

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

# DATASHEET

Standard:     **T53-G316-10.00MHz**    

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

| Plot             |         |          | The Label              |
|------------------|---------|----------|------------------------|
| Drew             | Audited | Approved | Stamp, please! Thanks! |
|                  |         |          |                        |
| Date: 2024.07.26 |         |          |                        |

## Guangdong Dapu Telecom Technology Co.,Ltd

Building 5, No.24, Industrial East Road, Songshanhu Park, Dongguan, Guangdong, P.R. China

TEL: 0086-0769-88010888 FAX: 0086-0769-81800098





## 1. Electrical Parameters

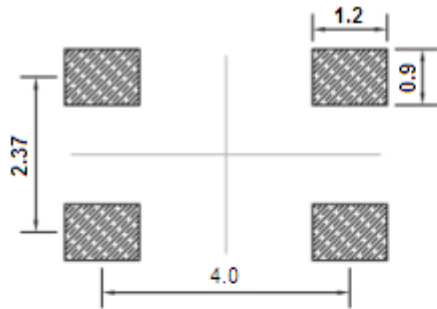
| MODEL: T53-G316-10.00MHz |   |            |      |      |                  |   |
|--------------------------|---|------------|------|------|------------------|---|
| Item                     | Description   | Parameters |      |      | Unit             | Test Condition  |
|                          |   | Min.       | Typ. | Max. |                  |   |
| Output                   | Frequency   | 10.00      |      |      | MHz              |   |
|                          | Output Waveform                                     | HCMOS      |      |      |                  |   |
|                          | Output Low Voltage                                  |            |      | 0.33 | V                | $V_{cc}=3.3V, O_{load}=15\text{ pF}$  |
|                          | Output High Voltage                                 | 2.97       |      |      | V                | $V_{cc}=3.3V, O_{load}=15\text{ pF}$  |
|                          | Duty Cycle  | 45         | 50   | 55   | %                | @50%  |
|                          | Rise / Fall Time<br>(10%~90%)                       |            |      | 8    | ns               | @25°C   |
|                          | Start time  |            |      | 2    | ms               |   |
|                          | Load  | 15         |      |      | pF               |   |
| Frequency Stabilities    | Frequency Tolerance vs. Operating Temperature Range | -1         |      | +1   | $\times 10^{-6}$ | $T_A$ 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. |
|                          | Nominal 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              | -0.5       |      | +0.5 | $\times 10^{-6}$ | measurement referenced to frequency observed $T_A=25^\circ\text{C}, V_{cc}$ varied from 3.13V to 3.47V and $V_c=1.5V, O_{Load}=15\text{ pF}$ .  |
|                          | Frequency Tolerance vs. Load                        | -0.5       |      | +0.5 | $\times 10^{-6}$ | 5% 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 Year                              | -1         |      | +1   | $\times 10^{-6}$ | $T_A=25^\circ\text{C}, V_{cc}=3.3V, V_c=1.5V$ and after 1h of operation.  |
| Power Supply             | Operating Current                                   |            |      | 6    | mA               | @25°C, $V_{cc}=3.3V, V_c=1.5V, O_{Load}=15\text{ pF}$ .   |
|                          | Supply Voltage                                      | 3.13       | 3.3  | 3.47 | V                |   |



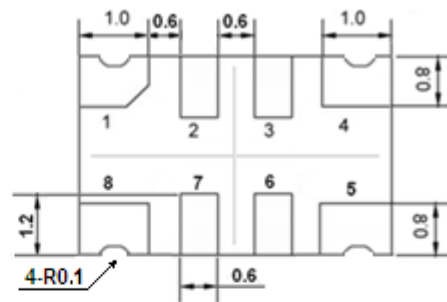
|                                 |  |   |  |      |                  |  |
|---------------------------------|--|---|--|------|------------------|--|
| Voltage Control Characteristics | Frequency Tuning Range   | -7  |  | -4   | $\times 10^{-6}$ | $V_c=0$ V. measurement referenced to $V_c=1.5$ V.        |
|                                 |  | -1  |  | +1   | $\times 10^{-6}$ | $V_c=1.5$ V. measurement referenced to Exactly 10.00MHz. |
|                                 |  | +4  |  | +7   | $\times 10^{-6}$ | $V_c=3.0$ V. measurement referenced to $V_c=1.5$ V.      |
|                                 | Linearity  |   |  | 10   | %                |  |
|                                 | Slope  | Positive  |  |      |                  |  |
| Input Impedance                 | 100  |   |  |      | K $\Omega$       |  |
| Phase Noise                     | Phase Noise  |   |  | -95  | dBc/Hz           | 10Hz   |
|                                 |  |   |  | -120 |                  | 100Hz  |
|                                 |  |   |  | -140 |                  | 1KHz   |
|                                 |  |   |  | -145 |                  | 10KHz  |
|                                 |  |   |  | -150 |                  | 100KHz   |
| Environmental Conditions        | Operable Temperature   | -40   |  | +85  | $^{\circ}$ C     |  |
|                                 | Storage Temperature  | -55   |  | +125 | $^{\circ}$ 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 ( $^{\circ}$ C)  | -10~35 $^{\circ}$ C   |  |      |                  |  |



