Travelling Merchant: A016

# DATASHEET

Standard: **VC936B-AEAD-61.44MHz**

| Plot | | | The Label |
|---|---|---|---|
| Drew | Audited | Approved | Stamp, please! Thanks! |
| Amway.wei | Tina.Tang | James.Liu | |
| Date: 2012.11.29 | | | |


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## 1. Electrical Parameters

| **MODEL：VC936B-AEAD-61.44MHz** | | | | | | |
|---|---|---|---|---|---|---|
| Item | Description | Parameters | | | Unit | Test Condition |
| | | Min. | Typ. | Max. | | |
| Output | Frequency | | 61.44 | | MHz | |
| | Output Waveform | | LVPECL | | | |
| | Output Low Voltage | | | 1.8 | V | @25℃, $V_{cc}$=3.3V(see the following chart 3) |
| | Output High Voltage | 2.2 | | | V | @25℃, $V_{cc}$=3.3V(see the following chart 3) |
| | Duty Cycle | 45 | 50 | 55 | % | @50%, measurement at Vc=1.65V |
| | Rise / Fall Time (20%~80%) | | | 1 | ns | @25℃ |
| | Load | | 50 | | Ω | Connect to VCC-2.0V |
| | Jitter | | | 1 | ps | RMS (12KHz ~20MHz) |
| Frequency Stabilities | Frequency Tolerance vs. Operating Temperature Range | -30 | | +30 | $\times 10^{-6}$ | $T_A$ varied from -40℃ to85℃, measurement referenced to frequency observed with $T_A$= 25℃, $V_{CC}$=3.3V, $V_C$=1.65V, $O_{load}$=50Ω Connect to VCC-2.0V. |
| | Initial Frequency Tolerance | -15 | | +15 | $\times 10^{-6}$ | Measurement referenced to frequency observed with $T_A$= 25℃, $V_{cc}$=3.3V, $V_C$ =1.65V, and after 15 minutes of operation, within 30 days after ex-works. |
| | Frequency Tolerance vs. Supply Voltage | -5 | | +5 | $\times 10^{-6}$ | measurement referenced to frequency observed $T_A$=25℃, $V_{cc}$ varied from 3.13V to 3.47V, $V_C$ =1.65V and $O_{Load}$=50Ω Connect to VCC-2.0V. |
| | Frequency Tolerance vs. Load | -1 | | +1 | $\times 10^{-6}$ | 5% load change measurement referenced to frequency observed with $T_A$=25℃, $V_{CC}$=3.3V, $V_C$=1.65V and $O_{Load}$=50Ω Connect to VCC-2.0V. |
| | Aging Tolerance 1 Year | -3 | | +3 | $\times 10^{-6}$ | $V_{cc}$, $V_C$, $T_A$ constant measurement referenced to frequency observed with $T_A$ = 25℃, $V_{cc}$= 3.3V, $V_C$ =1.65V,and after 30 days of operation. |
| Power Supply | Current Consumption | | 65 | | mA | @25℃, without load |
| | Supply Voltage | +3.13 | +3.3 | +3.47 | V | |

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| | | | | | | |
|---|---|---|---|---|---|---|
| Voltage Control Characteristics | Frequency Tuning Range | -160 | | -60 | $\times 10^{-6}$ | $V_C$= 0V. measurement referenced to $V_C$=1.65V |
| | | -15 | | +15 | $\times 10^{-6}$ | $V_C$=1.65V. measurement referenced to exactly 61.44MHz |
| | | +60 | | +160 | $\times 10^{-6}$ | $V_C$=3.3V. measurement referenced to $V_C$=1.65V |
| | Linearity | | | 20 | % | |
| | Slope | Positive | | | | |
| | Input Impedance | 1 | | | MΩ | |
| Phase Noise | Phase Noise | | -75 | | dBc/Hz | 10Hz |
| | | | -105 | | | 100Hz |
| | | | -130 | | | 1KHz |
| | | | -138 | | | 10KHz |
| | | | -140 | | | 100KHz |
| | | | -145 | | | 1MHz |
| Environmental Conditions | Operable Temperature | -40 | | +85 | ℃ | |
| | Storage Temperature | -55 | | +125 | ℃ | |
| | 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). | | | | |
| | Shock | 100g；6ms；half sine wave (3 times for each 3 directions X ,Y, Z ),IEC 68-2-27 Test Ea/Severity 50A. | | | | |
| | Drop | Test Condition: free drop on steel-made surface or rigid plane from a height of 100cm, IEC 68-2-32. | | | | |

