflow and measured 24 hours afterwards |                                 |      |       |        |
| Phase Noise [dBc/Hz (typ.)]           | Offset                                    | 10Hz  | 100Hz                           | 1KHz | 10KHz | 100KHz |
|                                       | 100MHz                                    | -72   | -101                            | -155 | -121  | -119   |

**Electrical Frequency Tuning by External Control Voltage**

| Control Voltage Center   | 1.8V  | 2.5V       | 3.3V       |  |  |
|--|---|------------|------------|--|--|
|  | 0.9V ±0.6V  | 1.4V ±1.0V | 1.5V ±1.0V |  |  |
| Frequency Deviation Range  | ± 5 ppm (min.)  |            |            |  |  |
| Slope Polarity   | Positive Slope. Positive Voltage for Positive Frequency Shift |            |            |  |  |
| Input Impedance  | 1.0MΩ (min.)  |            |            |  |  |
| Modulation Bandwidth   | 3KHz (min.)   |            |            |  |  |
| Linearity  | ±10%  |            |            |  |  |
| Output Enable / Disable Function<br>[OE not available for (V)MTF572] | 70% of V <sub>DD</sub> (min.) To enable                       |            |            |  |  |
|  | 30% of V <sub>DD</sub> (max.) To disable                      |            |            |  |  |
|  | Disable Current: 0.2 mA (typ.), 10.0 mA (max.)                |            |            |  |  |



**Part Number Format**

(V)EMTF\_T part numbers are derived as follows:  
 Example: 100.000 25VEMTF572T-2.0/-40+85

