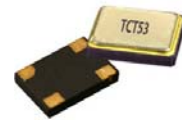


# (V)TCT53-4 Series

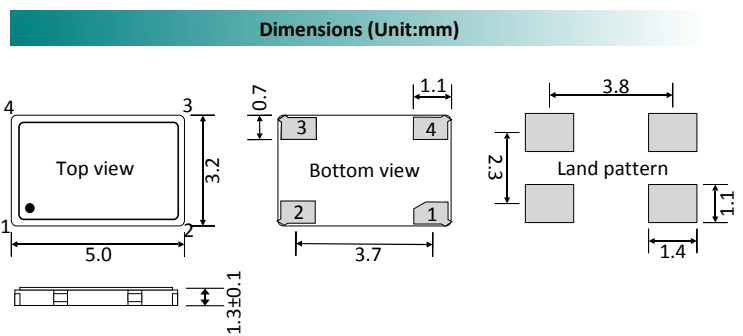
TCXO/VC-TCXO, 5.0 x 3.2mm, HCMOS/TTL

From  $\pm 0.5$ ppm stability over 0°C to 50°C  
 ESD sensitive device  
 Moisture sensitive level (MSL)-1



Parameters		Specification	Remarks
Frequency range	F_nom	6.4MHz ~ 40.0MHz	
Supply voltage	Vcc	2.5V, 3.0V, 3.3V, 5.0V	
Initial frequency tolerance	F_tol	$\pm 2.0$ ppm	at +25°C $\pm 2$ °C
Frequency stability	vs Temperature	F_stb $\pm 0.5$ ppm ~ $\pm 3.0$ ppm	Table 1
	vs Load	F_load $\pm 0.3$ ppm max.	$\pm 10\%$ load condition change
	vs Voltage	F_Vcc $\pm 0.3$ ppm max.	$\pm 5\%$ input voltage change
	vs Aging	F_age $\pm 1.0$ ppm/year max.	at +25°C
	vs Reflow	$\pm 1.0$ ppm/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		HCMOS/TTL	
Output voltage high	Voh	90% Vcc min.	
Output voltage low	Vol	10% Vcc max.	
Output load		15pF	
Current consumption	Icc	6mA max.	
Rise and fall time	Tr, Tf	10ns max.	20% to 80% of wave form.
Duty cycle	SYM	45%/55%, 40%/60%	Measured at 50% Vcc.
Start-up time	T_str	5.0m sec (typ.), 10.0m sec. (Max.)	Reach 90% amplitude at +25°C $\pm 2$ °C
<b>VC-TCXO option only</b>			
Control voltage	Vc	1.5V $\pm$ 1.0V	for all supply voltages
Frequency tuning (ppm)		$\pm 5.0$ ppm min.	
Linearity/Slope polarity		$\pm 10.0\%$ max/Positive slope	Positive voltage for positive frequency shift
Input impedance		50.0M $\Omega$ min	
Modulation bandwidth		20.0kHz min	

Temp. (°C)	Stability in ppm					
	$\pm 0.5$	$\pm 1.0$	$\pm 1.5$	$\pm 2.0$	$\pm 2.5$	$\pm 3.0$
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.	✓	✓	✓	✓



- Pad 1 : Control voltage (VCTCXO). No connection(TCXO)
- Pad 2 : Ground
- Pad 3 : Output
- Pad 4 : Supply Voltage

# (V)TCT53-4 Series



TCXO/VC-TCXO, 5.0 x 3.2mm, HCMOS/TTL

TCXO part number generation											
TT53	2600	M	B	X	N	E	N	X	X	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
TT53	< 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	2.5V = C 3.0V = E 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	HCMOS = E HCMOS/TTL = J	None = X	None = X	40/60 = S 45/55 = H	Loose = L 1000 = C 2000 = E	-PF
<p>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 : <b>TT532600MBXNEXXHL-PF [26MHz]</b>, <b>TT531474MBXNEXXHL-PF-PF [14.7456MHz]</b></p>											

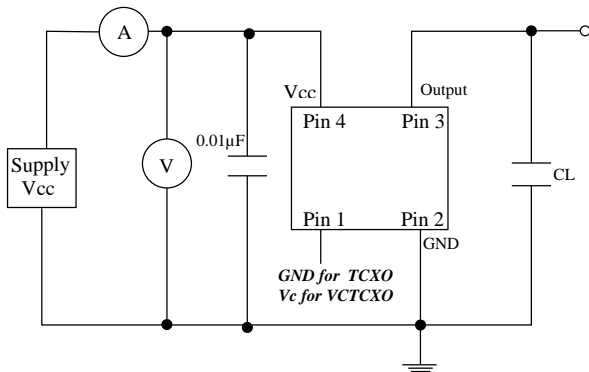
VC-TCXO part number generation													
VTT53	1474	M	B	X	E	B	X	D	P	E	Z	L	-PF
ACT series Code	Frequency (MHz) Ex. 14.7456MHz	Temp. stability (±ppm)	Supply voltage (V)	Operating temp. range (°C)	Frequency tuning (±ppm)	Output wave Form	Mechanical tuning (±ppm)	Electrical tuning (±ppm)	Polarity	Linearity	Duty Cycle (%/%)	Tape & Reel	RoHS code
VTT53	< 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	2.5V = C 3.0V = E 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	HCMOS = E HCMOS/TTL = J	None = X	±5.0 = D	Positive = P	±10% = E	40/60 = S 45/55 = H	Loose = L 1000 = C 2000 = E	-PF
<p>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 : <b>VTT531474MBXEEDPEHL-PF (14.7456MHz)</b></p>													

# (V)TCT53-4 Series

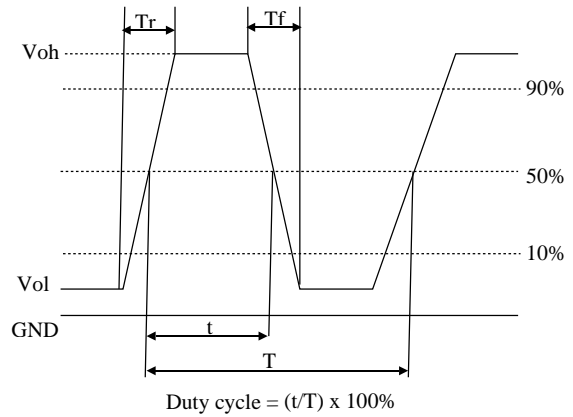
TCXO/VC-TCXO, 5.0 x 3.2mm, HCMOS/TTL



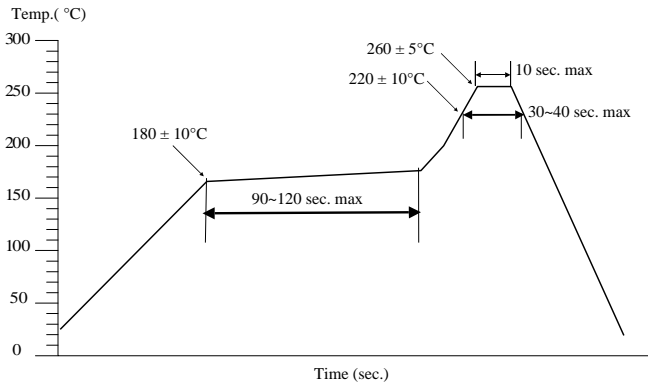
## Test circuit



## Test waveform



## Solder reflow profile



Drawing control: (Internal use only)  
 Commodity code: 854370 90 99  
 Issue number : 1  
 Date : 25042016  
 Internal reference : M6

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