

# Crystal Clock Oscillator

## 2725 Series

## Wide Operating Temperature Range Type

### Model name

2725T Frequency stability of  $\pm 50 \times 10^{-6}$  (Wide Operating Temperature Range Type)

### Application

- For notebook PC, mobile information terminal, and PC card

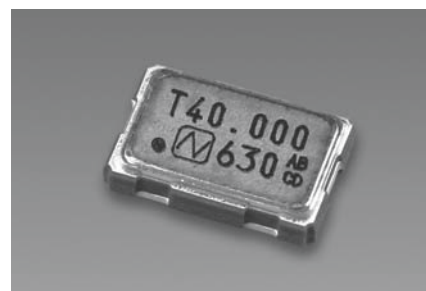
### Features

- Supports a wide temperature range from  $-40$  to  $+85$  °C.
- Automatic mounting by taping and IR reflow (lead-free) are possible.
- Lead-free.
- Compact and light. Dimensions and weight: 5.0 x 3.2 mm, 1.0 mm, and 0.06 g.

Pb  
Free

RoHS Compliant  
Directive 2002/95/EC

Absolute maximum rating  
Power supply voltage ( $V_{DD}$ )  $-0.5$  to  $+7.0$  V  
Storage temperature range  $-55$  to  $+125$  °C

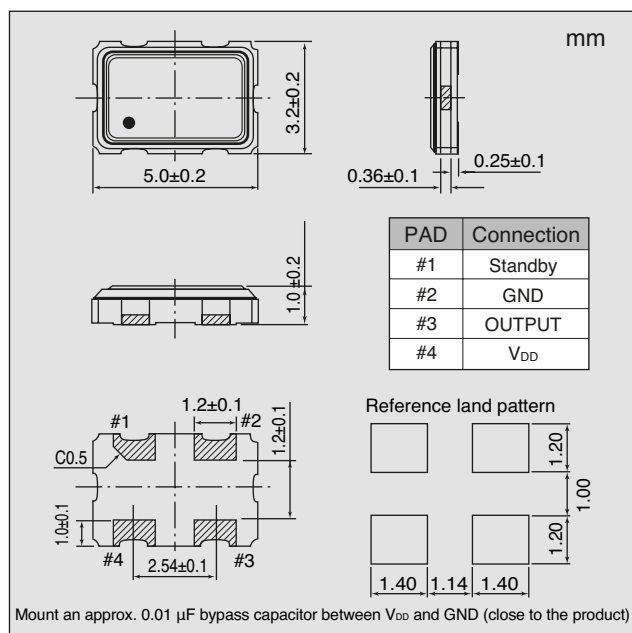


### Specifications

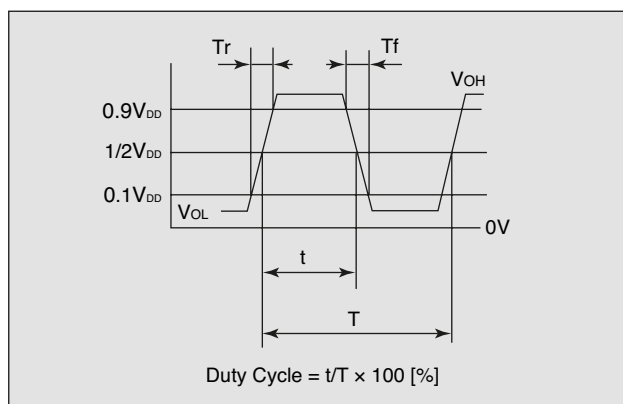
| Item                                       |                  | Model                | 2725T                                             |             |             |             |
|--------------------------------------------|------------------|----------------------|---------------------------------------------------|-------------|-------------|-------------|
| Output level                               |                  |                      | C-MOS                                             |             |             |             |
| Frequency range <sup>*1</sup>              |                  | (MHz)                | 2.5 ≤ F < 20                                      | 20 ≤ F < 40 | 40 ≤ F < 60 | 60 ≤ F ≤ 75 |
| Operating temperature range <sup>*2</sup>  |                  | (°C)                 | -40 to +85                                        |             |             |             |
| Frequency stability                        |                  | (×10 <sup>-6</sup> ) | ±50                                               |             |             |             |
| Power supply voltage [V <sub>DD</sub> ]    |                  | (V)                  | +3.3±0.1                                          |             |             |             |
| Current consumption<br>(+3.3 V, 25 °C) max | During operation | (mA)                 | 8                                                 | 15          | 22          | 25          |
|                                            | During standby   | (μA)                 | 10                                                |             |             |             |
| V <sub>OL</sub> max/V <sub>OH</sub> min    |                  | (V)                  | 0.1 V <sub>DD</sub> /0.9 V <sub>DD</sub>          |             |             |             |
| Tr max/Tf max                              |                  | (ns)                 | 5/5 (0.1 V <sub>DD</sub> to 0.9 V <sub>DD</sub> ) |             |             |             |
| Duty Cycle min. to max.                    |                  | (%)                  | 45 to 55 (at 1/2 V <sub>DD</sub> )                |             |             |             |
| Load (C <sub>L</sub> ) max                 |                  | (pF)                 | 15                                                |             |             |             |
| Oscillation start time max                 |                  | (ms)                 | 4                                                 |             | 10          |             |
| Standby function                           |                  |                      | Available (tristate)                              |             |             |             |
| Number for specifying an order             |                  |                      | NSA6293E                                          |             |             |             |

\*1: If you require a product with a frequency not given above, please contact us. \*2: If you require a product with an operating temperature range not given above, please contact us.

### Dimensions



### Output Waveform <C-MOS>



### Standby Function

| #1 Input                                                                 | #3 Output             |
|--------------------------------------------------------------------------|-----------------------|
| Level H ( $0.7 V_{DD} \leq V_{IH} \leq V_{DD}$ )<br>or OPEN is selected. | Oscillation output ON |
| Level L ( $V_{IL} \leq 0.3 V_{DD}$ ) is selected.                        | High impedance        |

### How to Specify an Order

When ordering our products, specify them with an "Ordering Code" that consists of the following:

[Model name] - [Frequency (up to 9 digits)] M - [Number for specifying an order]

If you have any queries concerning our standard frequencies and numbers for specifying orders, please contact our sales representatives or visit our homepage (<http://www.ndk.com/>).

Example 1: When ordering a product with model name: 2725T, frequency: 20 MHz, frequency stability:  $\pm 50 \times 10^{-6}$ , and power supply voltage: 3.3 V  
Ordering Code: 2725T - 20.000000M - NSA6293E