







## 1、Electrical Parameters

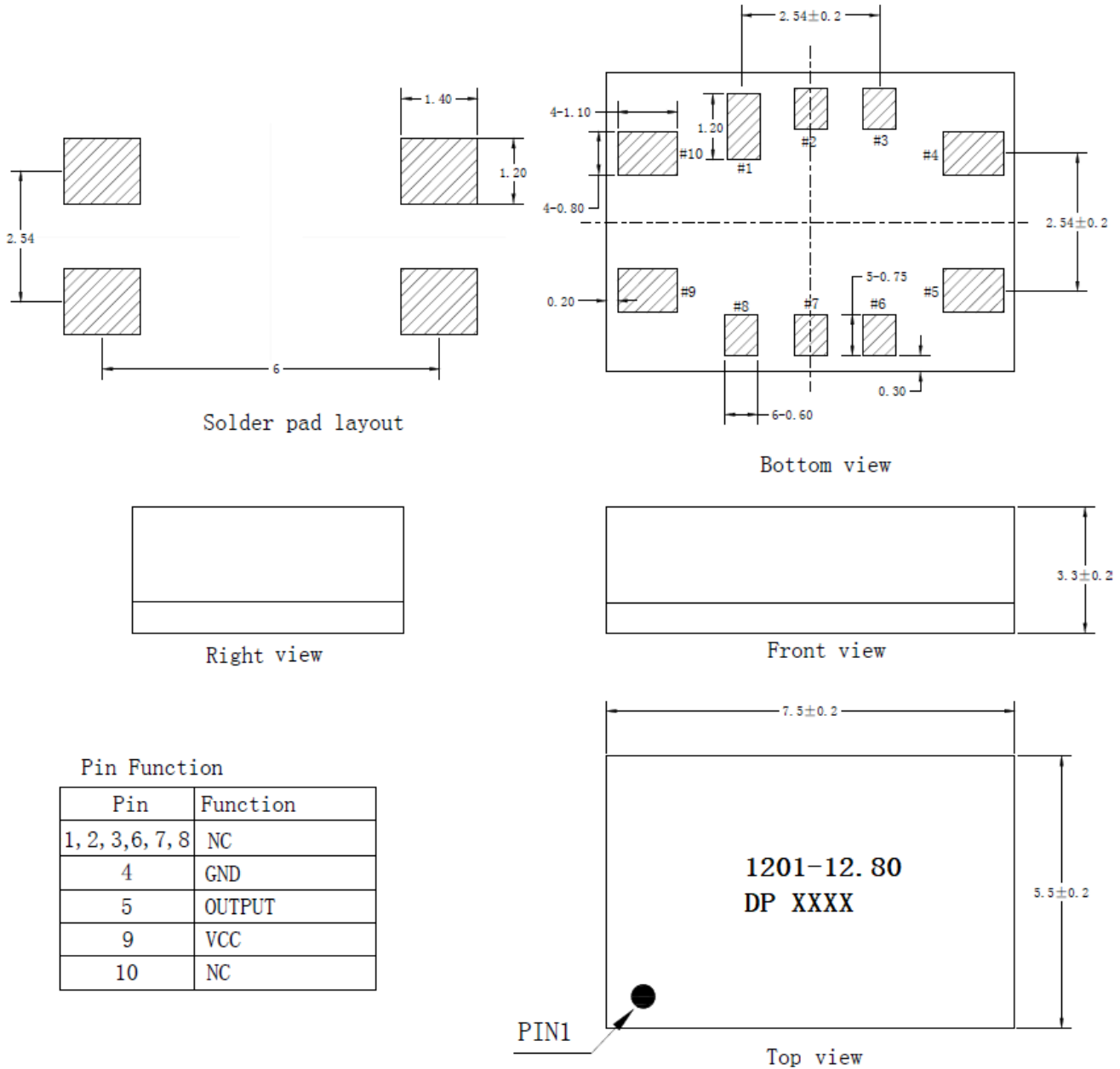
| MODEL: O75A-1201-12.80MHZ |   |            |      |                  |                  |   |   |
|---------------------------|---|------------|------|------------------|------------------|---|---|
| Item                      | Description   | Parameters |      |                  | Unit             | Test Condition  |   |
|                           |   | Min.       | Typ. | Max.             |                  |   |   |
| Output                    | Frequency   | 12.80      |      |                  | MHz              |   |   |
|                           | Output Waveform                                     | HCMOS      |      |                  |                  |   |   |
|                           | Output Low Voltage                                  |            |      | 0.4              | V                | $V_{cc}=3.3V, O_{load}=15pF$  |   |
|                           | Output High Voltage                                 | 2.7        |      |                  | V                | $V_{cc}=3.3V, O_{load}=15pF$  |   |
|                           | Duty Cycle  | 45         | 50   | 55               | %                | @50%  |   |
|                           | Rise / Fall Time<br>(10%~90%)                       |            |      | 10               | ns               |   |   |
|                           | Load  | 15         |      |                  | pF               |   |   |
| Frequency Stabilities     | Frequency Tolerance vs. Operating Temperature Range | -0.02      |      | +0.02            | $\times 10^{-6}$ | $T_A$ varied from $-40^{\circ}C$ to $85^{\circ}C$ , measurement referenced to frequency observed with $f_{ref} = (f_{max}+f_{min})/2$ , $V_{cc}=3.3V, O_{load}=15pF$ , temperature variable speed less than $2^{\circ}C$ per minute, in a windless environment. |   |
|                           | Initial Frequency Tolerance                         | -1         |      | +1               | $\times 10^{-6}$ | Measurement referenced to frequency observed with $T_A = 25^{\circ}C, V_{cc}=3.3V$ , and after 15 minutes of operation, Within 24 hours after ex-works.   |   |
|                           | Frequency Tolerance vs. Supply Voltage              | -3         |      | +3               | $\times 10^{-9}$ | measurement referenced to frequency observed $T_A=25^{\circ}C, V_{cc}$ varied from 3.13V to 3.47V, and $O_{Load}= 15pF$ .   |   |
|                           | Frequency Tolerance vs. Load                        | -3         |      | +3               | $\times 10^{-9}$ | 5% load change measurement referenced to frequency observed with $T_A= 25^{\circ}C, V_{cc}=3.3V, O_{Load}= 15pF$ .  |   |
|                           | Short-Term Stability: Allan Variance                |            |      |                  | 0.08             | $\times 10^{-9}$  | Temperature stability, no EMI/EMC or other interference, test after power for 1hour ref. to $25^{\circ}C$ ; 10s.  |
|                           |   |            |      |                  | 0.1              | $\times 10^{-9}$  | Temperature stability, no EMI/EMC or other interference, test after power for 1hour ref. to $25^{\circ}C$ ; 100s. |
|                           | Aging Tolerance Per Day                             | -3         |      | +3               | $\times 10^{-9}$ | $V_{cc}, T_A$ constant measurement referenced to frequency observed with $T_A=25^{\circ}C, V_{cc}= 3.3V$ , and after 30 days of operation.  |   |
|                           | Aging Tolerance 1 Year                              | -0.3       |      | +0.3             | $\times 10^{-6}$ |   |   |
|                           | Aging Tolerance 30 Days                             | -0.09      |      | +0.09            | $\times 10^{-6}$ |   |   |
| Aging Tolerance 20 Years  | -3  |            | +3   | $\times 10^{-6}$ |                  |   |   |



