Travelling Merchant:_____

# DATASHEET

Standard: **CM55F-K122-10.00MHz**

P/N: **CM-0007**

| Plot | | | The Label |
|---|---|---|---|
| Drew | Audited | Approved | |
| Amway.wei | Steven.Sun | James.Liu | |
| Date: 2009.11.16 | | | Stamp, please! Thanks! |


## Guangdong Dapu Telecom Technology Co.,Ltd

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# Table of amendment

| Version | Revision contents | Prepared by | Revised date |
|---|---|---|---|
| 1.0 | The first issued | Amway | 2009.11.16 |
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# 1. Electrical Parameters

| | | | | | | |
|---|---|---|---|---|---|---|
| 1 PPS Reference Input | Parameters | Min. | Typ. | Max. | Unit. | Test Condition |
| | Waveform | | HCMOS | | | |
| | High-Level Output Voltage ($V_{IH}$) | 2.7 | | | V | 50Ω |
| | Low-Level Output Voltage ($V_{IL}$) | | | 0.4 | V | |
| | Pulse Width | 10 | | | μs | |
| | Connector | | Pin 10 | | | |
| | | | | | | |
| State Input | Parameters | Min. | Typ. | Max. | Unit. | Test Condition |
| | Lock | 2.7 | | | V | <5mA Load |
| | Holdover | | | 0.4 | V | <5mA Load |
| | Connector | | Pin 8 | | | |
| | | | | | | |
| RF Output | Parameters | Min. | Typ. | Max. | Unit. | Test Condition |
| | Nominal Frequency | | 10.00 | | MHz | |
| | Waveform | | HCMOS | | | |
| | High-level Output Voltage ($V_{OH}$) | 2.7 | | | V | < 0.5mA Load |
| | Low-level Output Voltage ($V_{OL}$) | | | 0.4 | V | < 0.5mA Load |
| | Rise/Fall Time | | | 8 | ns | Load 15pF |
| | Duty Cycle | 45 | 50 | 55 | % | Load 15pF |
| | Accuracy | -1 | | +1 | $\times10^{-12}$ | 24 hours average when locked to 1 PPS |
| | Short-term Stability | | | 0.02 | $\times10^{-9}$ | Temperature stability, no EMI\EMC or other interference, test after power for 1 hour ref. to 25℃; 1s, using PN9000 equipment. |
| | Aging Tolerance Per Day | -0.2 | | +0.2 | $\times10^{-9}$ | $V_{cc}$,$T_A$ constant measurement referenced to frequency observed with $T_A$=25℃,$V_{cc}$=5.0V, in FREE RUN condition and after 30 days of operation. |
| | Aging Tolerance 1 Year | -0.01 | | +0.01 | $\times10^{-6}$ | |
| | Phase Noise (All conditions) | | -118 | -113 | dBc/Hz | 10Hz |
| | | | -138 | -133 | | 100Hz |
| | | | -148 | -143 | | 1KHz |
| | | | -150 | -145 | | 10KHz |
| | | | -150 | -145 | | 100KHz |
| | | | -150 | -150 | | 1MHz |
| | Connector | | Pin 14 | | | |

