

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

# DATASHEET

Standard:           **M11A-R319-24.00MHz**          

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

| Plot             |         |          | The Label |
|------------------|---------|----------|-----------|
| Drew             | Audited | Approved |           |
|                  |         |          |           |
| Date: 2012.08.07 |         |          |           |

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### Table of amendment

| Version | Revision contents | Prepared by  | Revised date |
|---------|-------------------|--------------|--------------|
| 1.0     | The first issued  | <i>Amway</i> | 2012.08.07   |
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## 1. Electrical Parameters

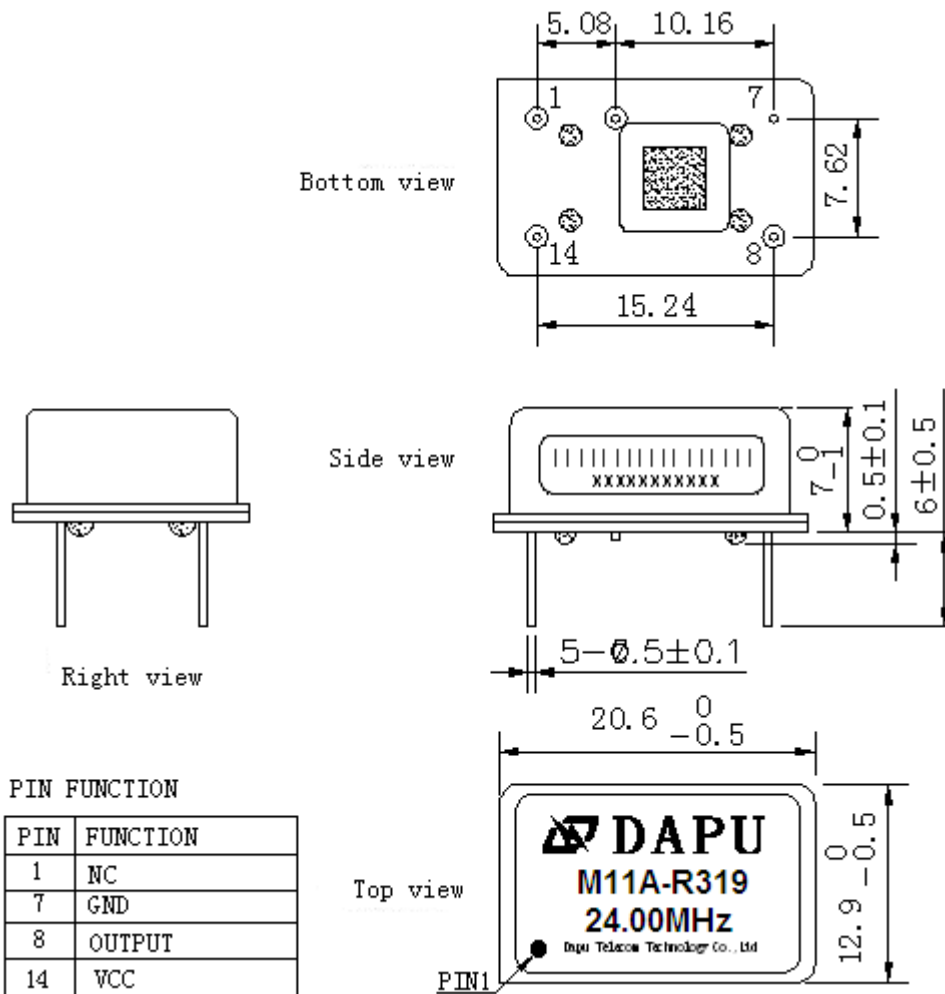
| MODEL: M11A-R319-24.00MHz |   |            |      |       |                  |  |
|---------------------------|---|------------|------|-------|------------------|--|
| Item                      | Description   | Parameters |      |       | Unit             | Test Condition   |
|                           |   | Min.       | Typ. | Max.  |                  |  |
| Output                    | Frequency   | 24.00      |      |       | MHz              |  |
|                           | Output Waveform                                     | HCMOS      |      |       |                  |  |
|                           | Output Low Voltage                                  |            |      | 0.4   | V                | $V_{cc}=3.3V, O_{load}=15\text{ pF}$   |
|                           | Output High Voltage                                 | 2.4        |      |       | V                | $V_{cc}=3.3V, O_{load}=15\text{ pF}$   |
|                           | Duty Cycle  | 45         | 50   | 55    | %                | @50%   |
|                           | Rise / Fall Time<br>(10%~90%)                       |            |      | 5     | ns               | @25°C  |
|                           | Load  | 15         |      |       | pF               |  |
| Frequency Stabilities     | Frequency Tolerance vs. Operating Temperature Range | -0.5       |      | +0.5  | $\times 10^{-6}$ | $T_A$ varied from -30°C to 75°C, measurement referenced to frequency observed with $T_A = 25^\circ\text{C}, V_{cc} = 3.3V, O_{load} = 15\text{ pF}$ , temperature variable speed less than 2°C per minute. |
|                           | Initial Frequency Tolerance                         | -1         |      | +1    | $\times 10^{-6}$ | Measurement referenced to frequency observed with $T_A = 25^\circ\text{C}, V_{cc} = 3.3V$ within 30 days after ex-works.   |
|                           | Frequency Tolerance vs. Supply Voltage              | -0.2       |      | +0.2  | $\times 10^{-6}$ | measurement referenced to frequency observed $T_A=25^\circ\text{C}, V_{cc}$ varied from 3.13V to 3.47V, and $O_{Load} = 15\text{ pF}$ .  |
|                           | Frequency Tolerance vs. Load                        | -0.2       |      | +0.2  | $\times 10^{-6}$ | 5% load change measurement referenced to frequency observed with $T_A = 25^\circ\text{C}, V_{cc}=3.3V, O_{Load} = 15\text{ pF}$ .  |
|                           | Aging Tolerance Per Day                             | -0.02      |      | +0.02 | $\times 10^{-6}$ | $T_A=25^\circ\text{C}, V_{cc}=3.3V$ , and after 1h of operation.   |
|                           | Aging Tolerance 1 Year                              | -1         |      | +1    | $\times 10^{-6}$ |  |
| Power Supply              | Current Consumption                                 |            |      | 10    | mA               | @25°C, $V_{cc}=3.3V, O_{load}=15\text{ pF}$ .  |
|                           | Supply Voltage                                      | 3.13       | 3.3  | 3.47  | V                |  |



