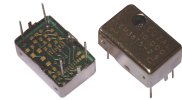


CMOS 14 pin DIL compatible, 'W' Group 200.0MHz to 800.0MHz

- Through-hole package compatible with 14 pin DIL
- Frequency range: 200.01MHz to 800.0MHz
- Supply voltage 3.3 Volts
- Frequency stability from ± 1 ppm over -30 to $+75^\circ\text{C}$



DESCRIPTION

EMW38T series TCXOs are packaged in a through-hole package, pin compatible with 14 pin DIL with trimmer. With squarewave (CMOS) output, tolerances are available from ± 1.0 ppm over -30° to $+75^\circ\text{C}$. The part has a $0.01\mu\text{F}$ decoupling capacitor built in.

SPECIFICATION

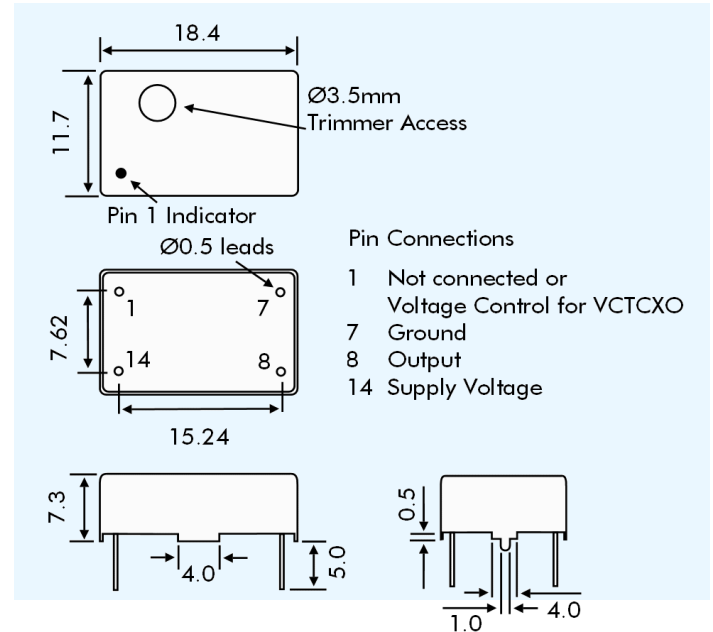
Product Series Code	TCXO: EMW38T VCTCXO: VEMW38T
Frequency Range:	200.01MHz to 800.0MHz
Output Waveform:	Squarewave, HCMOS
Initial Calibration Tolerance:	$< \pm 2.0$ ppm at $+25^\circ \pm 2^\circ\text{C}$
Standard Frequencies:	200.0, 204.8, 311.04, 400.0, 409.6 and 622.08MHz (Partial list)
Mechanical 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:	$-55 \sim +125^\circ\text{C}$

FREQUENCY STABILITY

Stability (ppm)	± 0.5	± 1.0	± 1.5	± 2.0	± 2.5	± 3.0
Temp. Range ($^\circ\text{C}$)	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

EMW38T - OUTLINES AND DIMENSIONS



VEMW38T VOLTAGE CONTROL SPECIFICATION

Control Voltage:	Standard = $+1.5 \pm 1.0$ Volts for all input voltages. (Contact technical sales if $+2.5 \pm 2.0$ Volts is required.)
Frequency Deviation:	± 6.0 ppm min. (Vcon = $+4.5V \pm 1.0V$)
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 $^\circ\text{C}$

Offset	10Hz	100Hz	1kHz	10kHz	100kHz
Part = EMW38T33 at 622.080MHz (dBc/Hz)	-50	-77	-102	-115	-108

PART NUMBERING SCHEDULE

Example: **EMW38T33-409.60-2.5/-30+75**

Series Description	TCXO = EMW38T
VCTCXO =	VEMW38T
Supply Voltage	33 = 3.3 VDC
Frequency (MHz)	409.60
Stability over OTR (\pm ppm)	2.5
Operating Temperature Range (OTR) ($^\circ\text{C}$)	-30+75
Lower and upper limits	