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| | | | | | | |
|---|---|---|---|---|---|---|
| Holdover Capability | Holdover Time | Min. | Typ. | Max. | Unit. | Test Condition |
| | 24 Hours | -1.5 | | +1.5 | μs | ΔT=±2℃, 24 hours holdover after turn on 7days |
| | | | | | | |
| Supply Voltage | Parameters | Min. | Typ. | Max. | Unit. | Test Condition |
| | Supply Voltage | 4.75 | 5.0 | 5.25 | V | |
| | Current Consumption | | | 1400 | mA | During Warm-up |
| | | | | 600 | mA | During steady state operation @25℃ |
| | AC Ripple | | | 50 | mVpk-pk | 10Hz to 1MHz |
| | Connector | Pin 3 | | | | |
| | | | | | | |
| 1 PPS Output Waveform Characteristics | Parameters | Min. | Typ. | Max. | Unit. | Test Condition |
| | Waveform | HCMOS | | | | |
| | High-Level Output Voltage($V_{OH}$ ) | 2.7 | | | V | 50Ω |
| | Low-level Output voltage ($V_{OL}$) | | | 0.4 | V | |
| | Pulse Width | | 10 | | μs | |
| | Connector | Pin 12 | | | | |
| | | | | | | |
| State Output | Parameters | Min. | Typ. | Max. | Unit. | Test Condition |
| | Lock | 2.7 | | | V | <5mA Load |
| | Holdover | | | 0.4 | V | <5mA Load |
| | Connector | Pin 5 | | | | |
| | | | | | | |
| Serial Interfaces | Parameters | Min. | Typ. | Max. | Unit. | Test Condition |
| | Rx high-level Input Voltage (VH ) | 2.7 | | | V | |
| | Rx low-level Input Voltage (VL) | | | 0.4 | V | |
| | Tx high-level Output Voltage (VH ) | 2.7 | | | V | |
| | Tx low-level Output Voltage (VL) | | | 0.4 | V | |
| | Serial Protocol | 9600-N-8-1 | | | | |
| | Connector | Pin6 and Pin7 | | | | |
| | | | | | | |
| Environmental Conditions | Parameter | Conditions | | | | |
| | Operating Temperature | -10℃ to 70℃ | | | | |
| | Storage Temperature | -55℃ to 105℃ | | | | |
| | Storage Humidity | 30%~80% | | | | |
| | 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. | | | | |

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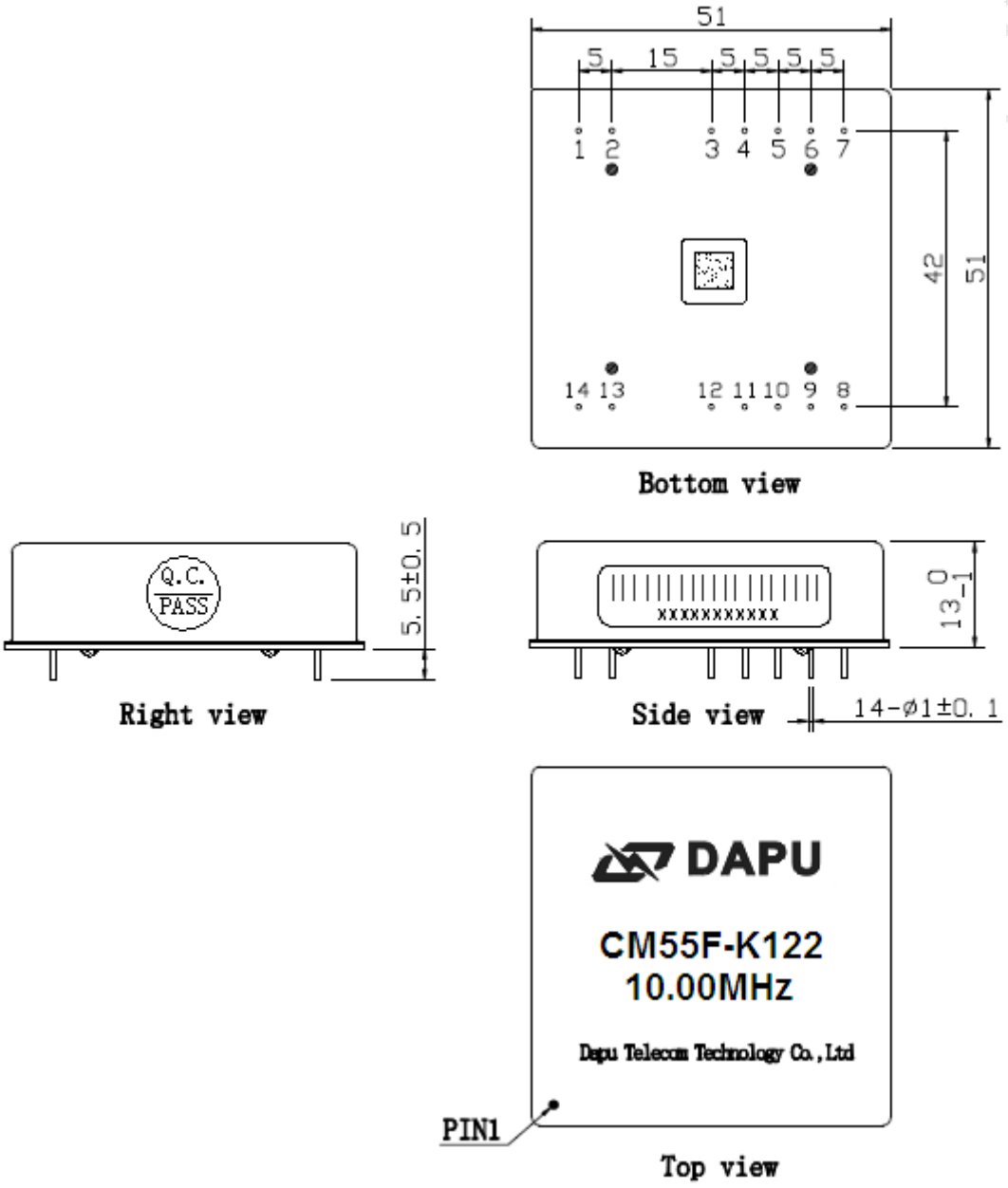
| | | |
|---|---|---|
| Environmental Compliance | Parameter | Conditions |
| | Mechanical Shock | MIL-STD-2002, Method 213 condition B |
| | Mechanical Vibration | MIL-STD-2002, Method 204 condition A |
| | Resistance To Solvents | MIL-STD-2002, Method 215 |

