

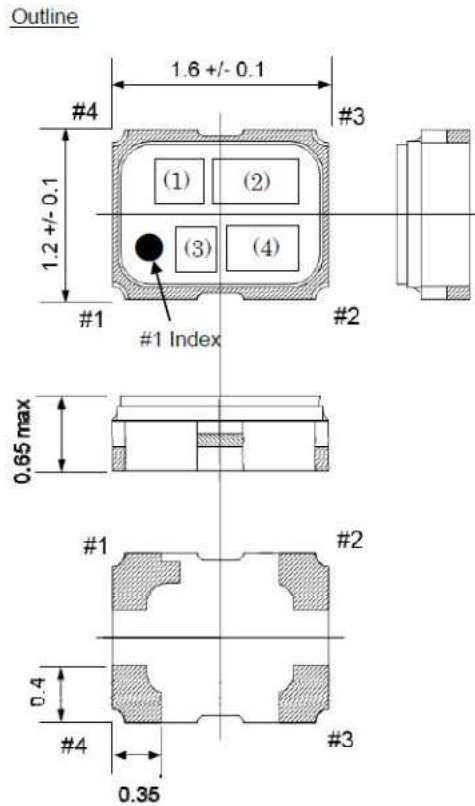
# SPECIFICATION

## NT1612DP-32.768KHz

### 1. Electrical Parameters

| MODEL: NT1612DP 32.768KHz |                        |                     |      |                     |                    |  |
|---------------------------|------------------------|---------------------|------|---------------------|--------------------|--|
| Item                      | Description            | Parameters          |      |                     | Unit               | Test Condition   |
|                           |                        | Min.                | Typ. | Max.                |                    |  |
| Output                    | Frequency              | 32.768              |      |                     | kHz                |  |
|                           | Output Waveform        | CMOS                |      |                     |                    |  |
|                           | 0 Level Voltage        |                     |      | 10% V <sub>cc</sub> | V                  | I <sub>OL</sub> = 0.1mA  |
|                           | 1 Level Voltage        | 90% V <sub>cc</sub> |      |                     | V                  | I <sub>OH</sub> = -0.1mA   |
|                           | Symmetry               | 40                  |      | 60                  | %                  | 50% V <sub>cc</sub> Level  |
|                           | Start-up Time          |                     |      | 0.5                 | s                  | 90% of steady state frequency reached  |
|                           | Rise/Fall Time         |                     |      | 40                  | ns                 | 10% to 90% V <sub>cc</sub> Level   |
|                           | Load                   | 15                  |      |                     | pF                 |  |
|                           | vs. Temperature Range  | -5                  |      | +5                  | × 10 <sup>-6</sup> | T <sub>A</sub> varied from -40°C to 85°C, measurement referenced to frequency observed with T <sub>A</sub> =25°C, V <sub>cc</sub> =1.8V, O <sub>load</sub> =15pF, temperature variable speed less than 2°C per minute. |
|                           | Aging Tolerance 1 Year | -5                  |      | +5                  | × 10 <sup>-6</sup> | @25°C  |
| Power Supply              | Operating Current      |                     | 1.1  |                     | μA                 | @25°C ± 2°C, V <sub>cc</sub> =1.8V.No Load, Interval of temperature compensation : 0.5s  |
|                           | Supply Voltage         | 1.62                | 1.8  | 1.98                | V                  |  |
| Operable Temperature      |                        | -40                 |      | +85                 | °C                 |  |
| Storage Temperature       |                        | -40                 |      | +85                 | °C                 |  |

## 2. Mechanical Structure(mm)



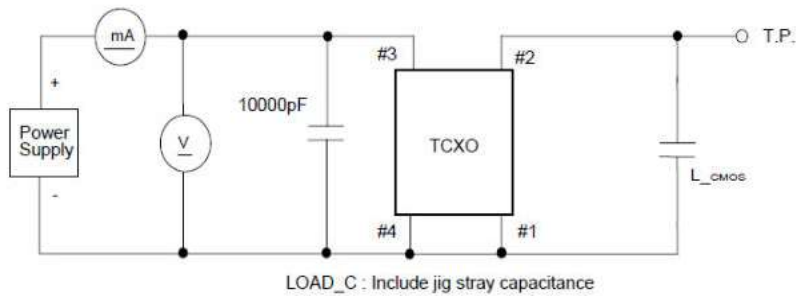
### Pin Connections

| Pin No. | Connection      |
|---------|-----------------|
| #1      | GND             |
| #2      | Output          |
| #3      | V <sub>CC</sub> |
| #4      | GND             |

Marking  
 Model code TBD  
 Frequency 32 (kHz, 2digits)  
 Logo D  
 Date code Year (1digit)+Week (2digits)  
 e.g.2019/1/1 → 901

t: mm  
 Dimensional Tolerance:  $\pm 0.15$   
 (unless otherwise noted)

## 3. Test Circuit



## 4. Output Waveform

