CONNOR WINFIELD

*THE CONNOR-WINFIELD CORP.*
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RoHS COMPLIANT

PRODUCT DATA SHEET

# CRYSTAL CONTROLLED OSCILLATORS

## SURFACE MOUNT 3.3V LVPECL CLOCK






### ABSOLUTE MAXIMUM RATINGS

TABLE 1.0

| PARAMETER | UNITS | MINIMUM | NOMINAL | MAXIMUM | UNITS | NOTE |
|---|---|---|---|---|---|---|
| Storage Temperature | | -40 | - | 85 | °C | |
| Supply Voltage | (Vcc) | -0.5 | - | 7.0 | Vdc | |

### OPERATING SPECIFICATIONS

TABLE 2.0

| PARAMETER | | MINIMUM | NOMINAL | MAXIMUM | UNITS | NOTE |
|---|---|---|---|---|---|---|
| Center Frequency | (Fo) | 200 | - | 350 | MHz | |
| Total Frequency Tolerance | | -50 | - | 50 | ppm | 1 |
| Operating Temperature Range | | 0 | - | 70 | °C | |
| Supply Voltage | (Vcc) | 3.135 | 3.3 | 3.465 | Vdc | |
| Supply Current | (Icc) | - | - | 80 | mA | |
| Jitter (BW=10Hz to 20MHz) | | - | - | 8 | pS RMS | |
| Jitter (BW=12kHz to 20MHz) | | - | - | 3 | pS RMS | |

### INPUT CHARACTERISTICS

TABLE 3.0

| PARAMETER | | MINIMUM | NOMINAL | MAXIMUM | UNITS | NOTE |
|---|---|---|---|---|---|---|
| Disable Input Voltage (High) | (Vih) | 2.275 | - | - | Vdc | 2 |
| Enable Input Voltage (Low) | (Vil) | - | - | 1.68 | Vdc | 2 |

### PECL OUTPUT CHARACTERISTICS

TABLE 4.0

| PARAMETER | | MINIMUM | NOMINAL | MAXIMUM | UNITS | NOTE |
|---|---|---|---|---|---|---|
| LOAD | | - | - | 50 | Ohms | 3 |
| Voltage (High) | (Voh) | 2.275 | - | - | Vdc | |
| (Low) | (Vol) | - | - | 1.68 | Vdc | |
| Duty Cycle | | 45 | 50 | 55 | % | 4 |
| Rise / Fall Time 20% to 80% | | - | - | 1 | nS | |

### PACKAGE CHARACTERISTICS

TABLE 5.0

| | |
|---|---|
| Package | Non-hermetic package consisting of an FR4 substrate with grounded metal cover. |

### PROCESS RECOMMENDATIONS

TABLE 6.0

| | |
|---|---|
| Solder Reflow | The component solder used internal to this device has a melting point of 221°C. The peak temperature inside the device should be less than or equal to 220°C for a maximum of 10 seconds |
| Wash | Ultrasonic cleaning is not recommended. |

Notes
1) Includes initial tolerance, deviation over temperature, supply and load variations, shock, vibration and 20 years aging.
2) When the oscillator is disabled, the true output is in a low state (Vol) and the complementary output is in the high state (VoH).
3) Output must be terminated into 50 ohms to Vcc – 2V or Thevenin equivalent.
4) Duty Cycle measured at 1.977V

## FPLD52TBXG

### DESCRIPTION

The Connor-Winfield FPLD52TBXG is a fixed frequency, surface mount Crystal Controlled Oscillator (XO) designed for applications requiring low jitter and a ±50ppm overall stability. Operating at 3.3V supply voltage, the FPLD52TBXG provides LVPECL Differential Outputs with Enable/Disable function.

### FEATURES

3.3V OPERATION

LVPECL DIFFERENTIAL OUTPUTS

ENABLE / DISABLE FUNCTION PAD 2

OVERALL FREQUENCY TOLERANCE: ±50ppm

TEMPERATURE RANGE: 0 to70°C

SURFACE MOUNT PACKAGE

TAPE AND REEL PACKAGING

RoHS COMPLIANT / LEAD FREE

### ORDERING INFORMATION

FPLD52TBXG - 312.5MHz

FPLD52TBXG: LVPECL CLOCK SERIES

312.5MHz: CENTER FREQUENCY

Specifications subject to change without notice.



