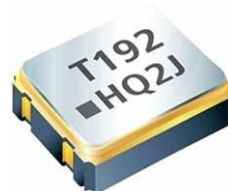


## Product Features

1. SMD seam sealed clock crystal oscillator
2. High precision characteristic covering up to high frequency range
3. Designed for automatic mounting and reflow soldering
4. Supply voltage range : 1.62V ~ 3.63V
5. High stability , low phase jitter , low power consumption
6. AEC-Q100 Compliant
7. RoHS and REACH Compliant , Pb-free , Halogen-free
8. Industry Standard Package :  
2.5 x 2.0 x 0.8 mm

Application :

- Infotainment & Telematics
- ADAS
- Body Control
- HEV-EV
- Battery Management System
- Smart Cockpit



Test condition

Ambient temperature :  $25 \pm 5^\circ\text{C}$

Relative humidity : 40% ~ 70%

### ● Table 1 . Electrical Specifications

| Parameters                                    | Symbol  | Min.        | Typ. | Max.   | Units            | Notes                                  |
|---|---------|-------------|------|--------|------------------|--|
| <b>Frequency Range and Stability</b>          |         |             |      |        |                  |  |
| Nominal Frequency                             | F       | 0.25 ~ 125  |      |        | MHz              |  |
| Frequency Stability                           | ST      | $\pm 25$    |      |        | ppm              | @ $-40\sim 85^\circ\text{C}$ , Note 1  |
|   |         | $\pm 30$    |      |        |                  | @ $-40\sim 105^\circ\text{C}$ , Note 1 |
|   |         | $\pm 50$    |      |        |                  | @ $-40\sim 125^\circ\text{C}$ , Note 1 |
| <b>Operating Temperature Range</b>            |         |             |      |        |                  |  |
| Operating Temperature                         | Topr    | -40         | 25   | 125    | $^\circ\text{C}$ |  |
| <b>Supply Voltage and Current Consumption</b> |         |             |      |        |                  |  |
| Supply Voltage                                | Vdd     | 1.62 ~ 3.63 |      |        | V                |  |
| Current Consumption                           | Icc     | -           | -    | 10     | mA               |  |
| Standby Current                               | Icc(ST) | -           | -    | 10     | $\mu\text{A}$    | OE = Low                               |
| <b>CMOS Type Signal Characteristics</b>       |         |             |      |        |                  |  |
| Output Load : CMOS                            | CL      | 15          |      |        | pF               |  |
| Output Voltage High                           | VoH     | 90%Vdd      | -    | -      | V                |  |
| Output Voltage Low                            | VoL     | -           | -    | 10%Vdd | V                |  |
| Rise Time                                     | Tr      | -           | -    | 5      | ns               | 10% → 90% Vdd Level                    |
|   |         | -           | -    | 4      | ns               | 20% → 80% Vdd Level                    |
| Fall Time                                     | Tf      | -           | -    | 5      | ns               | 90% → 10% Vdd Level                    |
|   |         | -           | -    | 4      | ns               | 80% → 20% Vdd Level                    |
| Symmetry (Duty ratio)                         | TH/T    | 45          | ~    | 55     | %                |  |
| Start-up Time                                 | Tosc    | -           | -    | 3      | ms               | To 90% of Final Amplitude              |

Note 1 : Inclusive of frequency tolerance at  $25^\circ\text{C}$  , variation over temperature, supply voltage variation, aging and vibration.

Note 2 : The table shows common spec. if you have special spec. requirement , please feel free to contact our salesperson.

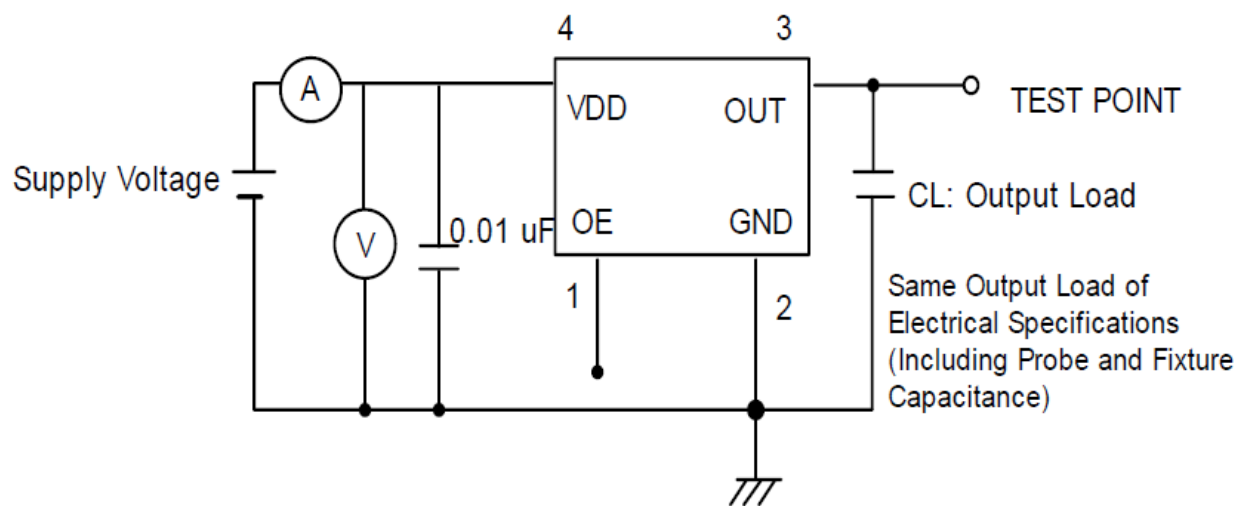
Test condition  
Ambient temperature :  $25 \pm 5^\circ\text{C}$   
Relative humidity : 40% ~ 70%

