

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

# DATASHEET

Standard:     **T32-Q513-50.00MHz**    

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

| Plot             |         |          | The Label              |
|------------------|---------|----------|------------------------|
| Drew             | Audited | Approved | Stamp, please! Thanks! |
|                  |         |          |                        |
| Date: 2014.12.04 |         |          |                        |

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## 1. Electrical Parameters

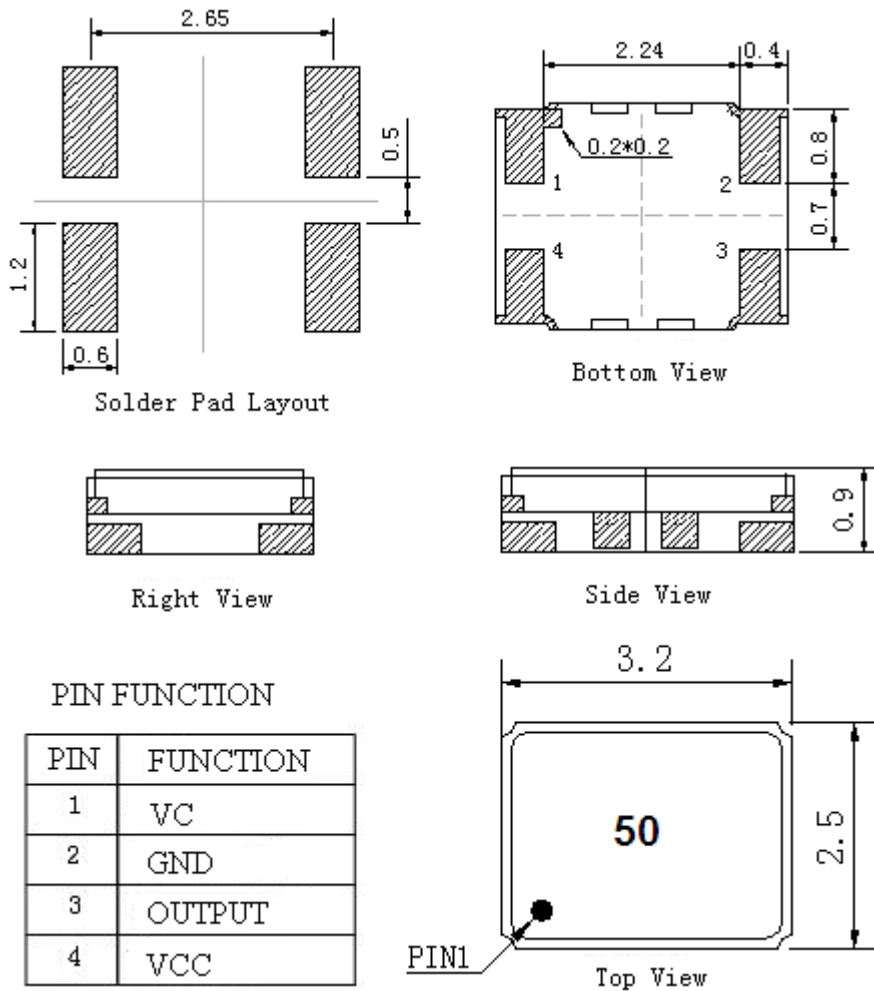
| MODEL: T32-Q513-50.00MHz |   |                   |      |       |                  |   |
|--------------------------|---|-------------------|------|-------|------------------|---|
| Item                     | Description   | Parameters        |      |       | Unit             | Test Condition  |
|                          |   | Min.              | Typ. | Max.  |                  |   |
| Output                   | Frequency   | 50.00             |      |       | MHz              |   |
|                          | Output Waveform                                     | Clipped Sine Wave |      |       |                  |   |
|                          | Vp-p  | 0.6               |      |       | V                |   |
|                          | Load  | 10KΩ//10pF        |      |       |                  |   |
| Frequency Stabilities    | Frequency Tolerance vs. Operating Temperature Range | -1                |      | +1    | $\times 10^{-6}$ | $T_A$ varied from $-40^{\circ}\text{C}$ to $85^{\circ}\text{C}$ , measurement referenced to frequency observed with $T_A=25^{\circ}\text{C}$ , $V_{cc}=3.3\text{V}$ , $V_c=1.5\text{V}$ , $O_{load}=10\text{K}\Omega//10\text{pF}$ , temperature variable speed less than $2^{\circ}\text{C}$ per minute. |
|                          | Initial Frequency Tolerance                         | -1                |      | +1    | $\times 10^{-6}$ | Measurement referenced to frequency observed with $T_A=25^{\circ}\text{C}$ , $V_{cc}=3.3\text{V}$ , $V_c=1.5\text{V}$ within 30 days after ex-works.  |
|                          | Frequency Tolerance vs. Supply Voltage              | -0.2              |      | +0.2  | $\times 10^{-6}$ | measurement referenced to frequency observed $T_A=25^{\circ}\text{C}$ , $V_{cc}$ varied from 3.13V to 3.47V, $V_c=1.5\text{V}$ and $O_{Load}=10\text{K}\Omega//10\text{pF}$ .   |
|                          | Frequency Tolerance vs. Load                        | -0.2              |      | +0.2  | $\times 10^{-6}$ | 5% load change measurement referenced to frequency observed with $T_A=25^{\circ}\text{C}$ , $V_{cc}=3.3\text{V}$ , $V_c=1.5\text{V}$ and $O_{Load}=10\text{K}\Omega//10\text{pF}$ .   |
|                          | Aging Tolerance Per Day                             | -0.02             |      | +0.02 | $\times 10^{-6}$ | $T_A=25^{\circ}\text{C}$ , $V_{cc}=3.3\text{V}$ , $V_c=1.5\text{V}$ and after 1h of operation.  |
|                          | Aging Tolerance 1 Year                              | -1                |      | +1    | $\times 10^{-6}$ |   |
| Power Supply             | Operating Current                                   |                   |      | 3     | mA               | @ $25^{\circ}\text{C}$ , $V_{cc}=3.3\text{V}$ , $V_c=1.5\text{V}$ , $O_{Load}=10\text{K}\Omega//10\text{pF}$ .  |
|                          | Supply Voltage                                      | 3.13              | 3.3  | 3.47  | V                |   |
| Voltage Control          | Frequency tuning range                              | -9                |      | -5    | $\times 10^{-6}$ | $V_c=0.5\text{V}$ . measurement referenced to $V_c=1.5\text{V}$ .   |
|                          |   | -1                |      | +1    | $\times 10^{-6}$ | $V_c=1.5\text{V}$ . measurement referenced to Exactly 50.00MHz.   |
|                          |   | +5                |      | +9    | $\times 10^{-6}$ | $V_c=2.5\text{V}$ . measurement referenced to $V_c=1.5\text{V}$ .   |
|                          | Linearity   |                   |      | 10    | %                |   |
|                          | Slope   | Positive          |      |       |                  |   |
|                          | Input Impedance                                     | 100               |      |       | KΩ               |   |



