

ACT33T-4 / ACT33VT-4 TCXO/VCTCXO (Clipped Sinewave)

The ACT33T/VT family is a range of sub miniature (3.2x2.5mm)TCXO/ VCTCXOs housed in a ceramic package with a metal lid and is seam welded for good longer term stability. The 4 pads are gold plated and the lid is grounded via the package to assist with EMI reduction.

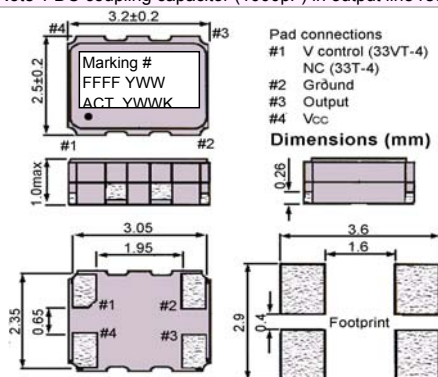
Applications include Networking, Ethernet, Audio & Modem Clocks, Set Top Boxes, Phase Locked Loops, Telecomms, Video Games & many Consumer Applications.

Specification

Parameter	Symbol	Specification				Options
ACT33T Options		33T03E	33T03H	33T0307	33T038	
ACT33VT Options		33VT03E	33VT03H	33VT0307	33VT038	
Supply Voltage (V _{DC})±5%	Vcc	2.3~3.6*	2.3~3.7*	1.7~3.3*	2.3~3.7*	Please select (Note *)
Frequency Range (MHz)	fo	10~40	10~40	10~52	19.2~52	Please select
Supply Current (max)	Iop	1.5mA max	1.5mA max	2.0mA max	2.0mA max	1.8V , 10KΩ/10pF 3.0V , 10KΩ/10pF
Frequency Stability						
vs Operating Temp	Δf/fo	±2.5ppm max	±0.5ppm max		±2.5ppm max	Please select
vs Input Voltage	Vin		+/-0.2ppm max			±5%
vs Load			+/-0.2ppm max			±10%
Temp Operating Range	Topr	-30~+85°C Others on request.				Please select
Temp Storage Range	Tstg	-40~85°C				
Frequency Tolerance	Δf/fo	+/-1ppm max				25°C
Output Load	N/CL	Clip sine 10kΩ/10pF				
Output Voltage	Vout	0.8V min				DC coupling :note 1
		2.3~3.6*	2.3~3.7*	1.7~3.3*	2.3~3.7*	
Control Voltage Range	Vcont	1.5±1VDC	1.4±1.0VDC	0.9±0.6VDC	1.5±1VDC	33VT-4 only
Frequency tuning		3 ~ 5 ppm		5~15ppm		33VT-4 only
Slope		Positive				33VT-4 only
Aging	Δf/t	+/-1.0ppm max (26.00MHz)				1 year at 25°C
Phase Noise			-110dBc/Hz typ		100Hz	26MHz 25°C
			-130dBc/Hz typ		1KHz	
			-145dBc/Hz typ		10KHz	
			-145dBc/Hz typ		100KHz	

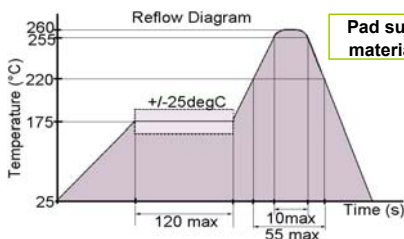
Note 1 DC coupling capacitor (1000pF) in output line required.

* Required voltage within indicated range needs to be specified prior to ordering.

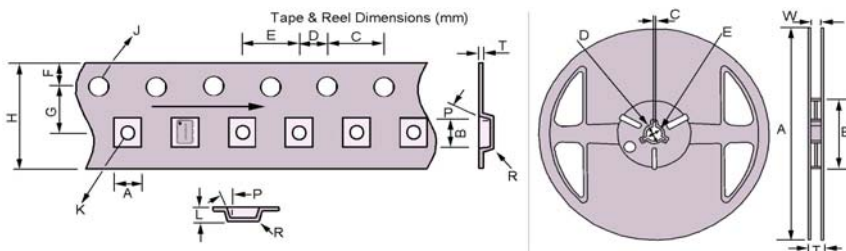


Marking

Line 1 FFFF = 1st 4 digits of frequency YWW = Year and week no of crystal manufacture
Line 2 ACT YWW = Year and week no of TCXO manufacture K = Factory code.



