

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

# DATASHEET

Standard: T75B-P313-19.20MHz-C

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

| Plot             |         |          | The Label              |
|------------------|---------|----------|------------------------|
| Drew             | Audited | Approved | Stamp, please! Thanks! |
|                  |         |          |                        |
| Date: 2024.06.13 |         |          |                        |

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**Table of amendment**

| Version | Revision contents | Prepared by  | Revised date |
|---------|-------------------|--------------|--------------|
| 1.0     | The first issued  | <i>Amway</i> | 2024.06.13   |
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## 1. Electrical Parameters

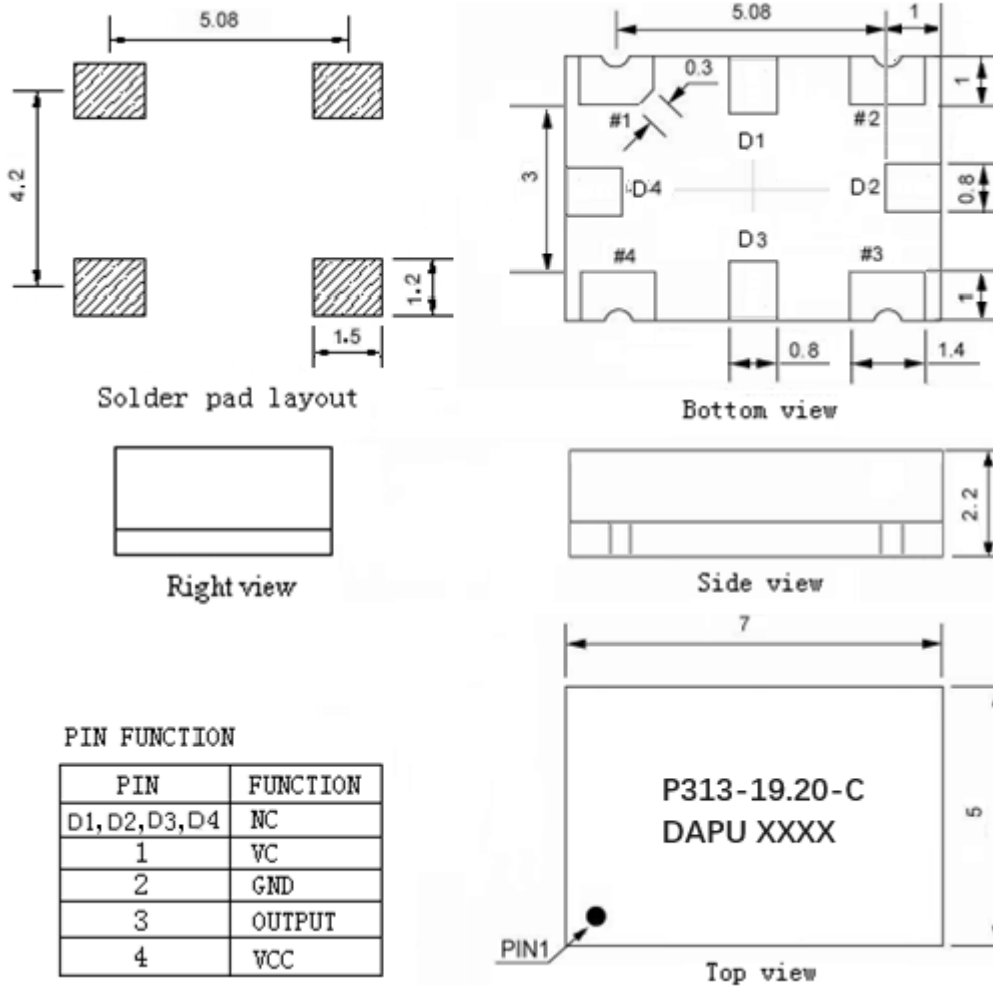
| MODEL: T75B-P313-19.20MHZ-C |   |            |      |       |                  |   |
|-----------------------------|---|------------|------|-------|------------------|---|
| Item                        | Description   | Parameters |      |       | Unit             | Test Condition  |
|                             |   | Min.       | Typ. | Max.  |                  |   |
| Output                      | Frequency   | 19.20      |      |       | MHz              |   |
|                             | Output Waveform                                     | HCMOS      |      |       |                  |   |
|                             | Output Low Voltage                                  |            |      | 0.4   | V                | $V_{cc}=3.3V, O_{load}=15\text{ pF}$  |
|                             | Output High Voltage                                 | 2.8        |      |       | V                | $V_{cc}=3.3V, O_{load}=15\text{ pF}$  |
|                             | Duty Cycle  | 45         |      | 55    | %                | @50%  |
|                             | Rise / Fall Time<br>(10%~90%)                       |            |      | 8     | ns               | @25°C   |
|                             | Load  | 15         |      |       | pF               |   |
| Frequency Stabilities       | Frequency Tolerance vs. Operating Temperature Range | -0.28      |      | +0.28 | $\times 10^{-6}$ | $T_A$ varied from -40°C to 85°C, measurement referenced to frequency observed with $f_{ref}=(f_{max}+f_{min})/2, V_{cc}=3.3V, V_c=1.5V, O_{load}=15\text{ pF}$ , temperature variable speed less than 2°C per minute. |
|                             | Initial Frequency Tolerance                         | -1         |      | +1    | $\times 10^{-6}$ | Measurement referenced to frequency observed with $T_A=25^\circ\text{C}, V_{cc}=3.3V, V_c=1.5V$ , within 30 days after ex-works.  |
|                             | Frequency Tolerance vs. Supply Voltage              | -0.3       |      | +0.3  | $\times 10^{-6}$ | measurement referenced to frequency observed $T_A=25^\circ\text{C}, V_{cc}$ varied from 3.135V to 3.465V and $V_c=1.5V, O_{Load}=15\text{ pF}$ .  |
|                             | Frequency Tolerance vs. Load                        | -0.2       |      | +0.2  | $\times 10^{-6}$ | 10% load change measurement referenced to frequency observed with $T_A=25^\circ\text{C}, V_{cc}=3.3V, V_c=1.5V$ , and $O_{Load}=15\text{ pF}$ .   |
|                             | Aging Tolerance 1 Day                               | -0.02      |      | +0.02 | $\times 10^{-6}$ | $T_A=25^\circ\text{C}, V_{cc}=3.3V, V_c=1.5V$ and after 1h of operation.  |
|                             | Aging Tolerance 1 Year                              | -1         |      | +1    | $\times 10^{-6}$ |   |
| Power Supply                | Operating Current                                   |            |      | 10    | mA               | @25°C, $V_{cc}=3.465V, V_c=1.5V, O_{Load}=15\text{ pF}$ .   |
|                             | Supply Voltage                                      | 3.135      | 3.3  | 3.465 | V                |   |



