

# CRYSTAL CONTROLLED OSCILLATORS

## 3.3V 5 x 7mm SURFACE MOUNT HIGH FREQUENCY LVPECL CLOCK OSCILLATOR



P731

### ABSOLUTE MAXIMUM RATINGS

TABLE 1.0

PARAMETER	UNITS	MINIMUM	NOMINAL	MAXIMUM	UNITS	NOTE
Storage Temperature		-40	-	85	°C	
Supply Voltage	(Vcc)	-0.5	-	4.6	Vdc	
Input Voltage	(Vcc)	-0.5	-	4.6	Vdc	

### OPERATING SPECIFICATIONS

TABLE 2.0

PARAMETER		MINIMUM	NOMINAL	MAXIMUM	UNITS	NOTE
Center Frequency	(Fo)	250	-	800	MHz	
Total Frequency Tolerance		-50		50	ppm	1
Operating Temperature Range		0	-	85	°C	
Supply Voltage	(Vcc)	3.135	3.3	3.465	Vdc	
Supply Current	(Icc)	-	60	100	mA	
Jitter (BW=10Hz to 20MHz)		-	-	8	pS RMS	
Jitter (BW=12kHz to 20MHz)		-	-	2	pS RMS	

### INPUT CHARACTERISTICS

TABLE 3.0

PARAMETER		MINIMUM	NOMINAL	MAXIMUM	UNITS	NOTE
Disable Input Voltage (Low)	(Vil)	-	-	1.68	Vdc	2
Enable Input Voltage (High)	(Vih)	2.275	-	-	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%		-	-	0.5	nS	

### PACKAGE CHARACTERISTICS

TABLE 5.0

Package	Hermetically sealed ceramic package and metal cover.
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TABLE 6.0

Pin	Connection
1	Enable / Disable
2	N/C
3	Ground
4	Q Output
5	Q Output
6	Vcc

TABLE 7.0

Enable / Disable Function (Pad 1)	Output
High or Open	Enable
Low	Disable (High Impedance)

### Notes

- Includes calibration @ 25°C, frequency stability vs. temperature, supply and load variations, shock, vibration and 20 years aging.
- When the oscillator is disabled, the outputs are at High Impedance. Output is enabled with no connection on pad 1.
- Output must be terminated into 50 ohms to Vcc - 2V or Thevenin equivalent.
- Duty Cycle measured at 50% of output swing.

### DESCRIPTION

The Connor-Winfield P731 is a 3.3V Crystal Oscillator (XO) with LVPECL Differential outputs and enable/disable function. The P731 is designed using a 2X or 4X PLL multiplication to achieve the high frequency output.

### FEATURES

- 250 to 800MHz
- 3.3V OPERATION
- LOW JITTER <1pS RMS
- OVERALL FREQUENCY TOLERANCE: +/-50 PPM
- TEMPERATURE RANGE: 0 to 85°C
- DIFFERENTIAL LVPECL OUTPUTS
- ENABLE / DISABLE FUNCTION
- SURFACE MOUNT PACKAGE
- TAPE AND REEL PACKAGING
- RoHS COMPLIANT / LEAD FREE

### ORDERING INFORMATION

P731 - 704.38058 MHz

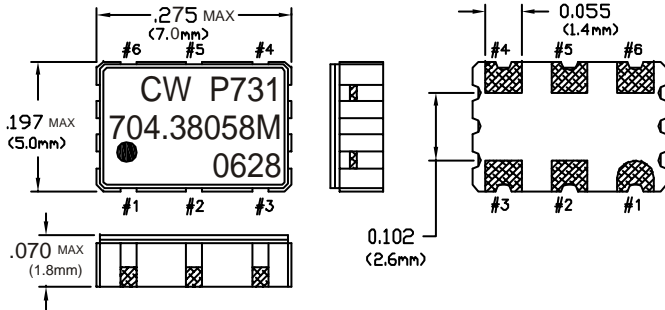
LVPECL  
CLOCK  
SERIES

CENTER  
FREQUENCY

Specifications subject to change without notice.

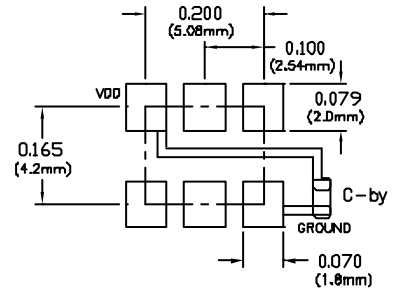
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## PACKAGE LAYOUT



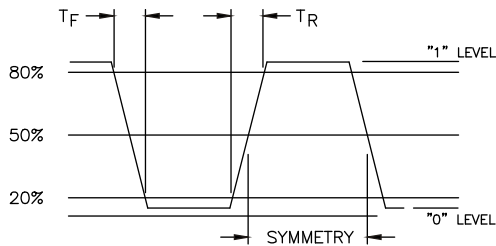
Dimensional  $\pm .02"$  ( $\pm 0.5\text{mm}$ )  
 Tolerance:  $\pm .008"$  ( $\pm 0.2\text{mm}$ )

## SUGGESTED PAD LAYOUT

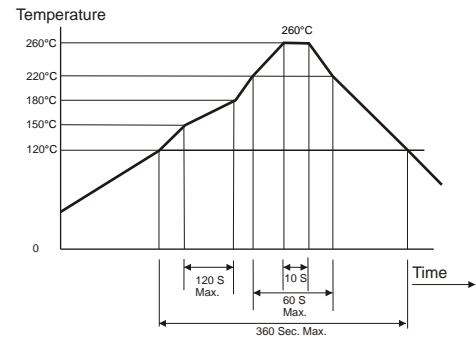


Bypass capacitor, C-by, should be ceramic capacitor  $\geq .01\mu\text{f}$ .

## OUTPUT WAVEFORM



## SOLDER PROFILE



## TEST CIRCUIT

