Travelling Merchant:_____

# DATASHEET

Standard: **DP7W21760002**

| Plot | | | The Label |
|---|---|---|---|
| Drew | Audited | Approved | Stamp, please! Thanks! |
| Amway.wei | Carry.Wang | James.Liu | |
| Date: 2018.05.21 | | | |


## Guangdong Dapu Telecom Technology Co.,Ltd

Bldg13,.N.Ind.Zone,SSL Industry Park, Dongguan City, Guangdong Province, China

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

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# 1、Electrical Parameters

| **MODEL：DP7W21760002** | | | | | | | |
|---|---|---|---|---|---|---|---|
| No. | Parameters | SYM. | Electrical Spec. | | | | Notes |
| | | | Min. | Typ. | Max. | Units | |
| 1 | Nominal Frequency | FL | | 2.176 | | MHz | |
| 2 | Frequency Stability | - | -50 | | +50 | ppm | incl. 25℃ tolerance, tolerance over operating temperature range, input voltage change, load change, 1 year aging |
| 3 | Operating Temperature | Topr | -40 | | +105 | ℃ | |
| 4 | Storage Temperature | Tstg | -55 | ~ | +125 | ℃ | |
| 5 | Supply Voltage | VDD | | 3.3±10% | | V | |
| 6 | Input Current | Icc | - | - | 10 | mA | |
| 7 | Output State Control | - | | Enable/disable | | | |
| 8 | Output Load： CMOS | CL | | 15 | | pF | |
| 9 | Output Voltage High | VoH | 90%Vdd | - | - | V | |
| 10 | Output Voltage Low | Vol | - | - | 10%Vdd | V | |
| 11 | Rise Time | Tr | - | - | 10 | ns | 10%-90%VDD Level |
| 12 | Fall Time | Tf | - | - | 10 | ns | 90%-10%VDD Level |
| 13 | Symmetry（Duty ratio） | TH/T | 45 | 50 | 55 | % | |
| 14 | Start-up Time | Tosc | - | - | 3 | ms | |
| 15 | Standby current | | | - | 10 | μA | |
| 16 | Phase Jitter (rms) | | - | - | 1 | ps | 12kHz to 20MHz max |
| 17 | Aging | - | | ±3 | | ppm/yr. | 1st. Year at 25℃ |
| 18 | Oscillation mode | | | Fundamental | | | |

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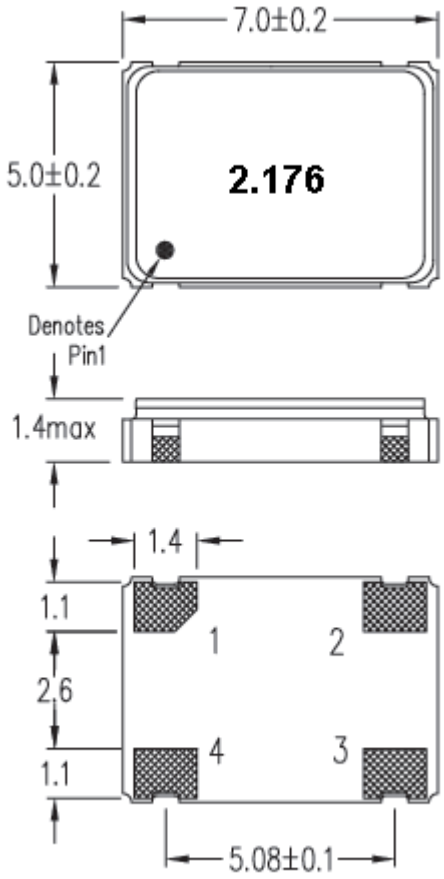
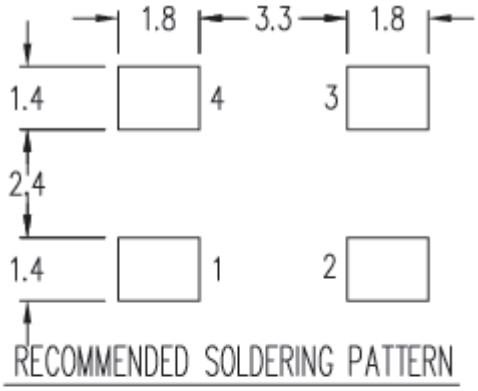
## 2、Mechanical Structure(mm)



