

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

# DATASHEET

Standard:           **O11F-X411-100.00MHz**          

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

| Plot             |         |          | The Label              |
|------------------|---------|----------|------------------------|
| Drew             | Audited | Approved | Stamp, please! Thanks! |
|                  |         |          |                        |
| Date: 2020.07.31 |         |          |                        |

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## 1. Electrical Parameters

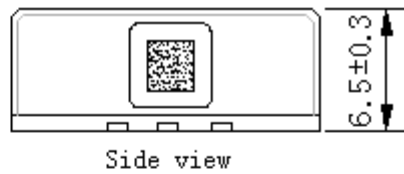
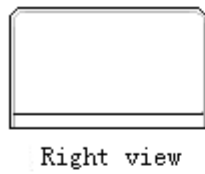
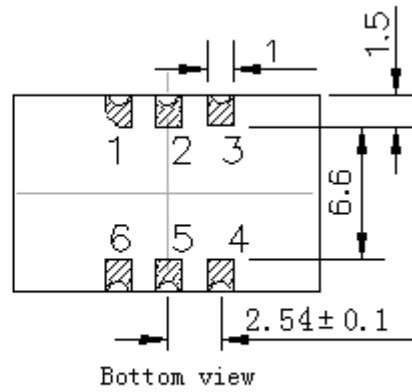
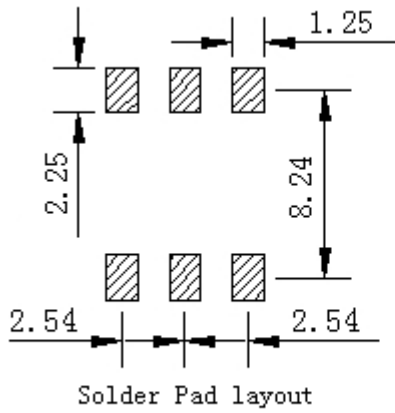
| MODEL: O11F-X411-100.00MHz |   |            |      |       |                  |   |
|----------------------------|---|------------|------|-------|------------------|---|
| Item                       | Description   | Parameters |      |       | Unit             | Test Condition  |
|                            |   | Min.       | Typ. | Max.  |                  |   |
| Output                     | Frequency   | 100.00     |      |       | MHz              |   |
|                            | Output Waveform                                     | Sine wave  |      |       |                  |   |
|                            | Level   | 6          |      |       | dBm              |   |
|                            | Load  | 50         |      |       | $\Omega$         |   |
|                            | Harmonics Suppression                               |            |      | -30   | dBc              |   |
|                            | Spurious Suppression                                |            |      | -60   | dBc              |   |
| Frequency Stabilities      | Frequency Tolerance vs. Operating Temperature Range | -0.05      |      | +0.05 | $\times 10^{-6}$ | $T_A$ varied from $-40^\circ\text{C}$ to $85^\circ\text{C}$ , measurement referenced to frequency observed with $f_{\text{ref}}=(f_{\text{max}}+f_{\text{min}})/2$ , $V_{\text{cc}}=3.3\text{V}$ , $V_c=1.65\text{V}$ , $O_{\text{load}}=50\Omega$ , temperature variable speed less than $2^\circ\text{C}$ per minute. |
|                            | Initial Frequency Tolerance                         | -0.5       |      | +0.5  | $\times 10^{-6}$ | Measurement referenced to frequency observed with $T_A=25^\circ\text{C}$ , $V_{\text{cc}}=3.3\text{V}$ , $V_c=1.65\text{V}$ and after 15 minutes of operation, within 30 days after ex-works.   |
|                            | Frequency Tolerance vs. supply voltage              | -0.05      |      | +0.05 | $\times 10^{-6}$ | measurement referenced to frequency observed $T_A=25^\circ\text{C}$ , $V_{\text{cc}}$ varied from 3.13V to 3.47V, $V_c=1.65\text{V}$ , $O_{\text{load}}=50\Omega$ .   |
|                            | Frequency Tolerance vs. Load                        | -0.05      |      | +0.05 | $\times 10^{-6}$ | 5% Load Change Measurement referenced to frequency observed with $T_A=25^\circ\text{C}$ , $V_{\text{cc}}=3.3\text{V}$ , $V_c=1.65\text{V}$ , $O_{\text{load}}=50\Omega$ .   |
|                            | Short Term Stability                                |            |      | 0.1   | $\times 10^{-9}$ | Temperature stability, no EMI\EMC or other interference, test after power for 1hour ref. to $25^\circ\text{C}$ ; 1s.  |
|                            | Aging Tolerance per day                             | -0.02      |      | +0.02 | $\times 10^{-6}$ | $V_{\text{cc}}, V_c, T_A$ constant Measurement referenced to frequency observed with $T_A=25^\circ\text{C}$ , $V_{\text{cc}}=3.3\text{V}$ , $V_c=1.65\text{V}$ , $O_{\text{load}}=50\Omega$ and after 30 days of operation.   |
|                            | Aging Tolerance 1Year                               | -1.0       |      | +1.0  | $\times 10^{-6}$ |   |



