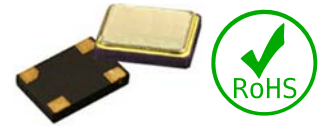


# TX32SA Series

TCXO, 3.2 x 2.5mm, Clipped sine wave



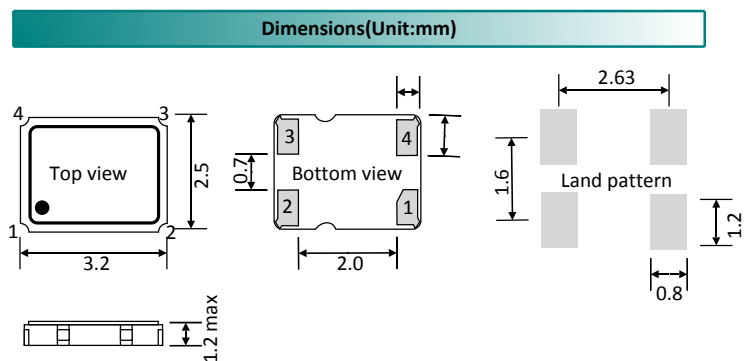
From  $\pm 0.5$ ppm stability over  $-30^{\circ}\text{C}$  to  $85^{\circ}\text{C}$



Parameters		Specification		Remarks
Frequency range		F_nom	8.0MHz ~ 50.0MHz	Limited frequencies available
Supply voltage		Vcc	1.8V, 2.4V, 2.8V, 3.0V	$\pm 5\%$ tolerance
Initial frequency tolerance		F_tol	$\pm 1.0$ ppm max	at $+25^{\circ}\text{C}$
Frequency stability	vs Temperature	F_stb	$\pm 0.5$ ppm max	Table 1
	vs Load	F_load	$\pm 0.2$ ppm max.	$\pm 10\%$ load condition change
	vs Voltage	F_Vcc	$\pm 0.2$ ppm max.	$\pm 5\%$ input voltage change
	vs Aging	F_age	$\pm 1.0$ ppm max	1 year
	vs Reflow		$\pm 1.0$ ppm max.	2 times
Frequency stability slope ( $-20^{\circ}\text{C} \sim +70^{\circ}\text{C}$ )			$\pm 0.1$ ppm/ $^{\circ}\text{C}$ max	Every $+2^{\circ}\text{C}$
Frequency stability slope ( $-30^{\circ}\text{C} \sim -20^{\circ}\text{C}$ )			$\pm 0.2$ ppm/ $^{\circ}\text{C}$ max	Every $+2^{\circ}\text{C}$
Frequency stability slope ( $+70^{\circ}\text{C} \sim +85^{\circ}\text{C}$ )			$\pm 0.2$ ppm/ $^{\circ}\text{C}$ max	Every $+2^{\circ}\text{C}$
Operating temperature range ( $^{\circ}\text{C}$ )		Topr	$-30^{\circ}\text{C} \sim +85^{\circ}\text{C}$	Table 1
Storage temperature ( $^{\circ}\text{C}$ )		Tstg	$-40^{\circ}\text{C} \sim +85^{\circ}\text{C}$	
Output wave form			Clipped sine wave	DC coupled
Output voltage level			0.8V p-p (min.)	
Output Load			10K $\Omega$ //10pF	$\pm 10\%$ tolerance
Current consumption		Icc	1.5mA max.	10K $\Omega$ //10pF $\pm 10\%$
Start-up time		T_str	2.0ms max.	Reach 90% amplitude at $+25^{\circ}\text{C}$
Moisture sensitive level		MSL	1	
ESD sensitive device			Yes	

Please leave product at room temperature for 2 hrs or more after reflow.