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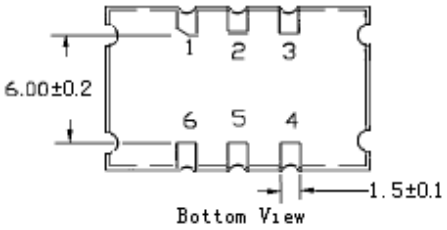
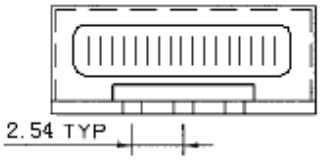
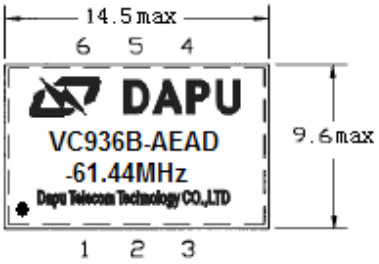
## 2. Mechanical Structure (mm)








PIN FUNCTION

| | |
|---|---|
| 1 | VOLTAGE CONTROL |
| 2 | E/D |
| 3 | GND |
| 4 | OUTPUT |
| 5 | $\overline{\text{OUTPUT}}$ |
| 6 | $V_{CC}$ |

Note1: Referential Weight 0.9g

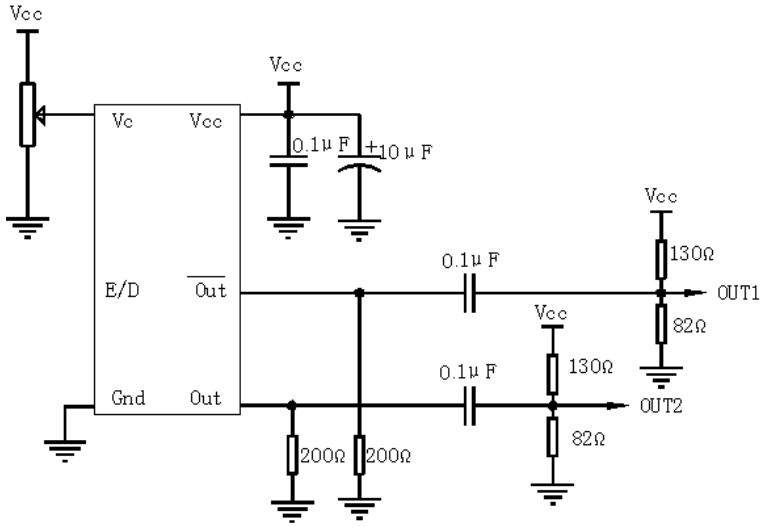
Note2： Enable/ Disable

Input Level: Vih≥$V_{CC}$-1.025V

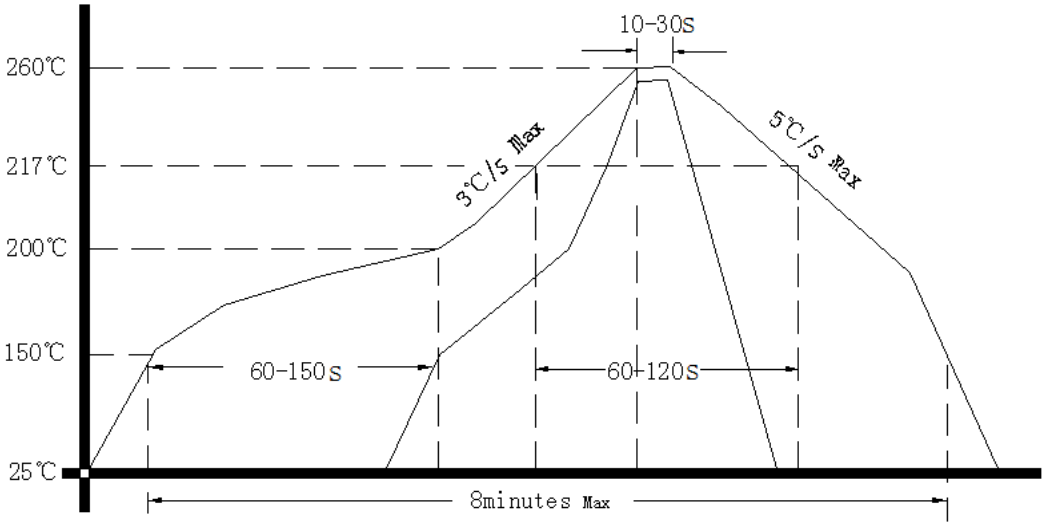
Vil≤$V_{CC}$-2.0V

| E/D | OUT1 | OUT2 |
|---|---|---|
| Low Level, Open | Data | Data |
| High Level | Logic low | Logic high |