|                                 |  |  |  |      |                  |  |
|---------------------------------|--|--|--|------|------------------|--|
| Voltage Control Characteristics | Frequency Tuning Range   |  |  | -4.5 | $\times 10^{-6}$ | $V_c=0.5V$ . measurement referenced to $V_c=1.5V$ .      |
|                                 |  | -1   |  | +1   | $\times 10^{-6}$ | $V_c=1.5V$ . measurement referenced to Exactly 19.20MHz. |
|                                 |  | +4.5   |  |      | $\times 10^{-6}$ | $V_c=2.5V$ . measurement referenced to $V_c=1.5V$ .      |
|                                 | Linearity  |  |  | 10   | %                |  |
|                                 | Slope  | Positive   |  |      |                  |  |
|                                 | Input Impedance  | 100  |  |      | K $\Omega$       |  |
| Modulation Bandwidth            | Modulation Bandwidth   | 2.4  |  |      | kHz              |  |
| Phase Noise                     | Phase Noise @25°C  |  |  | -86  | dBc/Hz           | 10Hz   |
|                                 |  |  |  | -110 |                  | 100Hz  |
|                                 |  |  |  | -130 |                  | 1KHz   |
|                                 |  |  |  | -144 |                  | 10KHz  |
|                                 |  |  |  | -145 |                  | 100KHz   |
| Environmental Conditions        | Operable Temperature   | -40  |  | +85  | °C               |  |
|                                 | Storage Temperature  | -40  |  | +90  | °C               |  |
|                                 | ESD Level  | Human Body Model,class2: 2000V to 4000V; ANSI/ESDA/JEDEC JS-001-2010.  |  |      |                  |  |
|                                 |  | Machine Model, class B: 200V to 400V; JEDEC JESD22-A115C.  |  |      |                  |  |
|                                 | 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. |  |  |      |                  |  |
| Full Package Storage            | Relative humidity (%)  | 20% ~70%   |  |      |                  |  |
|                                 | Temperature (°C)   | -10~35°C   |  |      |                  |  |



