

# HCMOS 7x5mm 3.3V Oscillator



Model:FXO-HC73 SERIES RoHS Compliant / Pb Free Rev. 4/25/2007 Preliminary



**XPRESSO Part Number**

768-Frequency-xxxxx

**MODEL SELECTION GUIDE**

**FXO-HC730R-106.25000**

H = HCMOS  
C = Ceramic  
7 = 7x5mm  
3 = 3.3V

Frequency  
Blank = -20~+70°C  
R = -40~+85°C

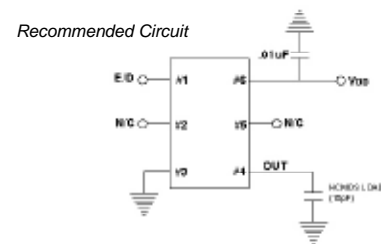
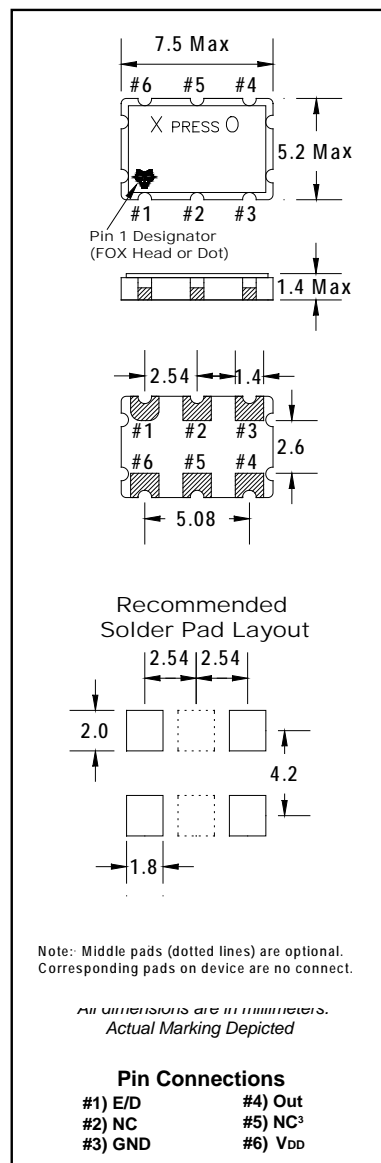
0 = ±100PPM  
5 = ±50PPM  
6 = ±25PPM  
8 = ±20PPM (-20~+70°C only)

## ELECTRICAL CHARACTERISTICS

PARAMETERS	MAX (unless otherwise noted)
Frequency Range (Fo)	0.750 ~ 250.000 MHz
Frequency Stability <sup>1</sup>	See above table
Storage Temperature Range (T <sub>STG</sub> )	-55°C ~ +125°C
Supply Voltage (V <sub>DD</sub> )	3.3V ± 5%
Input Current (I <sub>DD</sub> )	0.750 ~ 20.000 32mA 20.000+ ~ 50.000 35mA 50.000+ ~ 130.000 47mA 130.000+ ~ 200.000 55mA 200.000+ ~ 250.000 60mA
Output Symmetry (50% V <sub>DD</sub> Level)	45% ~ 55%
Rise Time (T <sub>R</sub> ) (10% ~ 90% V <sub>DD</sub> )	0.750 ~ 150.000 3nS
(20% ~ 80% V <sub>DD</sub> )	150.000+ ~ 250.000
Fall Time (T <sub>F</sub> ) (90% ~ 10% V <sub>DD</sub> )	0.750 ~ 150.000 3nS
(80% ~ 20% V <sub>DD</sub> )	150.000+ ~ 250.000
Output Voltage (V <sub>OL</sub> )	0.750 ~ 150.000 10% V <sub>DD</sub> 150.000+ ~ 250.000 20% V <sub>DD</sub>
(V <sub>OH</sub> )	0.750 ~ 150.000 90% V <sub>DD</sub> MIN 150.000+ ~ 250.000 80% V <sub>DD</sub> MIN
Output Load (HCMOS)	15pF
Start-up Time (T <sub>s</sub> )	10mS
Output Enable / Disable Time <sup>2</sup>	100nS
Maximum Soldering Temp / Time	260°C / 10 Seconds
Moisture Sensitivity Level (MSL)	1
Termination Finish	Au

## JITTER MEASUREMENTS<sup>4</sup>

Frequency (MHz)	Phase Jitter (12kHz~20MHz) <sup>5</sup> (pS RMS)	Time Interval Error (TIE) <sup>6</sup> σ of jitter distribution (pS RMS)	Rj/Dj Composition <sup>6</sup>		
			Random Jitter (Rj) (pS RMS)	Deterministic Jitter (Dj) (pS P-P)	Total Jitter (Tj) (14*Rj + Dj) (pS)
62.500	1.00	3.7	0.92	7.4	20.4
106.250	0.85	3.6	1.00	7.7	21.7
125.000	0.73	2.8	0.83	7.5	19.1
156.250	0.89	3.3	0.91	7.6	20.4