|   |  |   |      |      |                  |   |
|---|--|---|------|------|------------------|---|
|   | Holdover 24hours Drift   | -3  |      | +3   | $\times 10^{-9}$ | $V_{cc}=3.3V$ , temperature change range $\pm 2.8^{\circ}C$ , after 30 days of operation.   |
|   | Overall Stability  | -4.6  |      | +4.6 | $\times 10^{-6}$ | Inclusive of the following:<br>- operating temperature $-40^{\circ}C$ to $85^{\circ}C$<br>- $3.3V \pm 5\%$<br>- 15pF load $\pm 5\%$<br>- 2 times reflow soldering<br>- 20 years aging<br>reference to nominal frequency |
| Stratum 3E compliant per GR-1244-CORE teleconcordia |  |   |      |      |                  |   |
| Power Supply  | Supply Voltage   | 3.13  | 3.3  | 3.47 | V                |   |
|   | Steady Consumption   |   |      | 300  | mA               | @ $25^{\circ}C$   |
|   | Warm-Up Time   |   |      | 5    | minutes          | @ $25^{\circ}C$ within $\pm 0.1 \times 10^{-6}$ of final frequency with reference after 1 hour on.  |
|   | Warm up current  |   |      | 600  | mA               |   |
| Phase Noise   | Phase Noise  |   | -112 | -105 | dBc/Hz           | 10Hz  |
|   |  |   | -142 | -138 |                  | 100Hz   |
|   |  |   | -158 | -154 |                  | 1KHz  |
|   |  |   | -160 | -155 |                  | 10KHz   |
|   |  |   | -160 | -155 |                  | 100KHz  |
| Environmental Conditions                            | Operable Temperature   | -40   |      | +85  | $^{\circ}C$      |   |
|   | Storage Temperature  | -55   |      | +105 | $^{\circ}C$      |   |
|   | 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~500Hz, one cycle per 30 min, test 2 hour. (3 times for each 3 directions X , Y , Z), IEC 68-2-06 Test Fc. |      |      |                  |   |
| Shock   | 50g; 11ms; 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 $^{\circ}C$  |      |      |                  |   |