## 2. Mechanical Structure(mm)




**Note1:** Tolerance ± 0.2mm without mark

**Note2:** Referential Weight 52±5g

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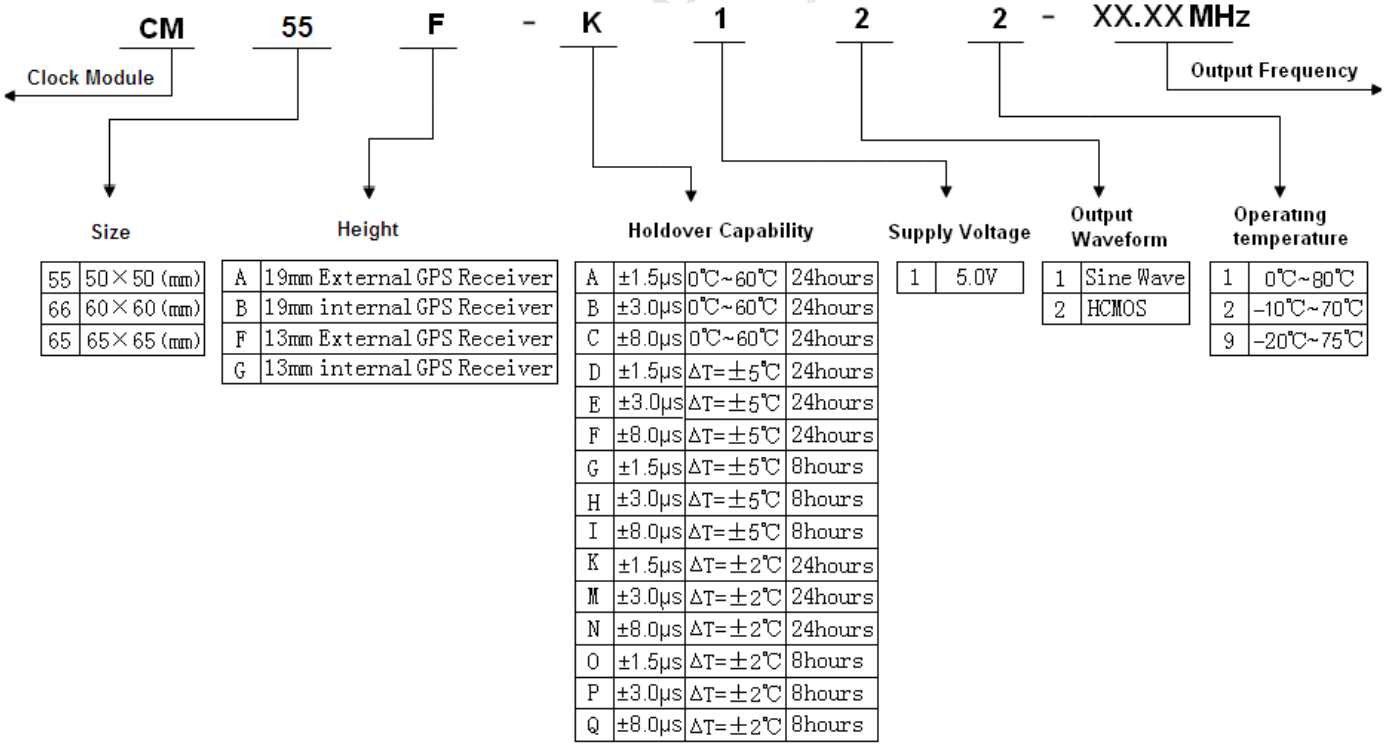
| PIN DEFINITION | | | |
|---|---|---|---|
| **PIN** | **NAME** | | **DESCRIPTION** |
| 3 | VCC | | Power supply input, 4.75V to 5.25V. |
| 5 | State OUTPUT | | State output. Output high level when the CM is locked and stable, others low level. |
| 6 | RX INPUT | | Asynchronous serial data input. 9600-N-8-1. |
| 7 | TX OUTPUT | | Asynchronous serial data output.9600-N-8-1. |
| 8 | State INPUT | H: Lock | The work state is set to normal operation when the state input is high. |
| | | L: Holdover | The work state is set to hold over when the state input is low. |
| 10 | PP1S INPUT | | PP1S reference input. |
| 12 | PP1S OUTPUT | | The clock module PP1S output . |
| 14 | 10MHz OUTPUT | | 10MHz OCXO frequency output . |
| 1、2、9 | NC | | Not connected. |
| 4、11、13 | GND | | GND |