|                             |  |   |      |      |        |        |
|-----------------------------|--|---|------|------|--------|--------|
| Phase Noise                 | Phase Noise<br>@25°C   |   | -82  | -77  | dBc/Hz | 10Hz   |
|                             |  |   | -105 | -100 |        | 100Hz  |
|                             |  |   | -130 | -125 |        | 1KHz   |
|                             |  |   | -145 | -140 |        | 10KHz  |
|                             |  |   | -148 | -143 |        | 100KHz |
|                             |  |   | -150 | -145 |        | 1MHz   |
| Environmental<br>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<br>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)



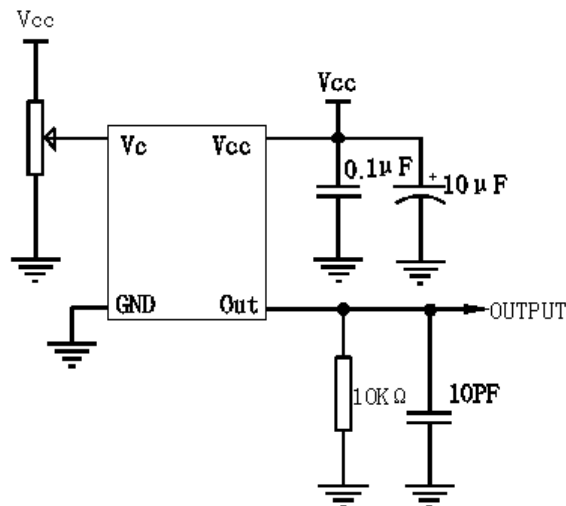
### PIN FUNCTION

| PIN | FUNCTION |
|-----|----------|
| 1   | VC       |
| 2   | GND      |
| 3   | OUTPUT   |
| 4   | VCC      |

**Note1:** Tolerance  $\pm 0.2$ mm without mark

**Note2:** Referential Weight 0.02g

## 3. Test Circuit





#### 4. Reflow Soldering Curve (RoHS)



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