## 2. Mechanical Structure(mm)



**Note1:** Tolerance  $\pm 0.2\text{mm}$  without mark

**Note2:** The first two xx representative: year

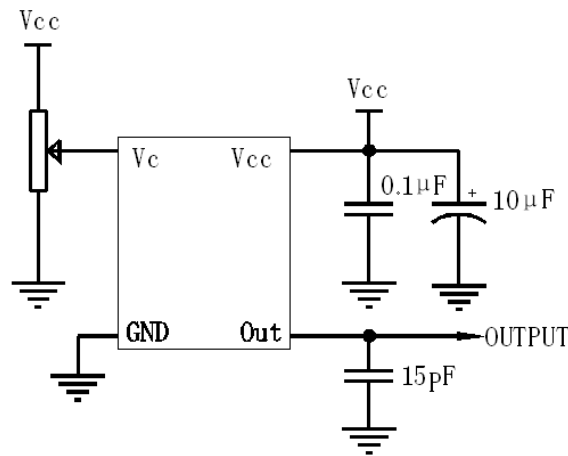
After two xx representative: week

**Note3:** Referential Weight 0.2g

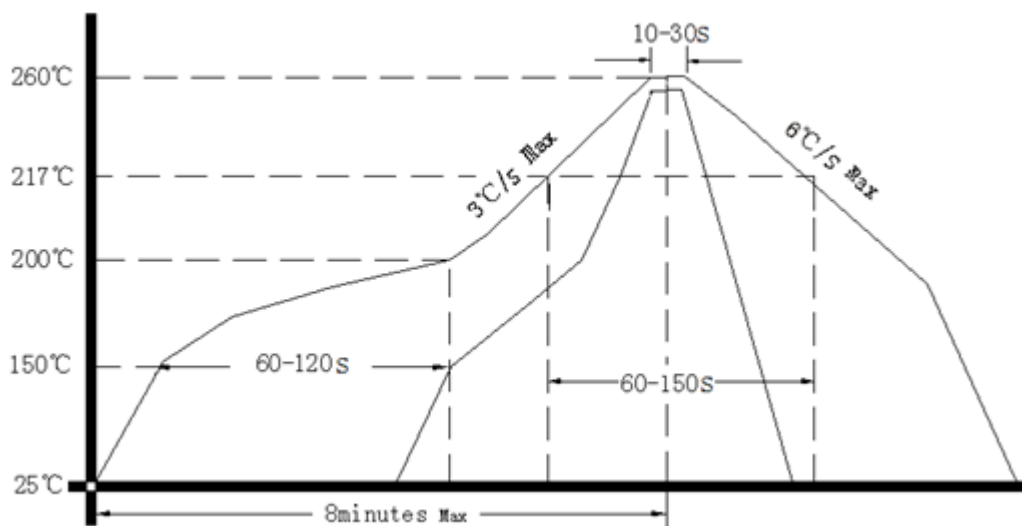
**Note4:** NC is not connect



### 3. Test Circuit



### 4. Output Waveform



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

