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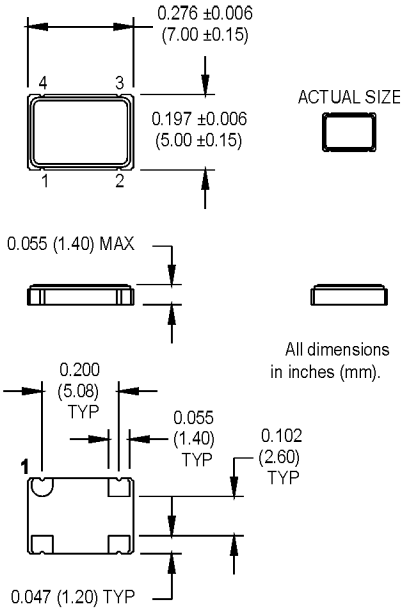
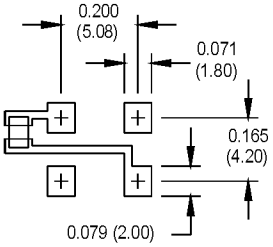
# M2035, M2036, and M2037 Series 5.0 x 7.0 x 1.4 mm HCMOS Compatible Surface Mount Oscillators

- ±20 ppm stability
- Tri-state or standby function
- Ideal for WLAN and IEEE802.11 Applications
- Low power applications




SUGGESTED SOLDER PAD LAYOUT




## Pin Connections

| PIN | FUNCTION |
|---|---|
| 1 | Tri-state/Standby |
| 2 | Ground |
| 3 | Output |
| 4 | +Vdd |

**Ordering Information**

M203X D 8 Q C N 00.0000 MHz

Product Series
M2035 = 2.85V
M2036 = 3.0V
M2037 = 3.3V

Temperature Range
D: -10°C to +70°C
6: -20°C to +70°C
2: -40°C to +85°C

Stability
3: ±100 ppm 4: ±50 ppm
6: ±25 ppm 8: ±20 ppm*

Output Type
Q: Standby Function
T: Tri-state

Symmetry/Logic Compatibility
C: 45/55 HCMOS G: 40/60 HCMOS

Package/Lead Configurations
N: Leadless

Frequency (customer specified)

*-10°C to +70°C only

| | PARAMETER | Symbol | Min. | Typ. | Max. | Units | Condition |
|---|---|---|---|---|---|---|---|
| Electrical Specifications | Frequency Range | F | 1.5 | | 125 | MHz | See Note 1 |
| | Frequency Stability | ΔF/F | | | ±20 | ppm | See Note 2 |
| | Operating Temperature | $T_A$ | (See Ordering Information) | | | | |
| | Input Voltage | Vdd | 3.15 | 3.3 | 3.45 | V | 3.3V |
| | | | 2.85 | 3.0 | 3.15 | V | 3.0V |
| | | | 2.7 | 2.85 | 3.0 | V | 2.85V |
| | Input Current | Idd | | | | | |
| | 1.500 to 20.000 MHz | | | | 15 | mA | 3.3V |
| | 20.001 to 50.000 MHz | | | | 20 | mA | |
| | 50.001 to 67.000 MHz | | | | 30 | mA | |
| | 67.001 to 125.000 MHz | | | | 55 | mA | |
| | Symmetry (Duty Cycle) | | 45 | | 55 | % | ½ Vdd |
| | Rise/Fall Time | Tr/Tf | | | | | See Note 2 |
| | 80.000 MHz | | | | 4 | ns | 10% to 90% Vdd |
| | 22.000 to 44.000 MHz | | | | 6 | ns | 10% to 90% Vdd |
| | Logic "1" Level | Voh | 90% Vdd | | | V | |
| | Logic "0" Level | Vol | | | 10% Vdd | V | |
| | Output Current | Ioh | -2 | | | mA | |
| | | Iol | +2 | | | mA | |
| | Output Load | | | | 15 | pF | |
| | Start-up Time | | | | 5 | ms | |
| | Standby Current | | | | 10 | µA | |
| | Tri-State/Standby Function | | Pin 1 high or floating: clock signal output<br>Pin 1 low: output disables to high impedance | | | | |
| | Output Disable Time | | | | 150 | ns | |
| | Output Enable Time | | | | 5 | ms | |
| Environmental | Mechanical Shock | | Per MIL-STD-202, Method 213, Condition C | | | | |
| | Vibration | | Per MIL-STD-202, Method 201 & 204 | | | | |
| | Reflow Solder Conditions | | +260°C for 10 seconds max. | | | | |
| | Hermeticity | | Per MIL-STD-202, Method 112 (1 x $10^{-3}$ atm.cc/s of helium) | | | | |
| | Solderability | | Per EIAJ-STD-002 | | | | |

1. Consult factory for available frequencies in this range
2. Inclusive of calibration, deviation over temperature, supply voltage change, load change, shock, vibration,

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