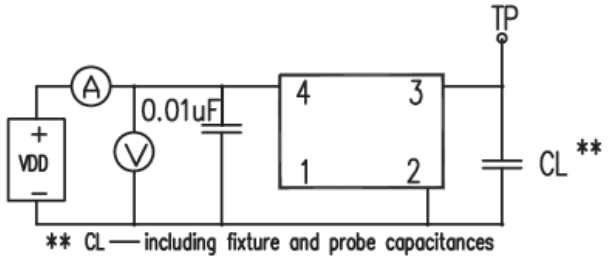

PIN CONNECTION

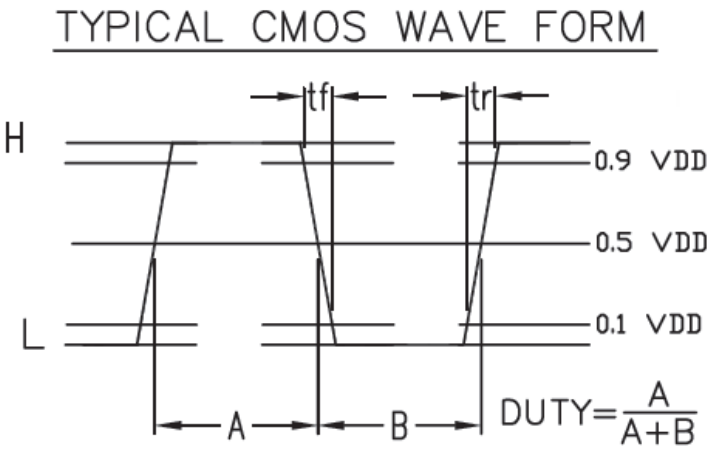
| | |
|---|---|
| 1 | Enable/Disable* |
| 2 | GND |
| 3 | Output |
| 4 | VDD |

* Enable/Disable functional description

When pin1 goes high (>=0.7VDD) or open ,the Oscillator in normal operation and has output in frequency. When pin1 goes low (<=0.3VDD) ,the oscillator stops and the oscillator output (Pin3) becomes high impedance.

## 3、Test Circuit and Waveform



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## 4、Reliability Specifications

| NO. | ITEM | SPECIFICATION | TEST METHOD |
|---|---|---|---|
| 4.1 | Temperature Cycle (GB/T 2423.22-2002, Method Nb) | Frequency change after test≤± 5ppm. | 10 cycles from -55°C to 125°C. Measurement taken after DUT being left at room temperature for 24±2 hours. |
| 4.2 | Low Temperature Storage (GB/T 2423.1-2001, Method Aa) | Frequency change after test≤± 5ppm. | Spending 72 hrs at -55°C±3°C constant temperature. Measurement taken after DUT being left at room temperature for 24±2 hours. |
| 4.3 | High Temperature Storage (GB/T 2423.2-2001, Method Ba) | Frequency change after test≤± 5ppm. | Spending 72 hrs at 125°C±3°C constant temperature. Measurement taken after DUT being left at room temperature for 24±2 hours. |
| 4.4 | Humidity (GB/T 2423.3-2006, Method Cab) | Frequency change after test≤± 5ppm. | Spending 96 hrs at 40 °C ± 3 °C, with 90± 3% R.H. Measurement taken after DUT being left at room temperature for 24±2 hours. |
| 4.5 | Vibration (GB/T 2423.10-1995, Method Fc) | Frequency change after test≤± 5ppm. | Apply 0.75mm vibration at sweep frequency 10～500 Hz, for 2h. 10 cycles in each direction of 3 axis. Measurement taken after 1 hour. |
| 4.6 | Shock (GB/T 2423.5-1995, Method Ea) | Frequency change after test≤± 5ppm. No visible damages. | Peak 1000m/s2, normal width 6ms half sine wave form, 3.7m/s, 3 perpendicular axis of samples, 3 cycles / direction, total 18 cycles. Measurement taken after 1 hour. |
| 4.7 | Drop (GB/T 2423.8-1995, Method Ed) | Frequency change after test≤± 5ppm. No visible damages. | Free drop to the wooden plate from 1.0 m heights for 3 times. |
| 4.8 | Solderability (GB/T 2423.28-2005, Method Tc) | Terminals shall be covered more then 95% with solder. | In 245 ± 5℃ solder bath for 2 ± 0.5 seconds. There is no need to do functioned test. 8-12X magnifier. |
| 4.9 | Terminal Strength (JIS-C-6429 Method 1 & 2 ) | No visible damage | Mount on a glass-epoxy board (100x50x1.6mm), then bend to 2mm displacement (velocity 1mm/sec) and keep for 5 seconds. or pulling force 0.5 kg for at least 60 seconds. |
| 4.10 | Resistance to Soldering Heat (GB/T 2423.28-2005, Test Tb Method 1B) | Frequency change after test≤± 5ppm. | Passed through the re-flow oven under the following condition. Preheat to 150°C±5°C for 60 to 120sec,and peak 265°C±5°C for 10s±3sec.Measurement taken after DUT being left at room temperature for at 24±2 hours. |