ENABLE / DISABLE FUNCTION <sup>2</sup>	
(Pin 1)	OUTPUT (Pin 4)
OPEN	ACTIVE
'1' Level V <sub>IH</sub> ≥ 70% V <sub>DD</sub>	ACTIVE
'0' Level V <sub>IL</sub> ≤ 30% V <sub>DD</sub>	High Z

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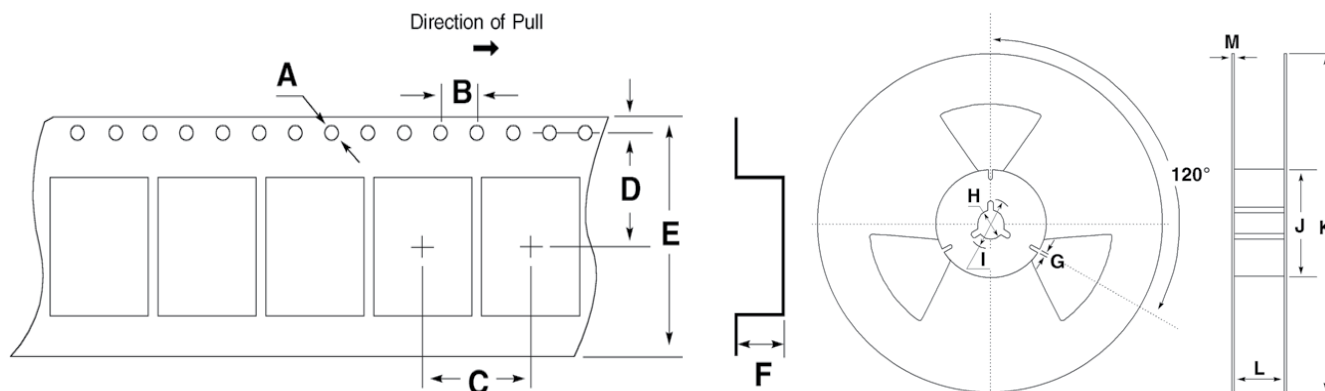


## • TAPE SPECIFICATIONS (millimeters)

MODEL	A	B	C	D	E	F	STD Reel QTY
FXO-HC73	Ø1.5	4.0	8.0	7.5	16.0	2.15	1,000

## • REEL SPECIFICATIONS (millimeters)

MODEL	G	H	I	J	K	L	M
FXO-HC73	2.0	Ø13	Ø21	Ø80	Ø255	17.5	2.0



Patent Numbers:  
 US 6,664,860, US 5,960,403, US 5,952,890, US 5,960,405; US 6,188,290;  
 Foreign Patents: R.S.A. 98/0866, R.O.C. 120651; Singapore 67081, 67082; EP 0958652  
 China ZL 98802217.6, Malaysia MY-118540-A, Philippines 1-1998-000245, Hong Kong #HK1026079, Mexico #232179  
 US and Foreign Patents Pending  
 XPRESSO® Fox Electronics

- <sup>1</sup> Inclusive of 25°C tolerance, operating temperature range, input voltage change, load change, aging, shock, and vibration.
  - <sup>2</sup> An internal pullup resistor from pin 1 to pin 6 allows active output if pin 1 is left open.
  - <sup>3</sup> A complementary output version with  $\overline{\text{output 2}}$  on pin 5 is available.
  - <sup>4</sup> Typical values at select frequencies. Jitter is frequency dependent.
  - <sup>5</sup> Integrated from HP3048 Phase Noise Measurement System; measured directly into 50 ohm input;  $V_{DD} = 3.3V$ .
  - <sup>6</sup> Measured on a LeCroy LC684 Digital Storage Scope, directly into 50 ohm input, with Amherst M1 software;  $V_{DD} = 3.3V$ .  
 Per MJSQ (Methodologies for Jitter and Signal Quality Specifications)
- Note: A 0.01µF bypass capacitor should be placed between  $V_{DD}$  (Pin 6) and GND (Pin 3) to minimize power supply line noise.  
 - The above specifications, having been carefully prepared and checked, is believed to be accurate at the time of publication; however, no responsibility is assumed by Fox Electronics for inaccuracies.

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**• FXO-HC735 STANDARD SPECIFICATIONS**

PARAMETER	FXO-HC735
Frequency Stability	±50PPM
Operating Temperature Range	-20°C ~ +70°C



**• FXO-HC735 SERIES Standard Frequencies**

Frequency	XpressO Part Number
1.843200	FXO-HC735-1.8432
3.686400	FXO-HC735-3.6864
4.000000	FXO-HC735-4
10.000000	FXO-HC735-10
12.000000	FXO-HC735-12
12.288000	FXO-HC735-12.288
14.318180	FXO-HC735-14.31818
16.000000	FXO-HC735-16
18.432000	FXO-HC735-18.432
20.000000	FXO-HC735-20
24.576000	FXO-HC735-24.576
25.000000	FXO-HC735-25
27.000000	FXO-HC735-27
32.000000	FXO-HC735-32
33.333000	FXO-HC735-33.333
40.000000	FXO-HC735-40
48.000000	FXO-HC735-48
50.000000	FXO-HC735-50