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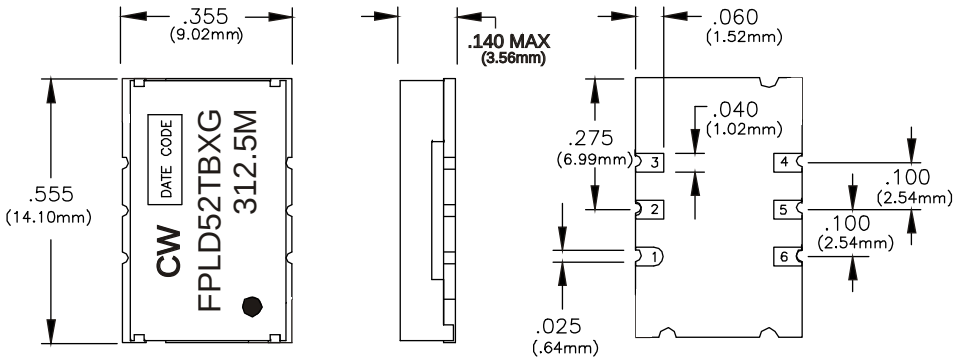
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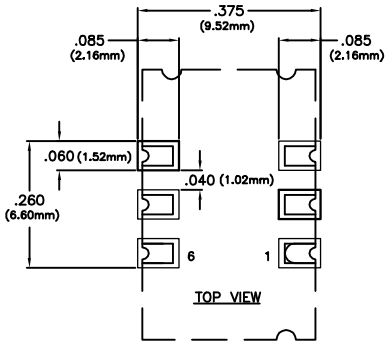
PRODUCT DATA SHEET

# CRYSTAL CONTROLLED OSCILLATORS

## Package Outline




## Suggested Pad Layout

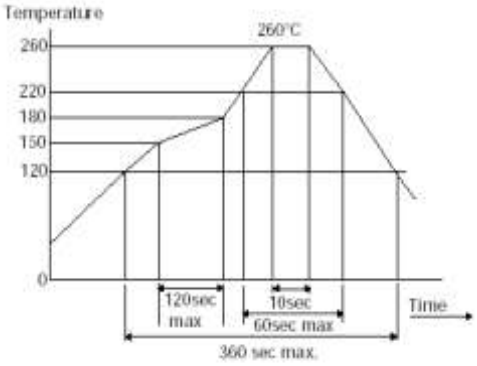



## Pin Connections

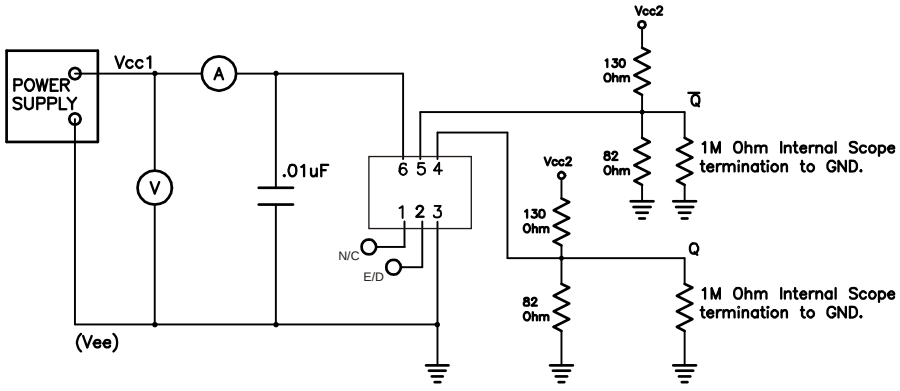
TABLE 7.0

| Pin | Connection |
|---|---|
| 1 | N/C |
| 2 | Enable / Disable |
| 3 | Ground |
| 4 | Q Output |
| 5 | $\overline{Q}$ Output |
| 6 | Vcc |

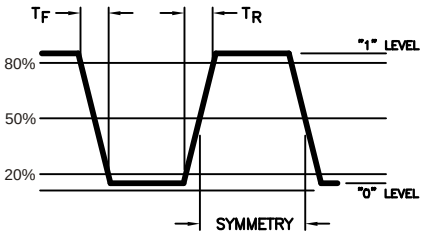
## Reflow Profile




## Test Curcuit




## Output Waveform




Specifications subject to change without notice.



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