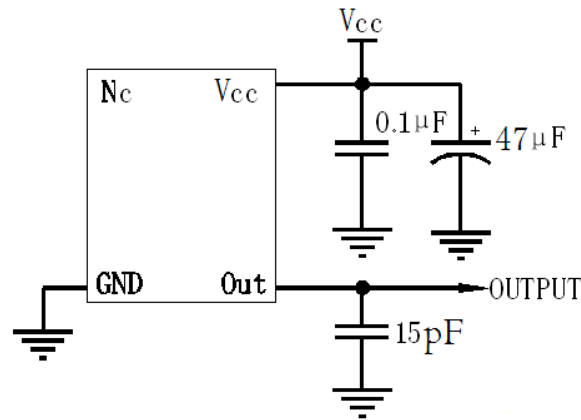
## 2、Mechanical Structure(mm)



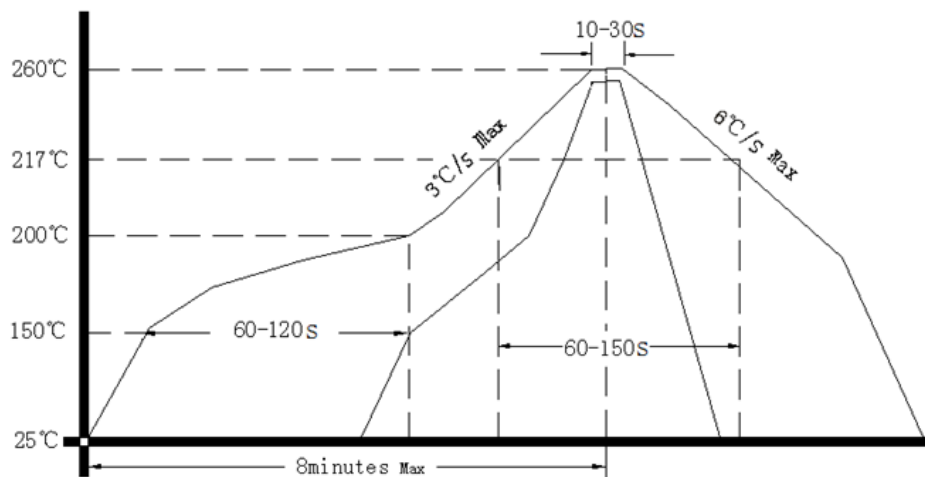
- Note1:** Tolerance  $\pm 0.2\text{mm}$  without mark
- Note2:** Referential weight 0.2g
- Note3:** NC is not connect
- Note4:** The first two xx representative: week  
After two xx representative: year



### 3、 Test Circuit



### 4、 Reflow Soldering Curve (RoHS)



Note: Passing through reflow upside down is not supported

### 5、 Package (mm)

