

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

# DATASHEET

Standard:           **O11D-W319-20.00MHz**          

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

| Plot             |         |          | The Label              |
|------------------|---------|----------|------------------------|
| Drew             | Audited | Approved | Stamp, please! Thanks! |
|                  |         |          |                        |
| Date: 2016.12.08 |         |          |                        |

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### Table of amendment

| Version | Revision contents | Prepared by  | Revised date |
|---------|-------------------|--------------|--------------|
| 1.0     | The first issued  | <i>Amway</i> | 2016.12.08   |
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## 1. Electrical Parameters

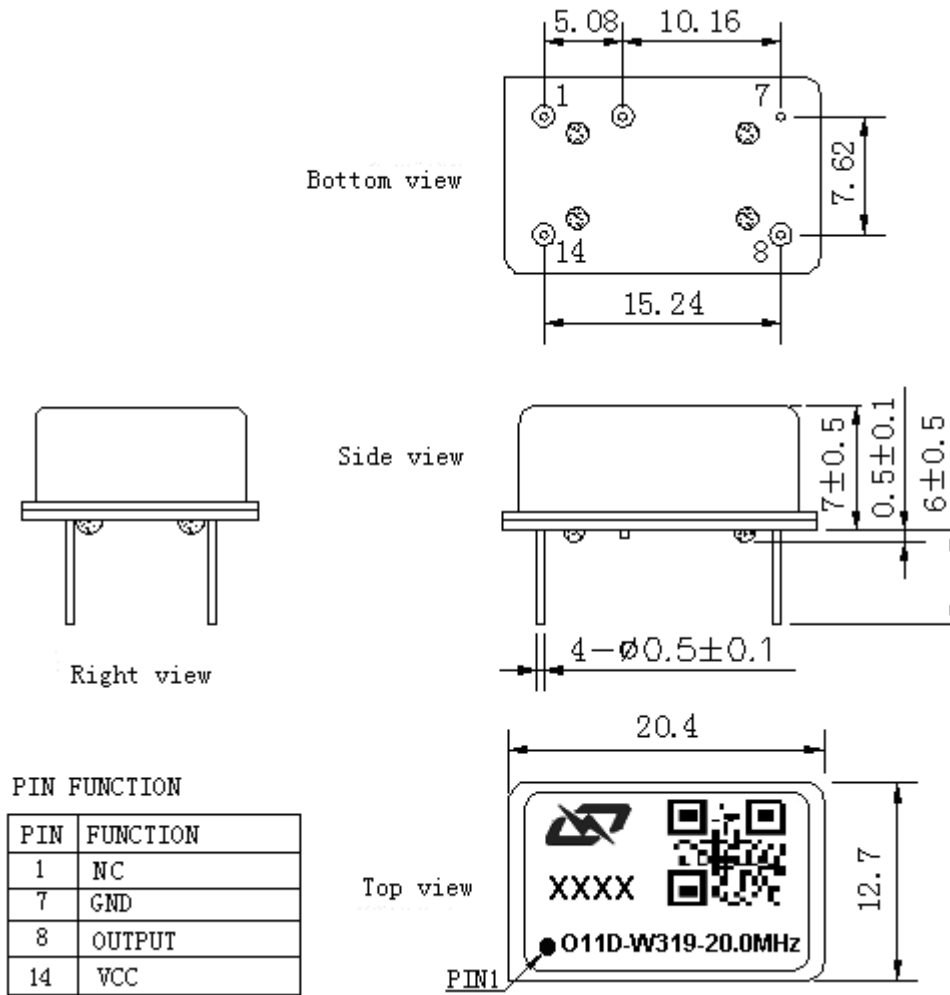
| MODEL: O11D-W319-20.00MHz |  |            |      |       |                  |  |
|---------------------------|--|------------|------|-------|------------------|--|
| Item                      | Description  | Parameters |      |       | Unit             | Test Condition   |
|                           |  | Min.       | Typ. | Max.  |                  |  |
| Output                    | Frequency  | 20.00      |      |       | MHz              |  |
|                           | Output Waveform  | HCMOS      |      |       |                  |  |
|                           | Output Low Voltage   |            |      | 0.4   | V                | $V_{cc}=3.3V, O_{load}=15pF$   |
|                           | Output High Voltage  | 2.4        |      |       | 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 (in still air) | -0.02      |      | +0.02 | $\times 10^{-6}$ | $T_A$ varied from $-40^{\circ}C$ to $105^{\circ}C$ , 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. |
|                           | 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 30 days after ex-works.   |
|                           | Frequency Tolerance vs. Supply Voltage                             | -0.01      |      | +0.01 | $\times 10^{-6}$ | 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                                       | -0.01      |      | +0.01 | $\times 10^{-6}$ | 5% load change measurement referenced to frequency observed with $T_A=25^{\circ}C, V_{cc}=3.3V$ , and $O_{Load}=15pF$ .  |
|                           | Short-Term Stability: Allan Variance                               |            |      | 0.1   | $\times 10^{-9}$ | Temperature stability, no EMI/EMC or other interference, test after power for 1hour ref. to $25^{\circ}C$ ; 1s, using PN9000 equipment.  |
|                           | Aging Tolerance Per Day  | -5         |      | +5    | $\times 10^{-9}$ | $V_{cc}, T_A$ 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   | -0.5       |      | +0.5  | $\times 10^{-6}$ |  |



