

Travelling Merchant: \_\_\_\_\_

# DATASHEET

Standard: T32-I519-16.384MHz

P/N: \_\_\_\_\_

| Plot             |         |          | The Label              |
|------------------|---------|----------|------------------------|
| Drew             | Audited | Approved | Stamp, please! Thanks! |
|                  |         |          |                        |
| Date: 2023.12.26 |         |          |                        |

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**Table of amendment**

| Version | Revision contents  | Prepared by  | Revised date |
|---------|--|--------------|--------------|
| 1.0     | The first issued   | <i>Amway</i> | 2012.09.06   |
| 1.1     | The “Mechanical Structure” “Reflow Soldering Curve” “Package: Tape & Reel” changed | <i>Amway</i> | 2023.12.26   |
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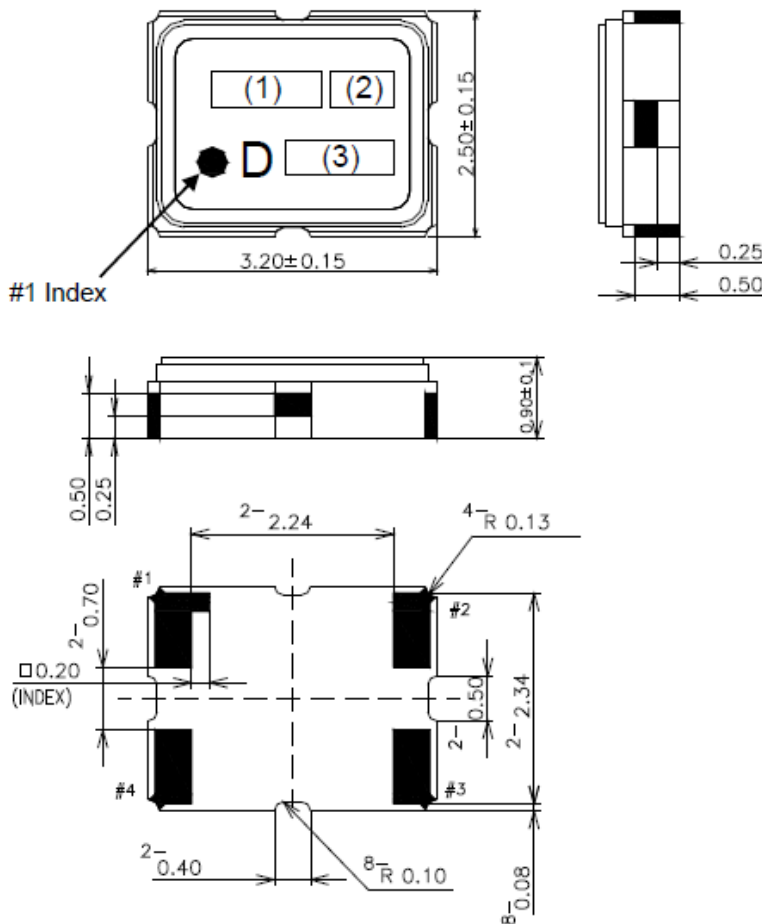
## 1. Electrical Parameters

| MODEL: T32-I519-16.384MHZ |   |                   |      |       |                    |   |
|---------------------------|---|-------------------|------|-------|--------------------|---|
| Item                      | Description   | Parameters        |      |       | Unit               | Test Condition  |
|                           |   | Min.              | Typ. | Max.  |                    |   |
| Output                    | Frequency   | 16.384            |      |       | MHz                |   |
|                           | Output Waveform                                     | Clipped Sine Wave |      |       |                    |   |
|                           | V <sub>p-p</sub>                                    | 0.8               |      |       | V                  |   |
|                           | Load  | 10KΩ//10pF        |      |       |                    |   |
| Frequency Stabilities     | Frequency Tolerance vs. Operating Temperature Range | -0.5              |      | +0.5  | × 10 <sup>-6</sup> | T <sub>A</sub> varied from -30°C to 85°C, measurement referenced to frequency observed with T <sub>A</sub> = 25°C, V <sub>cc</sub> = 3.3V, O <sub>load</sub> = 10KΩ//10pF, temperature variable speed less than 2°C per minute. |
|                           |   | -2.5              |      | +2.5  | × 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> = 3.3V, O <sub>load</sub> = 10KΩ//10pF, temperature variable speed less than 2°C per minute. |
|                           | Initial Frequency Tolerance                         | -1                |      | +1    | × 10 <sup>-6</sup> | Measurement referenced to frequency observed with T <sub>A</sub> = 25°C, V <sub>cc</sub> = 3.3V, within 30 days after ex-works.   |
|                           | Frequency Tolerance vs. Supply Voltage              | -0.2              |      | +0.2  | × 10 <sup>-6</sup> | measurement referenced to frequency observed T <sub>A</sub> = 25°C, V <sub>cc</sub> varied from 3.13V to 3.47V, and O <sub>Load</sub> = 10KΩ//10pF.   |
|                           | Frequency Tolerance vs. Load                        | -0.2              |      | +0.2  | × 10 <sup>-6</sup> | 5% load change measurement referenced to frequency observed with T <sub>A</sub> = 25°C, V <sub>cc</sub> = 3.3V, O <sub>Load</sub> = 10KΩ//10pF.   |
|                           | Aging Tolerance Per Day                             | -0.02             |      | +0.02 | × 10 <sup>-6</sup> | T <sub>A</sub> = 25°C, V <sub>cc</sub> = 3.3V, and after 1h of operation.   |
|                           | Aging Tolerance 1 Year                              | -1                |      | +1    | × 10 <sup>-6</sup> |   |
| Power Supply              | Current Consumption                                 |                   |      | 1.5   | mA                 | @ 25°C, V <sub>cc</sub> = 3.3V, O <sub>load</sub> = 10KΩ//10pF.   |
|                           | Supply Voltage                                      | 3.13              | 3.3  | 3.47  | V                  |   |
| Phase Noise               | Phase Noise   |                   | -95  | -90   | dBc/Hz             | 10Hz  |
|                           |   |                   | -120 | -115  |                    | 100Hz   |
|                           |   |                   | -140 | -135  |                    | 1KHz  |
|                           |   |                   | -150 | -145  |                    | 10KHz   |
|                           |   |                   | -152 | -147  |                    | 100KHz  |
|                           |   |                   | -152 | -147  |                    | 1MHz  |