Table 1 Frequency stability vs Temperature						
Temp. ( $^{\circ}\text{C}$ )	Stability in ppm					
	$\pm 0.5$	$\pm 1.0$	$\pm 1.5$	$\pm 2.0$	$\pm 2.5$	$\pm 3.0$
$0^{\circ}\text{C}$ to $50^{\circ}\text{C}$	√	√	√	√	√	√
$-10^{\circ}\text{C}$ to $60^{\circ}\text{C}$	√	√	√	√	√	√
$-20^{\circ}\text{C}$ to $70^{\circ}\text{C}$	√	√	√	√	√	√
$-30^{\circ}\text{C}$ to $75^{\circ}\text{C}$	√	√	√	√	√	√
$-30^{\circ}\text{C}$ to $85^{\circ}\text{C}$	√	√	√	√	√	√

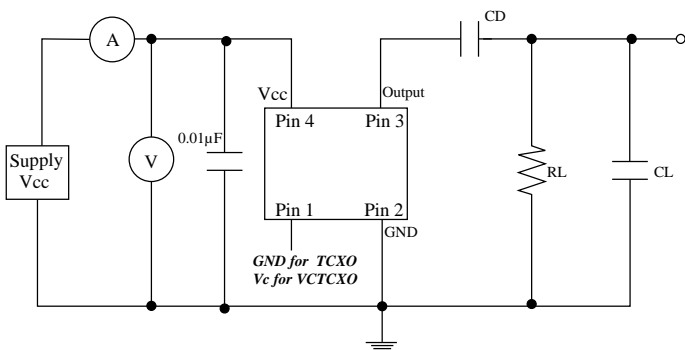


- Pad 1 : Ground
- Pad 2 : Ground
- Pad 3 : Output
- Pad 4 : Supply voltage

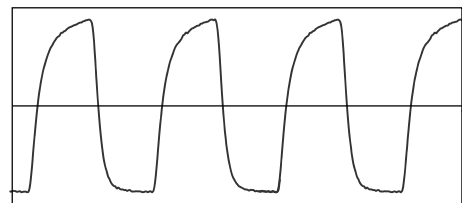
TCXO/VC-TCXO part number generation									
TX32SA	2600	M	E	X	B	X	Z	L	-PF
ACT series Code	Frequency (MHz) Ex. 26.00MHz = 2600 8.00MHz = 0800 14.7456MHz = 1474	Temp. stability ( $\pm$ ppm)	Supply voltage (V)	Operating temp. range ( $^{\circ}$ C)	Output wave	Electrical tuning ( $\pm$ ppm)	Duty Cycle	Tape & Reel	RoHS Code
TCXO = TX32SA	< 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 2.4V = J 2.8V = H 3.0V = E	0 ~ 50 = D -10 ~ +60 = F -20 ~ +70 = B -30 ~ +75 = W -30 ~ +85 = X	CSW = B	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 : [TX32SA2600MEXBXL-PF \[26MHz\]](#), [TX32SA1474MEXBXL-PF \[14.7456MHz\]](#)

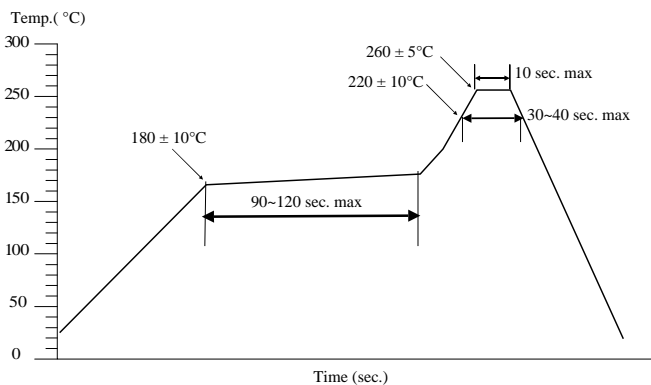
### Test circuit



### Clipped sine waveform



### Solder reflow profile



Drawing control: (Internal use only)  
Commodity code: 854370 90 99  
Issue number : 1  
Date : 24062016  
Internal reference : C1f

### TCXO construction

