

HCMOS 4 pad SMD, 'W' Group

- Miniature 11.4 x 9.6 x 4.7mm SMD package
- Frequency range: 200.01MHz to 800.0MHz
- Supply voltage 3.3 Volts
- Frequency stability from ± 1 ppm over -30 to +75°C

DESCRIPTION

EMW44T series TCXOs are packaged in a 4 pad SMD package with trimmer. With squarewave (CMOS) output, tolerances are available from ± 1.0 ppm over -30° to +75°C. The part has a 0.01 μ F decoupling capacitor built in.

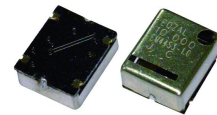
SPECIFICATION

Product Series Code	TCXO: EMW44T VCTCXO: VEMW44T
Frequency Range:	200.01MHz to 800.0MHz
Output Waveform:	Squarewave, HCMOS
Initial Calibration Tolerance:	$\leq \pm 2.0$ ppm at +25 $\pm 2^\circ$ C
Standard Frequencies:	200.0, 204.8, 311.04, 400.0, 409.6 and 622.08MHz (Partial list)
Mechanical Frequency Tuning:	± 3 ppm minimum
Operating Temperature Range:	(see table)
Frequency Stability	(see table)
vs. Ageing:	± 1.0 ppm max. first year
vs. Voltage Change:	± 0.3 ppm max. $\pm 5\%$ change
vs. Load Change:	± 0.3 ppm max. $\pm 10\%$ change
vs. Reflow (SMD type):	± 1.0 ppm max. for one reflow (Measured after 24 hours)
Supply Voltage:	+3.3 Volts
Output Logic Levels:	Logic High: 90% Vdd min. Logic Low: 10% Vdd max.
Current Consumption:	65mA max. (Freq. dependant)
Rise and Fall Times:	1.2ns typical
Duty Cycle:	50% $\pm 5\%$
Start-up Time:	5ms typical, 10ms max.
Current Consumption:	See table below
Output Load:	15pF
Storage Temperature:	-55~+125°C

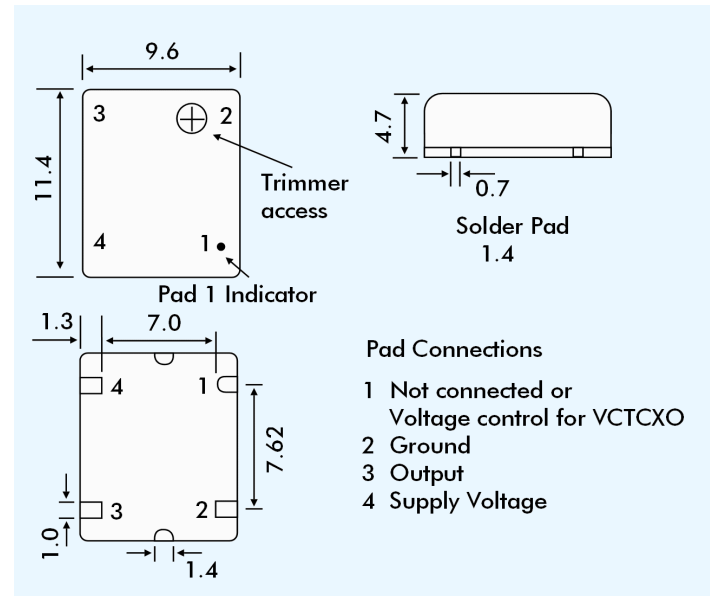
FREQUENCY STABILITY

Stability (ppm)	± 0.5	± 1.0	± 1.5	± 2.0	± 2.5	± 3.0
Temp. Range (°C)						
0 ~ +50	✓	✓	✓	✓	✓	✓
-10 ~ +60	ASK	✓	✓	✓	✓	✓
-20 ~ +70	X	✓	✓	✓	✓	✓
-30 ~ +75	X	✓	✓	✓	✓	✓
-40 ~ +85	X	X	X	ASK	ASK	✓

✓ = available, x = not available, ASK = call Technical Sales



EMW44T - OUTLINES AND DIMENSIONS



VEMW44T VOLTAGE CONTROL SPECIFICATION

Control Voltage:	Standard = +1.5 ± 1.0 Volts for all input voltages. (Contact technical sales if +2.5 ± 2.0 Volts is required.)
Frequency Deviation:	± 6.0 ppm min. (Vcon = +4.5V ± 1.0 V)
Slope Polarity:	Positive (increase of control voltage increases output frequency.)
Input Impedance:	2M Ω minimum
Modulation Bandwidth:	25kHz minimum
Linearity:	$\pm 10\%$ maximum

SSB PHASE NOISE at 25°C

Offset	10Hz	100Hz	1kHz	10kHz	100kHz
Part = EMW44T33 at 622.080MHz (dBc/Hz)	-50	-77	-102	-115	-108

PART NUMBERING SCHEDULE

Example:	EMW44T33-409.60-2.5/-30+75
Series Description	TCXO = EMW44T
VCTCXO = VEMW44T	
Supply Voltage	33 = 3.3 VDC
Frequency (MHz)	409.60
Stability over OTR ($\pm$ ppm)	2.5
Operating Temperature Range (OTR) (°C)	-30+75
Lower and upper limits	