|                          |   |  |  |      |    |  |
|--------------------------|---|--|--|------|----|--|
| Environmental Conditions | Operable Temperature  | -40  |  | +85  | °C |  |
|                          | Storage Temperature   | -55  |  | +105 | °C |  |
|                          | ESD Level   | Human Body Model,class2: 2000V to 4000V; ANSI/ESDA/JEDEC JS-001-2010.  |  |      |    |  |
|                          |   | Machine Model, class B: 200V to 400V; ANSI/ESDA/JEDEC JS-001-2010.   |  |      |    |  |
|                          | Moisture Sensitivity Level  | Level 2.   |  |      |    |  |
|                          | Vibration   | Test Condition: 0.75mm ;acceleration:10g;10Hz~2000Hz, one cycle per 30 min, test 2 hour. (3 times for each 3 directions X ,Y , Z ) .IEC 68-2-06 Test Fc. |  |      |    |  |
| Shock                    | 100g; 6ms; half sine wave (3 times for each 3 directions X ,Y , Z ),IEC 68-2-27 Test Ea/Severity 50A. |  |  |      |    |  |

## 2. Mechanical Structure(mm)



### Pin Connections

| Pin No. | Connection |
|---------|------------|
| #1      | GND        |
| #2      | GND        |
| #3      | Output     |
| #4      | Vcc        |

### Marking

|                |   |
|----------------|---|
| (1) Frequency  | 16.38 (MHz, 4digits)                                  |
| (2) Model code | BN  |
| (3) Date code  | Year (1digit) +Week (2digits)<br>e.g.2021/01/01 → 101 |

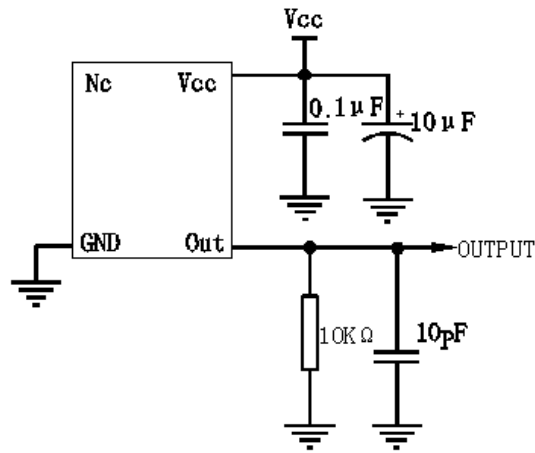
unit : mm

Dimensional tolerance:  $\pm 0.15$

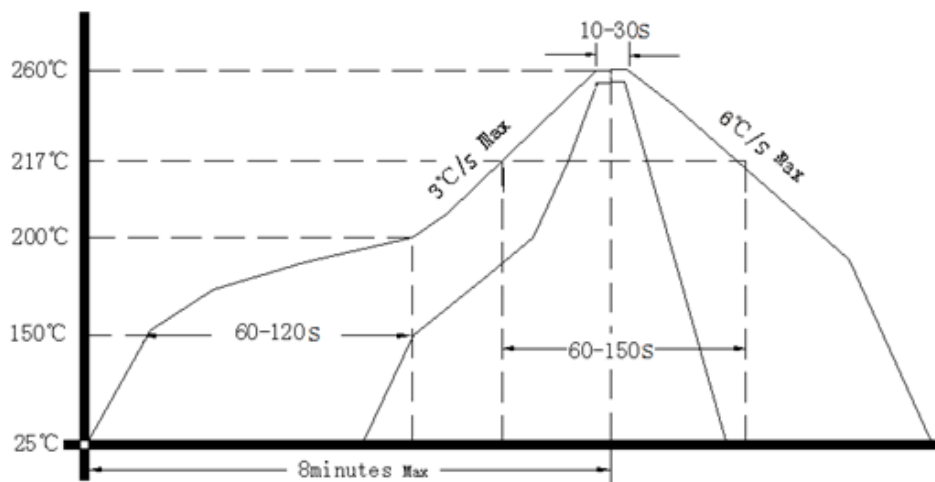
(Unless otherwise noted)



### 3. Test circuit



### 4. Reflow Soldering Curve (RoHS)



### 5. Package: Tape & Reel (mm)