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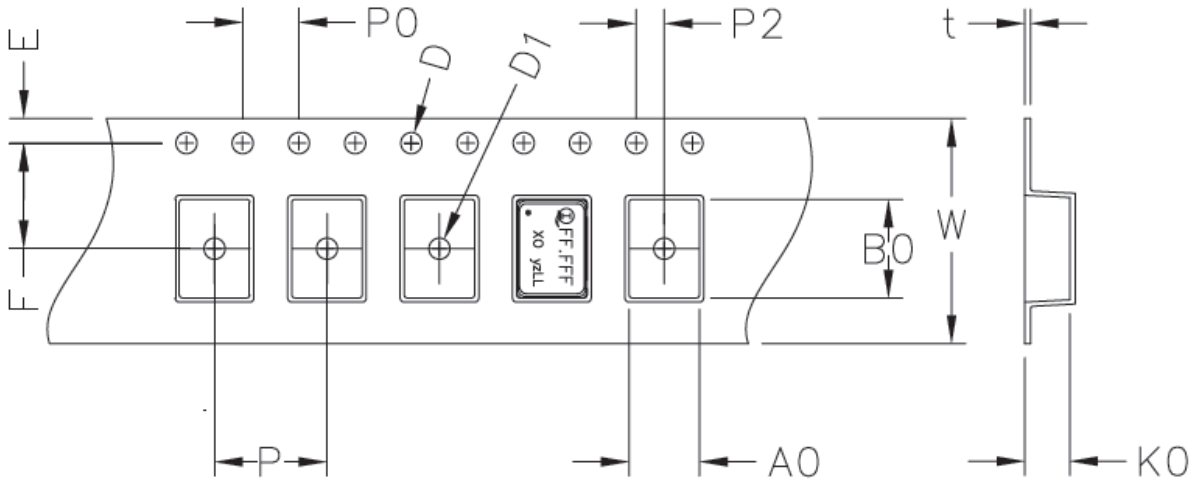
## 5、Package: Tape & Reel (mm)




EMBOSSED TYPE DIMENSIONS

| ITEM | W+0.3/0.1 | A0±0.1 | B0±0.1 | K0±0.1 | P±0.1 | F±0.1 | t±0.05 | Qty |
|---|---|---|---|---|---|---|---|---|
| 149 | 16.0 | 5.5 | 7.5 | 2.0 | 8.0 | 7.5 | 0.3 | 1000 |

E=1.75±0.1、 D=1.5±0.1、 D1=1.5+0.25/-0.0、 P0=4.0±0.1、 P2=2.0±0.1