|                          |  |  |      |      |        |        |
|--------------------------|--|--|------|------|--------|--------|
| Power Supply             | Supply Voltage   | 3.13   | 3.3  | 3.47 | V      |        |
|                          | Steady Consumption   |  |      | 350  | mA     | @25°C  |
|                          | Warm up current  |  |      | 750  | mA     |        |
| Phase Noise              | Phase Noise  |  | -100 | -90  | dBc/Hz | 10Hz   |
|                          |  |  | -130 | -120 |        | 100Hz  |
|                          |  |  | -145 | -140 |        | 1KHz   |
|                          |  |  | -150 | -145 |        | 10KHz  |
|                          |  |  | -150 | -145 |        | 100KHz |
|                          |  |  | -150 | -145 |        | 1MHz   |
| Environmental Conditions | Operable Temperature   | -40  |      | +105 | °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 Level   | Not humidity sensitive.  |      |      |        |        |
|                          | 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 (°C)   | -10~35°C   |      |      |        |        |



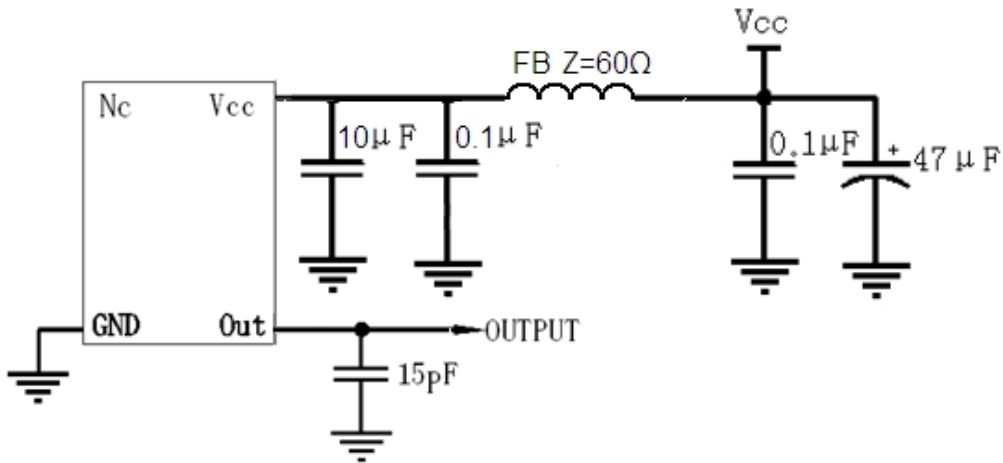
## 2. Mechanical Structure (mm)



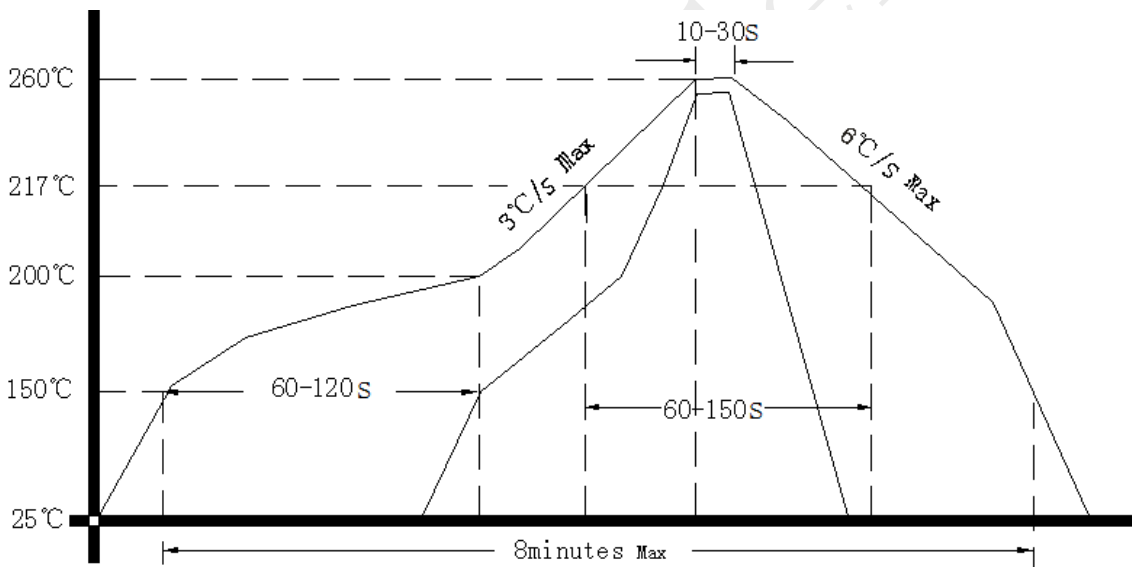
- Note1:** Tolerance ±0.2mm without mark
- Note2:** The first two xx representative: week  
After two xx representative: year
- Note3:** Referential weight 4.2g
- Note4:** NC is not connect



### 3. Test Circuit



### 4. Reflow Soldering Curve (RoHS)



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

