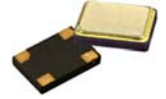


# (V)TX32CC Series

TCXO/VC-TCXO, 3.2 x 2.5mm, HCMOS/TTL

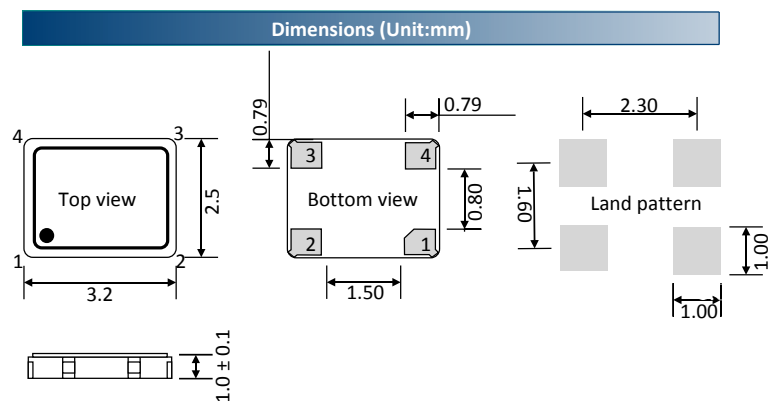


REACH and RoHS compliant  
From  $\pm 0.5$ ppm stability over 0°C to 50°C



| Parameters                       |                | Specification                        |                               | Remarks                                       |
|----------------------------------|----------------|--------------------------------------|-------------------------------|---|
| Frequency range                  | F_nom          | 8.192MHz ~ 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 Waveform                  |                | HCMOS/TTL                            |                               |   |
| Output voltage high              | Voh            | 90% Vcc min                          |                               |   |
| Output voltage low               | Vol            | 10% Vcc max                          |                               |   |
| Output load                      |                | 15pF                                 |                               |   |
| Current consumption              | Icc            | 6mA max                              |                               | Over operating temperature range              |
| 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 (typical), 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)TX32CC Series

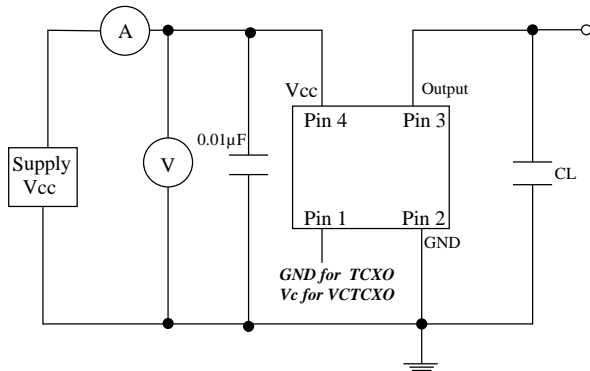
TCXO/VC-TCXO, 3.2 x 2.5mm, HCMOS/TTL



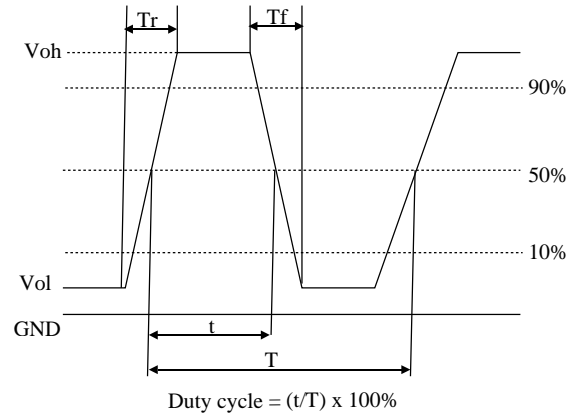
| TCXO/VC-TCXO part number generation |   |  |  |   |                            |  |                        |                                   |           |
|-------------------------------------|---|--|--|---|----------------------------|--|------------------------|-----------------------------------|-----------|
| TX32CC                              | 2600  | M  | B  | X   | B                          | X  | Z                      | L                                 | -PF       |
| ACT series Code                     | Frequency (MHz)   | Temp. stability (±ppm)   | Supply voltage (V)                           | Operating temp. range (°C)  | Output wave                | Electrical tuning (±ppm)   | Duty Cycle             | Tape & Reel                       | RoHS Code |
| TCXO = TX32CC<br>VCTCXO = VTX32CC   | Ex. 26.00MHz = 2600<br>8.00MHz = 0800<br>14.7456MHz = 1474<br><br>< 100MHz<br>First 4 digit of frequency<br><br>> 100MHz First 5 digit of frequency | 0.5 = R<br>1.0 = P<br>1.5 = O<br>2.0 = N<br>2.5 = M<br>3.0 = L | 2.5V = C<br>3.0V = E<br>3.3V = B<br>5.0V = A | 0 ~ 50 = D<br>-10 ~ +60 = F<br>-20 ~ +70 = B<br>-30 ~ +75 = W<br>-30 ~ +85 = X<br>-40 ~ +85 = K | HCMOS = E<br>HCMOS/TTL = J | For <b>TCXO</b><br>None = X<br><br>For <b>VCTCXO</b><br>±5.0 = D | 40/60 = S<br>45/55 = H | Loose = L<br>1000 = C<br>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 : **TX32CC2600MBXEXSL-PF [26MHz]**, **TX32CC1474MBXEXSL-PF [14.7456MHz]**

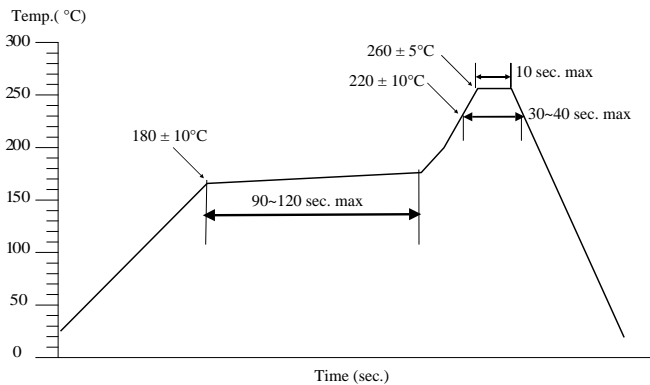
### Test circuit



### Test waveform



### Solder reflow profile



Drawing control: (Internal use only)  
Commodity code: 854370 90 99  
Issue number : N1  
Date : 01/02/2018  
Internal reference : M6