Developed frequencies	
+/-2.5ppm	+/-0.5ppm
9.830400	10.000000
10.000000	15.360000
10.350000	16.367600
12.800000	16.367667
13.000000	16.386000
14.745600	16.369000
16.000000	16.800000
16.357400	19.200000
16.368000	20.000000
16.384000	22.400000
16.384000	25.000000
17.500000	26.000000
18.432000	27.456000
19.200000	33.600000
19.660800	40.000000
20.000000	
20.850000	
20.945000	
21.250000	
21.400000	
24.000000	
24.384000	
24.553500	
24.553525	
26.000000	
27.000000	
29.756000	
32.000000	
38.440000	



TAPE Dimensions (mm)													
A	B	C	D	E	F	G	H	J \emptyset	K \emptyset	L	P	T	R
2.8 \pm 0.1	3.5 \pm 0.1	4.0 \pm 0.1	2.0 \pm 0.05	4.0 \pm 0.1	1.75 \pm 0.1	3.5 \pm 0.05	8.0 \pm 0.2	1.5 \pm 0.1	1.1 \pm 0.1	1.4 \pm 0.1	3*max	0.25 \pm 0.05	R 0.3max
REEL Dimensions (mm)													
A \emptyset	B \emptyset	C	D \emptyset	E \emptyset	W	T							
180 \pm 0.2	60 \pm 0.1	2.0 \pm 0.5	21 \pm 0.8	13 \pm 0.2	9 \pm 0.3	11.4 \pm 1.0							

Standard reel quantity : 2K & 3K pieces
 Minimum reel quantity : 1K pieces

Please note that all parameters can not necessarily be specified in the same device

Customer to specify : Frequency, Supply Voltage, Frequency Stability, Operating Temperature Range

ISO9001 Registered

For quotations or further information please contact us at:

3 The Business Centre, Molly Millars Lane, Wokingham, Berkshire, RG41 2EY, UK

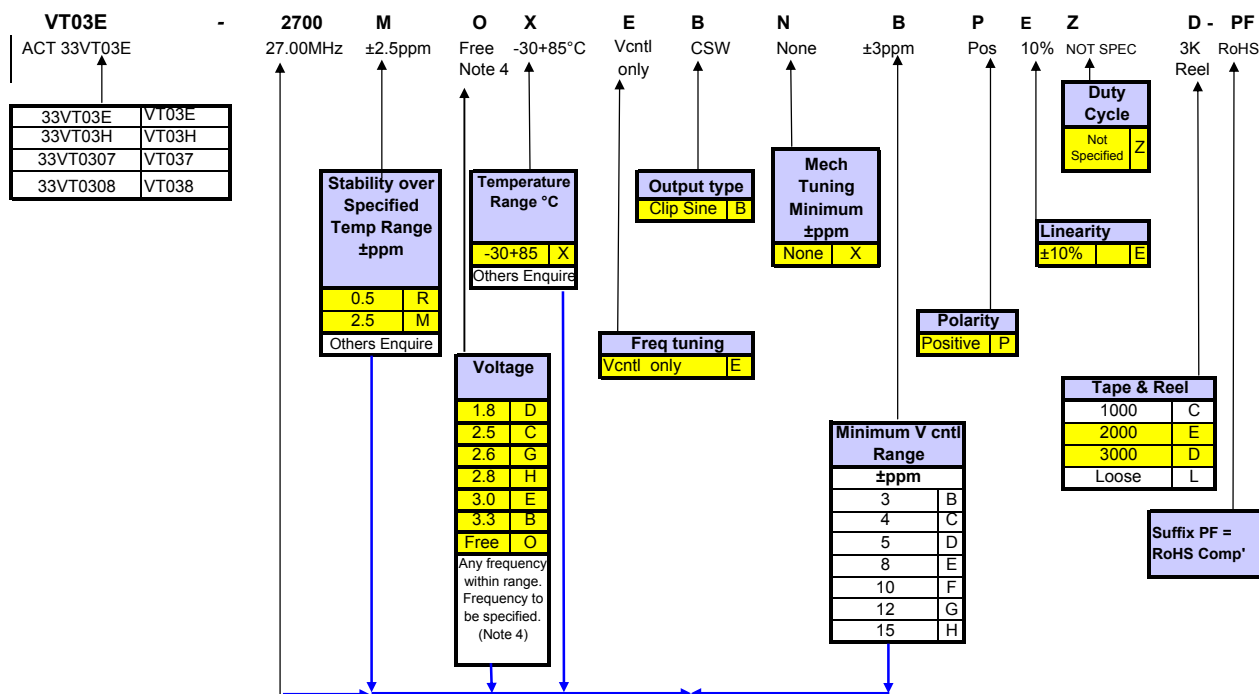
<http://www.actcrystals.com>

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ACT VOLTAGE CONTROLLED TEMPERATURE CONTROLLED OSCILLATORS - PART NUMBERING

Standard (Popular) Specifications Highlighted - Others available



**** FREQUENCY**

Please enquire if the required frequency / stability has been developed.

10 - 52.00 MHz: USE First 4 Characters
eg 1500 = 15MHz

It is important to suffix the above part number with the full frequency required to give a completed part number as illustrated below

Full Example Part Number

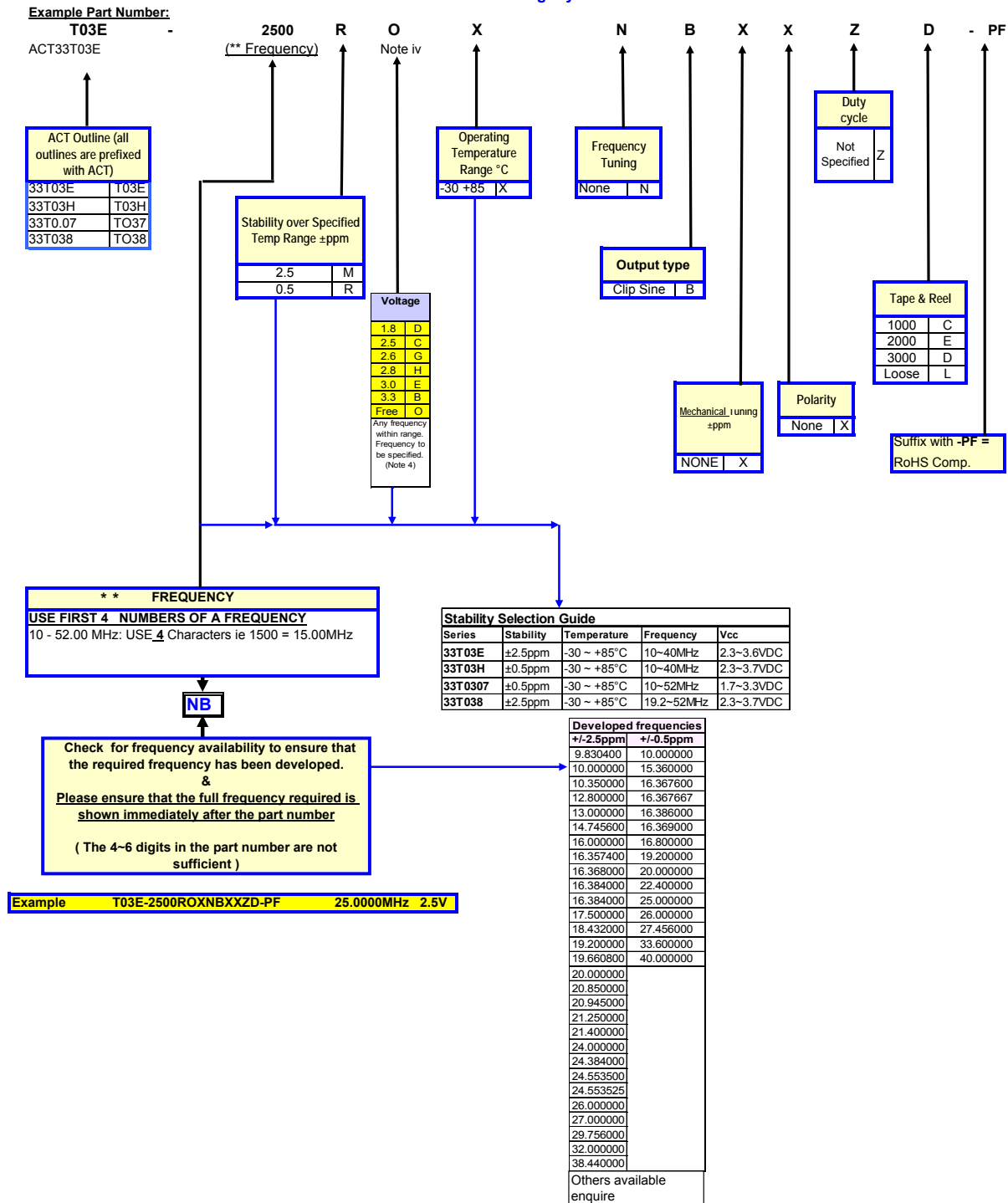
VT03E-2700MOXE BNP E Z D - PF, 27.00000MHz 2.5VDC