## 3. Test Circuit




## 4. Reflow Soldering Curve (RoHS)



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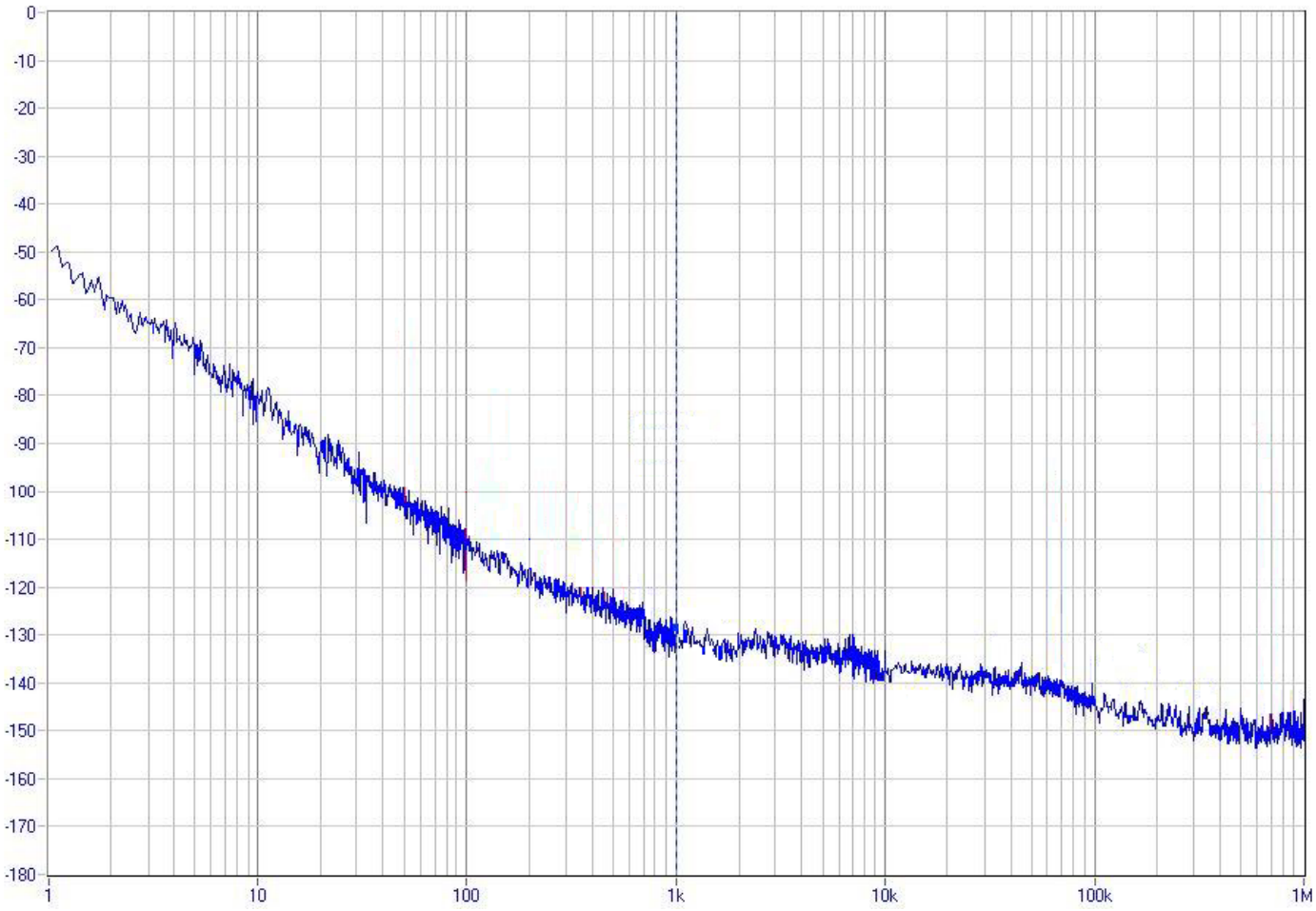
## 5. Phase Noise




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