(V)TCSW32 Series

TCXO/VC-TCXO, 3.2 x 2.5mm, Clipped sine wave

From ±0.5ppm stability over 0°C to 50°C

RoHS

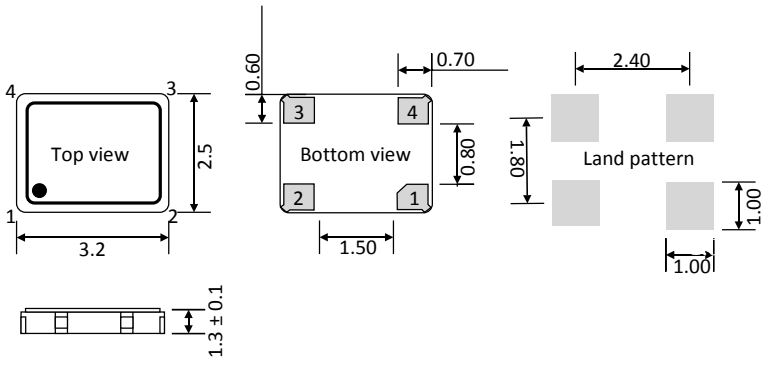
Parameters			Specification	Remarks
Frequency range		F_nom	8.192MHz ~ 40.0MHz	
Supply voltage		Vcc	1.8V, 2.5V,3.3V, 5.0V	
Initial frequency tolerance		F_tol	<±1.0ppm	At +25°C±2°C
Frequency stability	vs Temperature	F_stb	±0.5ppm ~ ±3.0ppm	Table 1
	vs Load	F_load	±0.2ppm max.	±10% load condition change
	vs Voltage	F_Vcc	±0.2ppm max.	±5% input voltage change
	vs Aging	F_age	±1.0ppm/year max.	At +25°C
	vs Reflow		±1.0ppm/year max.	1 reflow and measured after 24hrs
Operating temperature range (°C)		Topr	0°C ~ +50°C to -40°C ~ +85°C	Table 1
Storage temperature (°C)		Tstg	-55°C ~ +125°C	
Output wave form			Clipped sine wave	
Output voltage level			0.8V p-p (min.)	
Output Load			10KΩ//10pF	
Output format			Require external DC block capacitor.	
Current consumption		Icc	10.0~15MHz: 1.5mA, 15.01~26.0MHz: 2.0mA	
			26.01~40.0MHz: 2.5mA	
Start-up time		T_str	2.0m sec (typ.), 5.0m sec. (Max.)	Reach 90% amplitude at +25°C±2°C
VC-TCXO option only				
Control voltage		Vc	1.8V : 0.9V ± 0.6V ; 2.5V : 1.4V ± 1.0V	
			3.0V : 1.5V ± 1.0V ; 5.0V : 1.5V ± 1.0V	
Frequency tuning (ppm)			±5.0ppm	
Linearity/Slope polarity			±10.0% max/Positive slope	Positive voltage for positive frequency shift
Input impedance			1.0MΩ min	
Modulation bandwidth			3.0kHz min	
Note: The device is ESD sensitive and moisture sensitive level (MSL) - 1				

Table 1 Frequency stability vs Temperature

Temp. (°C)	Stability in ppm					
	±0.5	±1.0	±1.5	±2.0	±2.5	±3.0
0°C to 50°C	√	√	√	√	√	√
-10°C to 60°C	Enq.	√	√	√	√	√
-20°C to 70°C	X	√	√	√	√	√
-30°C to 75°C	X	√	√	√	√	√
-30°C to 85°C	X	√	√	√	√	√
-40°C to 85°C	X	Enq.	√	√	√	√

Phase noise (13.0MHz example)	dBc/Hz typical
10Hz	-80
100Hz	-115
1kHz	-135
10kHz	-148
100kHz	-148

Dimensions(Unit:mm)



Pad 1 : Control voltage (VCTCXO). No connection(TCXO)