● **Table 1 . Electrical Specifications (Continued)**

| Parameters  | Symbol          | Min.               | Typ. | Max.               | Units   | Notes  |
|---|-----------------|--------------------|------|--------------------|---------|--|
| <b>Enable Pin Control and Input Characteristics</b> |                 |                    |      |                    |         |  |
| Enable Control                                      | -               | Yes                |      |                    | -       | Pad 1  |
| Enable Voltage High                                 | V <sub>IH</sub> | 70%V <sub>dd</sub> | -    | -                  | V       |  |
| Disable Voltage Low                                 | V <sub>IL</sub> | -                  | -    | 30%V <sub>dd</sub> | V       |  |
| <b>Aging Performance</b>                            |                 |                    |      |                    |         |  |
| Aging   | -               | $\pm 3$            |      |                    | ppm/yr. | 1st. Year at 25°C  |
| <b>Jitter Performance</b>                           |                 |                    |      |                    |         |  |
| RMS Phase Jitter                                    | PJ              | -                  | -    | 1                  | ps      | F <sub>out</sub> range : 10MHz~40MHz<br>@ Integrated from 12KHz ~ 5MHz<br>F <sub>out</sub> range : 40MHz~100MHz<br>@ Integrated from 12KHz ~ 20MHz |

● **Test Diagram**

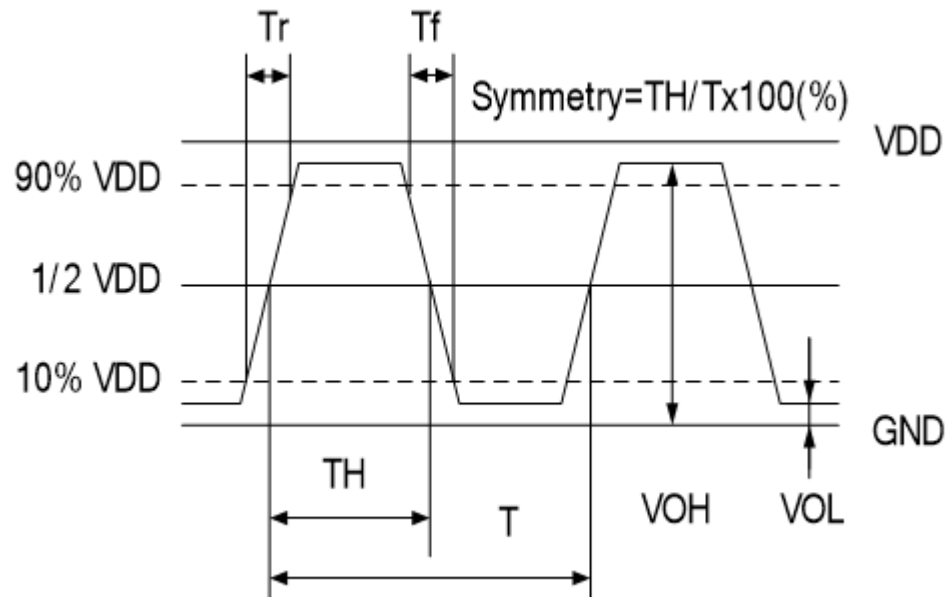
| Pad 1(OE)      | Pad 3 (Output) | Oscillator       |
|----------------|----------------|------------------|
| High (or open) | OSC out        | Normal operation |
| Low            | High impedance | Stop oscillation |



Note : TXC sets CL to 15pF for simulation IC load. Customer does not need to layout it in reality circuit.

● **Waveform Conditions**

Waveform measurement system should have a min. bandwidth of 5 times the frequency being tested.



● **Dimensions & Footprint (Recommended)**

Unit : mm