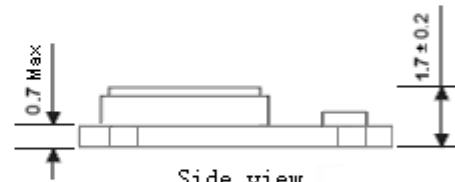
## 2. Mechanical Structure(mm)



Solder pad layout



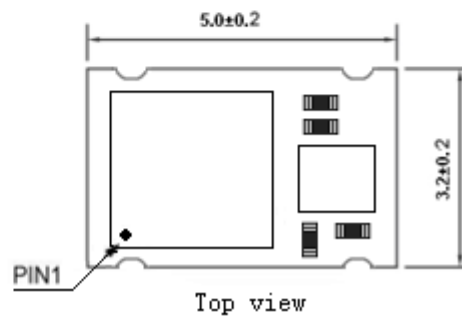
Bottom view



Side view

### PIN FUNCTION

| PIN  | NOTATION | FUNCTION        |
|------|----------|-----------------|
| 1    | VC       | Control Voltage |
| 2, 3 | NC       | Not Connect     |
| 4    | GND      | GND             |
| 5    | OUTPUT   | RF Output       |
| 6, 7 | NC       | Not Connect     |
| 8    | VCC      | Supply Voltage  |



Top view

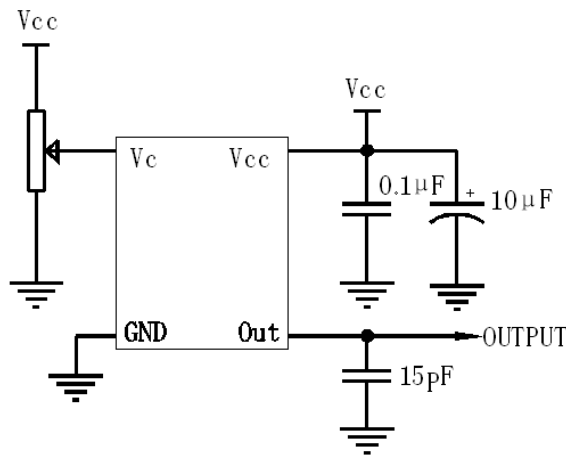
**Note1:** Tolerance  $\pm 0.2\text{mm}$  without mark

**Note2:** Referential weight 0.05g

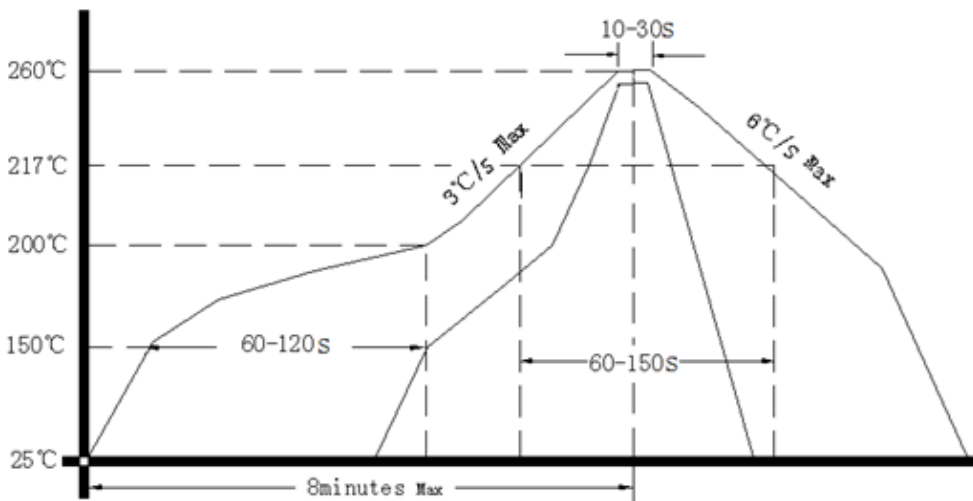
**Note3:** NC is not connect



### 3. Test Circuit



### 4. Reflow Soldering Curve (RoHS)



**Note:** If soldering with a hot air gun, ensure the temperature < 320°C , soldering time < 15 seconds.

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