## 3. Coding Rules



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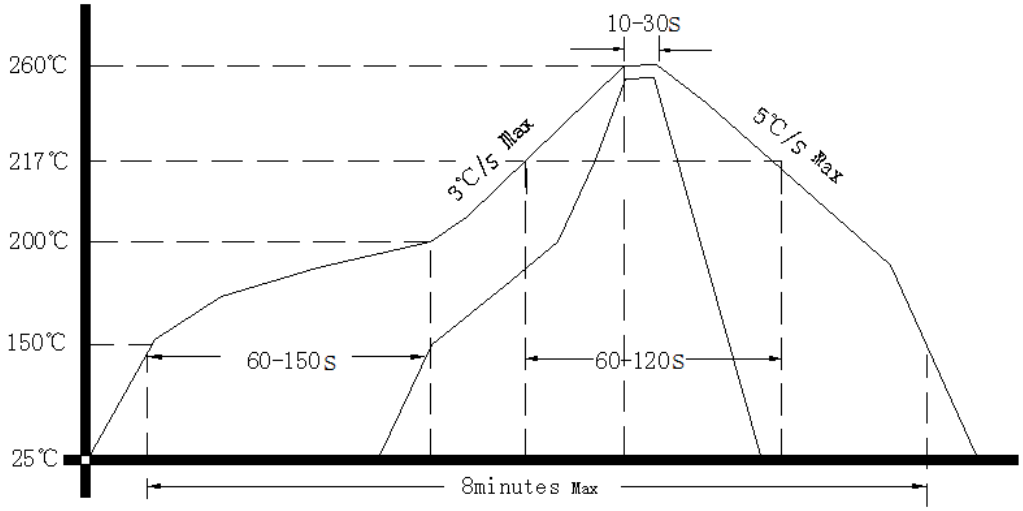
## 4. Reflow Soldering Curve (RoHS)




## 5. Package（mm）