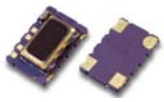
(V)TCT75-4 Series (kHz)

TCXO/VC-TCXO, 7.0 x 5.0mm, HCMOS/TTL

REACH and RoHS compliant
kHz range frequency
From ±0.5ppm stability over 0°C ~ +50°C

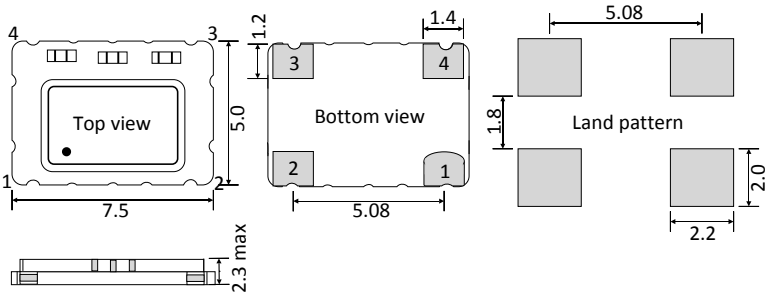


Parameters			Specification	Remarks
Frequency range		F_nom	20.0kHz ~ 52.7kHz ; 32.768kHz	
Supply voltage		Vcc	3.3V	
Initial frequency tolerance		F_tol	<±2.0ppm	At +25°C±2°C
Frequency stability	vs Temperature	F_stb	±0.5ppm ~ ±3.0ppm	Table 1
	vs Load	F_load	±0.3ppm max	±10% load condition change
	vs Voltage	F_Vcc	±0.3ppm 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 waveform			HCMOS/TTL	
Output voltage high		Voh	90% Vcc min	
Output voltage low		Vol	10% Vcc max	
Output load			15pF	
Current consumption		Icc	8mA for 32.768kHz, 12mA for 50kHz	Vcc = 3.3V
Rise and fall time		Tr, Tf	10ns max	20% to 80% of waveform
Duty cycle		SYM	45%/55%	Measured at 50% Vcc.
Start-up time		T_str	5.0m sec (typical), 10.0m sec (max)	Reach 90% amplitude at +25°C±2°C
VC-TCXO option only				
Control voltage		Vc	1.5V ± 1.0V	For all supply voltages
Frequency tuning (ppm)			±5.0ppm min	
Linearity/Slope polarity			±10.0% max/Positive slope	Positive voltage for positive frequency shift
Input impedance			1.0MΩ min	
Modulation bandwidth			3.0kHz min	
ESD sensitive device, 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.	√	√	√	√

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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ISO9001 Registered

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TCXO part number generation											
TT75	**00003**	**M**	**B**	**X**	**N**	**E**	**N**	**X**	**X**	**L**	**-PF**
ACT Series Code	Frequency (kHz) Eg. 32.768kHz	Temp. stability (±ppm)	Supply voltage (V)	Operating temp. range (°C)	Frequency tuning (±ppm)	Output wave	Mechanical tuning (±ppm)	Polarity	Duty cycle (%/%)	Tape & Reel	RoHS
TT75	5 digit require to specify kHz frequency. **≤ 99.99kHz** 10=00001 32.768=00003 **≥ 100kHz** 100=00010 250=00025	0.5 = R 1.0 = P 1.5 = O 2.0 = N 2.5 = M 3.0 = L	3.3V = B	0 ~ +50 = D -10 ~ +60 = F -20 ~ +70 = B -30 ~ +75 = W -30 ~ +85 = X -40 ~ +85 = K	None = N	HCMOS = E HCMOS/TTL = J	None = X	None = X	45/55 = H	Loose = L 1000 = C 2000 = E	-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 : **TT7500002MBXNEXXHL-PF [20kHz], TT7500003MBXNEXXHL-PF-PF [32.768kHz], TT7500010MBXNEXXHL-PF-PF [100kHz]**											

VC-TCXO part number generation													
VTT75	**00003**	**M**	**B**	**X**	**N**	**B**	**X**	**D**	**P**	**E**	**Z**	**L**	**-PF**
ACT Series Code	Frequency (MHz) Eg. 32.768kHz	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
VTT75	5 digit require to specify kHz frequency. **≤ 99.99kHz** 10=00001 32.768=00003 **≥ 100kHz** 100=00010 250=00025	0.5 = R 1.0 = P 1.5 = O 2.0 = N 2.5 = M 3.0 = L	3.3V = B	0 ~ +50 = D -10 ~ +60 = F -20 ~ +70 = B -30~ +75 = W -30 ~ +85 = X -40 ~ +85 = K	Voltage Control Only = E	HCMOS = E HCMOS/TTL = J	None = X	±5.0 = D	Positive = P	±10% = E	45/55 = H	Loose = L 1000 = C 2000 = 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 : **VTT7500003MBXEEXDPEHL-PF (32.768kHz), VTT7500010MBXEEXDPEHL-PF (100kHz)**													

(V)TCT75-4 Series (kHz)

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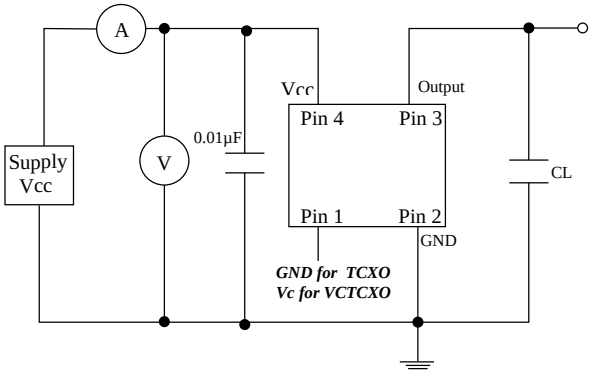
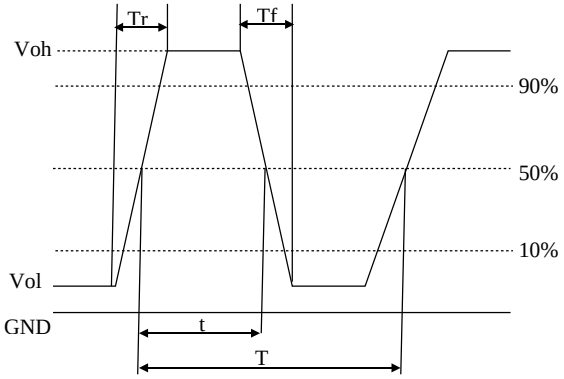
Test circuit

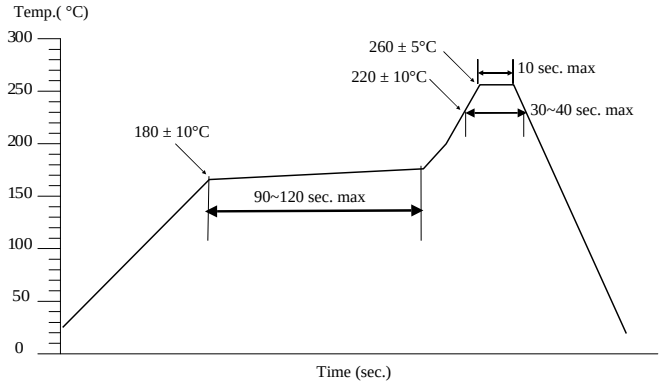


Test waveform



Duty cycle = (t/T) x 100%

Solder reflow profile



Drawing control: (Internal use only)
Commodity code: 854370 90 99
Issue number : N1
Date : 01/02/2017
Internal reference : M6