|                                 |   |  |      |      |                  |  |
|---------------------------------|---|--|------|------|------------------|--|
| Power Supply                    | Supply Voltage  | 3.13   | 3.3  | 3.47 | V                |  |
|                                 | Current Consumption   |  |      | 300  | mA               | @25°C  |
|                                 | Current Consumption during warm up  |  |      | 600  | mA               |  |
|                                 | Warm-Up Time  |  |      | 5    | min              | @25°C within $\pm 0.1 \times 10^{-6}$ of final frequency with reference after 1 hour on. |
| Voltage Control Characteristics | Frequency Tuning Range  | -12  |      | -7   | $\times 10^{-6}$ | $V_c=0V$ . measurement referenced to $V_c=1.65V$ .                                       |
|                                 |   | -0.5   |      | +0.5 | $\times 10^{-6}$ | $V_c=1.65V$ . measurement referenced to exactly 100.00MHz.                               |
|                                 |   | +7   |      | +12  | $\times 10^{-6}$ | $V_c=3.3V$ . measurement referenced to $V_c=1.65V$ .                                     |
|                                 | Linearity   |  |      | 10   | %                |  |
|                                 | Slope   | Positive   |      |      |                  |  |
|                                 | Input Impedance   | 100  |      |      | K $\Omega$       |  |
| Phase Noise                     | Phase Noise   |  | -85  | -75  | dBc/Hz           | 10Hz   |
|                                 |   |  | -120 | -110 |                  | 100Hz  |
|                                 |   |  | -145 | -140 |                  | 1KHz   |
|                                 |   |  | -155 | -150 |                  | 10KHz  |
|                                 |   |  | -155 | -150 |                  | 100KHz   |
|                                 |   |  | -155 | -150 |                  | 1MHz   |
|                                 |   |  | -155 | -150 |                  |  |
| Environmental Conditions        | Operable Temperature  | -40  |      | +85  | °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; 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 (°C)  | -10~35°C   |      |      |                  |  |

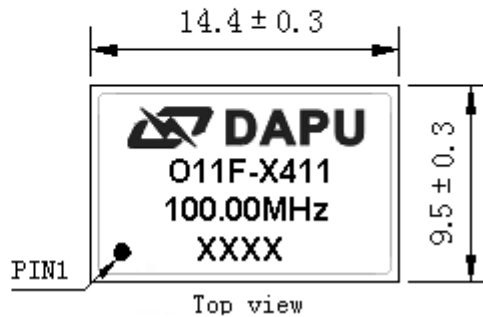


## 2. Mechanical Structure (mm)



### PIN FUNCTION

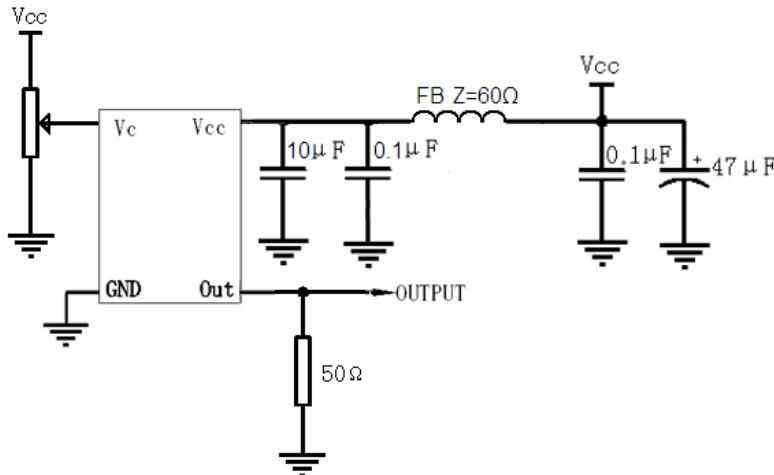
| PIN | NOTATION | FUNCTION        |
|-----|----------|-----------------|
| 1   | VC       | Control Voltage |
| 2,5 | NC       | Not Connect     |
| 3   | GND      | GND             |
| 4   | OUTPUT   | RF Output       |
| 6   | VCC      | Supply Voltage  |



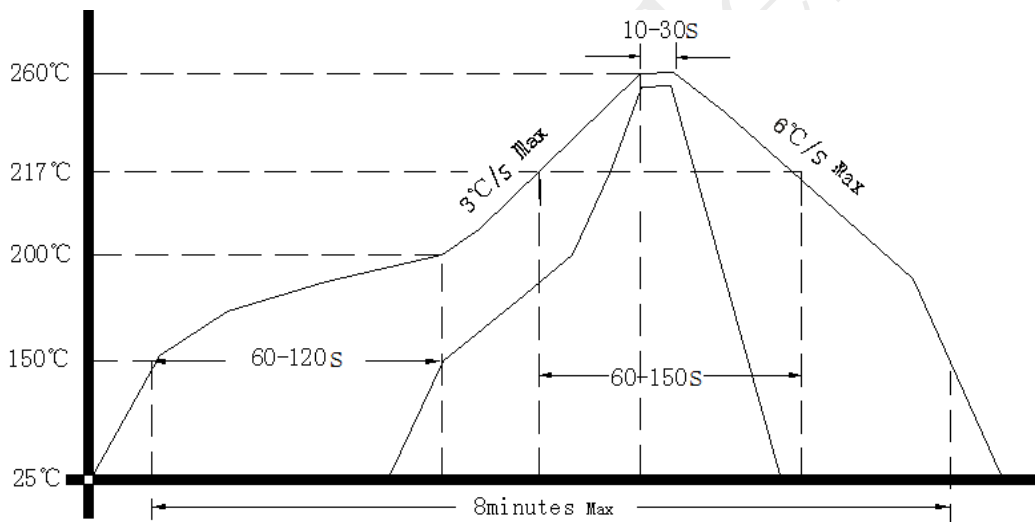
- Note1:** Tolerance  $\pm 0.2\text{mm}$  without mark
- Note2:** The first two xx representative: week  
After two xx representative: year
- Note3:** Referential weight 2.2g
- Note4:** NC is not connect



### 3. Test Circuit



### 4. Reflow Soldering Curve (RoHS)



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