Series	Stability	Temperature	Frequency	V Control	Vcc
33VT03E	±2.5ppm	-30 ~ +85°C	10~40MHz	3~5ppm	2.3~3.6VDC
33VT03H	±0.5ppm	-30 ~ +85°C	10~40MHz	3~5ppm	2.3~3.7VDC
33VT0307	±0.5ppm	-30 ~ +85°C	10~52MHz	5~15ppm	1.7~3.3VDC
33VT038	±2.5ppm	-30 ~ +85°C	19.2~52MHz	5~15ppm	2.3~3.7VDC

Developed frequencies +/-2.5ppm	+/-0.5ppm
9.830400	10.000000
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19.200000	33.600000
19.660800	40.000000
20.000000	
20.850000	
20.945000	
21.250000	
21.400000	
24.000000	
24.384000	
24.553500	
24.553525	
26.000000	
27.000000	
29.756000	
29.800000	
Others available enquire	

- 1) Tighter Stabilities, Duty Cycles, Supply Voltages, Output Loads and other Operating Temperature Ranges may be available. As each of these specification parameters may impact on each other, it is not always possible to combine all options in one device. Therefore, if a specification not catered for above is required, please contact us directly for assistance.
- 2) ACT are always happy to consider truly custom specification parts which may require non-standard specification parameters, specific testing, customer requested AQL requirements, non standard packaging or taping and reeling and custom marking. (MOQ DEPENDENT) Such devices would normally be allocated a custom specification
(An ACT 33VT03E device may have a part number such as : VT03E-2700D -C1501-PF)
- 3) Please enquire if the required frequency / stability has been developed.
- 4) Devices will function over entire 1.7~3.7VDC range, however the full specification will only be guaranteed within ±5% of a specified voltage within that range.

ACT SMD & THROUGH HOLE TEMPERATURE COMPENSATED XTAL OSCILLATORS (TCXO's)
Part Numbering System



Notes

- Tighter Stabilities, Duty Cycles, Supply Voltages, Output Loads, Tuning and other Operating Temperature Ranges may be available. (May be MOQ Dependent)
As each of these specification parameters may impact on each other, it is not always possible to combine all options in one device. Therefore, if a specification not catered for above is required, please contact us directly for assistance.
- ACT are always happy to consider truly custom specification parts which may require non-standard specification parameters, specific testing, customer requested AQL requirements, non standard packaging or taping and reeling and custom marking. (MOQ DEPENDENT) Such devices would normally be allocated a custom specification (An ACT-T03E device may have a part number such as T03E-2500D-C1465-PF)
- Check for frequency availability to ensure that the required frequency has been developed.
- Devices will function over entire 1.7~3.7VDC range, however the full specification will only be guaranteed within $\pm 5\%$ of a specified voltage within that range.

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