Pad 2 : Ground

Pad 3 : Output

Pad 4 : Supply voltage

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TCXO part number generation											
TC32	**2600**	**M**	**B**	**X**	**N**	**B**	**N**	**X**	**Z**	**L**	**-PF**
ACT series Code	Frequency (MHz) Ex. 26.00MHz	Temp. stability (±ppm)	Supply voltage (V)	Operating temp. range (°C)	Frequency tuning (±ppm)	Output wave	Mechanical tuning (±ppm)	Polarity	Duty Cycle	Tape & Reel	RoHS Code
TC32	< 100MHz First 4 digit of frequency > 100MHz First 5 digit of frequency	0.5 = R 1.0 = P 1.5 = O 2.0 = N 2.5 = M 3.0 = L	1.8V = D 2.5V = C 3.3V = B 5.0V = A	0 ~ 50 = D -10 ~ +60 = F -20 ~ +70 = B -30 ~ +75 = W -30 ~ +85 = X -40 ~ +85 = K	None = N	CSW = B	None = X	None = X	Not Specified = Z	Loose = L 1000 = C 3000 = D	-PF

Note: It is important to suffix the above part number with full frequency required to give a completed part number as illustrated below.
Full Example part number : **TC322600MBXNBXXZL-PF [26MHz], TC321474MBXNBXXZL-PF [14.7456MHz]**

VC-TCXO part number generation													
VTC32	**1474**	**M**	**B**	**X**	**N**	**B**	**X**	**D**	**P**	**E**	**Z**	**L**	**-PF**
ACT series Code	Frequency (MHz) Ex. 14.7456MHz	Temp. stability (±ppm)	Supply voltage (V)	Operating temp. range (°C)	Frequency tuning (±ppm)	Output wave Form	Mechanical tuning (±ppm)	Electrical tuning (±ppm)	Polarity	Linearity	Duty Cycle	Tape & Reel	RoHS code
VTC32	< 100MHz First 4 digit of frequency > 100MHz First 5 digit of frequency	0.5 = R 1.0 = P 1.5 = O 2.0 = N 2.5 = M 3.0 = L	1.8V = D 2.5V = C 3.3V = B 5.0V = A	0 ~ 50 = D -10 ~ +60 = F -20 ~ +70 = B -30~ +75 = W -30 ~ +85 = X -40 ~ +85 = K	Voltage control only = E	CSW = B	None = X	±5.0 = D	Positive = P	±10% = E	Not Specified = Z	Loose = L 1000 = C 3000 = D	-PF

Note: It is important to suffix the above part number with full frequency required to give a completed part number as illustrated below.
Full example part number : **VTC321474MBXEBXDPEZL-PF (14.7456MHz)**

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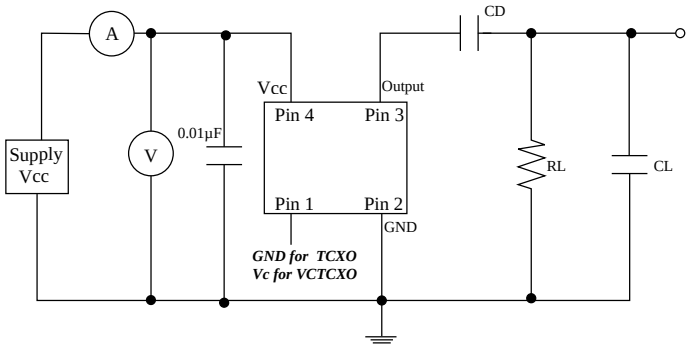
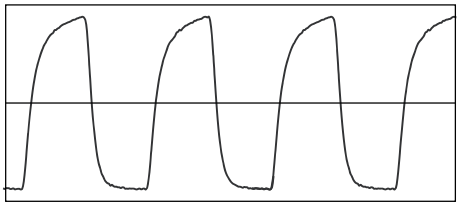
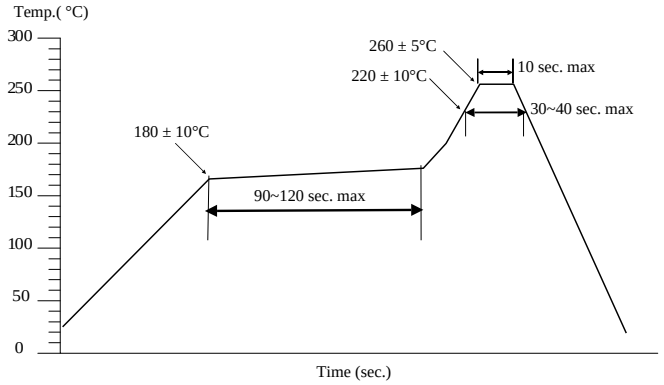
Test circuit



Clipped sine waveform



Solder reflow profile



Drawing control: (Internal use only)
Commodity code: 854370 90 99
Issue number : 1
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