|                          |   |  |      |      |        |        |
|--------------------------|---|--|------|------|--------|--------|
| Phase Noise              | Phase Noise   |  | -80  | -75  | dBc/Hz | 10Hz   |
|                          |   |  | -108 | -103 |        | 100Hz  |
|                          |   |  | -133 | -128 |        | 1KHz   |
|                          |   |  | -145 | -140 |        | 10KHz  |
|                          |   |  | -150 | -145 |        | 100KHz |
|                          |   |  | -150 | -145 |        | 1MHz   |
| Environmental Conditions | Operable Temperature  | -30  |      | +75  | °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~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. |  |      |      |        |        |



## 2. Mechanical Structure(mm)



PIN FUNCTION

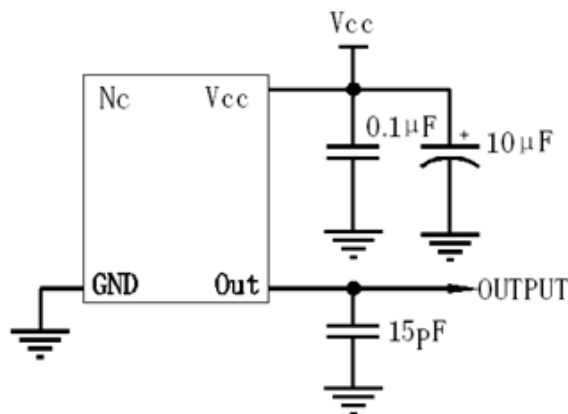
| PIN | FUNCTION |
|-----|----------|
| 1   | NC       |
| 7   | GND      |
| 8   | OUTPUT   |
| 14  | VCC      |

**Note1:** Tolerance  $\pm 0.2$ mm without mark

**Note2:** Referential Weight 4.2g

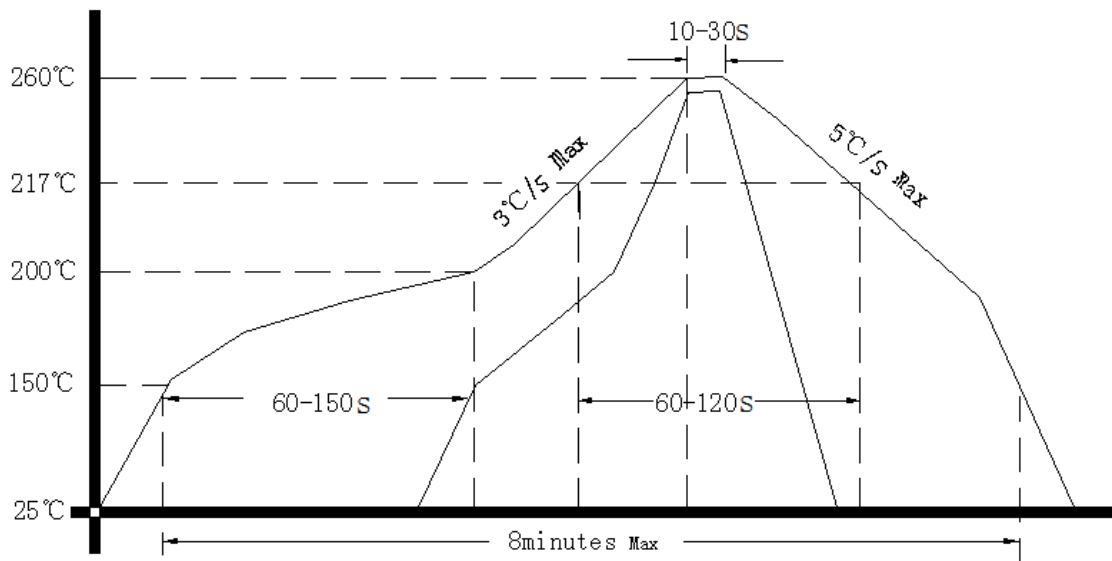
**Note3:** NC is not connect

## 3. Test circuit





#### 4. Reflow Soldering Curve (RoHS)



#### 5. Package: PVC Tube,10pcs (mm)

