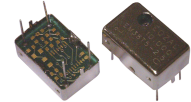


## CMOS 14 pin DIL compatible, 'W' Group 200.0MHz to 800.0MHz

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



### DESCRIPTION

EMW38GT 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  $\pm 1.0$ ppm over  $-30^{\circ}$  to  $+75^{\circ}\text{C}$ . The part has a  $0.01\mu\text{F}$  decoupling capacitor built in.

### SPECIFICATION

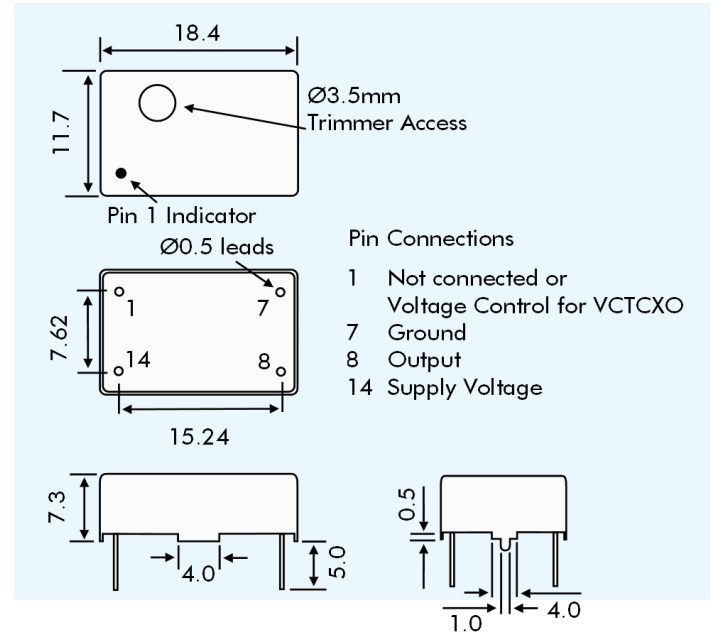
Product Series Code	TCXO: EMW38GT VCTCXO: VEMW38GT
Frequency Range:	200.01MHz to 800.0MHz
Output Waveform:	Squarewave, HCMOS
Initial Calibration Tolerance:	$< \pm 2.0$ ppm at $+25^{\circ} \pm 2^{\circ}\text{C}$
Standard Frequencies:	200.0, 204.8, 311.04, 400.0, 409.6 and 622.08MHz (Partial list)
Mechanical Frequency Tuning:	$\pm 3$ ppm minimum
Operating Temperature Range:	(see table)
Frequency Stability	(see table)
vs. Ageing:	$\pm 1.0$ ppm max. first year
vs. Voltage Change:	$\pm 0.3$ ppm max. $\pm 5\%$ change
vs. Load Change:	$\pm 0.3$ ppm max. $\pm 10\%$ change
vs. Reflow (SMD type):	$\pm 1.0$ 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)		$\pm 0.5$	$\pm 1.0$	$\pm 1.5$	$\pm 2.0$	$\pm 2.5$	$\pm 3.0$
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

### EMW38GT - OUTLINES AND DIMENSIONS



#### Pin Connections

- 1 Not connected or Voltage Control for VCTCXO
- 7 Ground
- 8 Output
- 14 Supply Voltage

### VEMW38GT 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:	$\pm 6.0$ ppm min. (Vcon = $+4.5\text{V} \pm 1.0\text{V}$ )
Slope Polarity:	Positive (increase of control voltage increases output frequency.)
Input Impedance:	2M $\Omega$ minimum
Modulation Bandwidth:	25kHz minimum
Linearity:	$\pm 10\%$ maximum

### SSB PHASE NOISE at 25 $^{\circ}\text{C}$

Offset		10Hz	100Hz	1kHz	10kHz	100kHz
Part = EMW38GT33	at 622.080MHz (dBc/Hz)	-50	-77	-102	-115	-108

### PART NUMBERING SCHEDULE

Example: **EMW38GT33-409.60-2.5/-30+75**

Series Description	TCXO = EMW38GT*
VCTCXO = VEMW38GT	
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	

\*Note: 'G' indicates part is RoHS compliant