

HCMOS 7x5mm 3.3V Oscillator

Model:FXO-HC73 SERIES

RoHS Compliant / Pb Free

Rev. 4/25/2007 Preliminary

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XPRESSO Part Number

768-Frequency-xxxxx

MODEL SELECTION GUIDE

FXO-HC730R-106.250000

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)

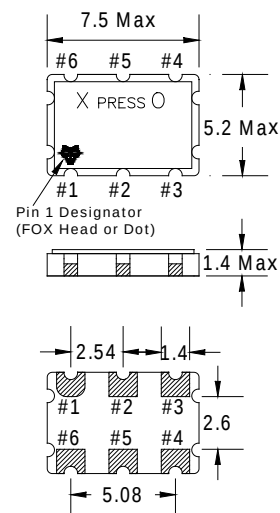


• ELECTRICAL CHARACTERISTICS

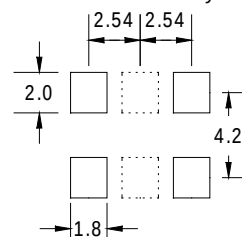
PARAMETERS	MAX (unless otherwise noted)
Frequency Range(Fo)	0.750 ~ 250.000 MHz
Frequency Stability ¹	See above table
Storage Temperature Range (T _{STG})	-55°C ~ +125°C
Supply Voltage (V _{DD})	3.3V ± 5%
Input Current (I _{DD})	0.750 ~ 20.000 32mA 20.000+ ~ 50.000 35mA 50.000+ ~ 130.000 47mA 130.000+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

• JITTER MEASUREMENTS⁴

Frequency (MHz)	Phase Jitter (12kHz~20MHz) ⁵ (pS RMS)	Time Interval Error (TIE) ⁶ σ of jitter distribution (pS RMS)	Rj/Dj Composition ⁶		
			Random Jitter (Rj) (pS RMS)	Deterministic Jitter (Dj) (pS P-P)	Total Jitter (Tj) (14* σ 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



Recommended Solder Pad Layout



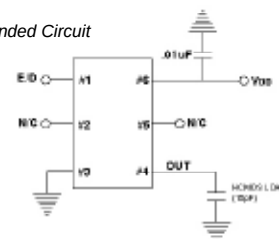
Note: Middle pads (dotted lines) are optional.
Corresponding pads on device are no connect.

All dimensions are in millimeters.
Actual Marking Depicted

Pin Connections

#1) E/D #4) Out
#2) NC #5) NC³
#3) GND #6) V_{DD}

Recommended Circuit



• ENABLE / DISABLE FUNCTION²

(Pin 1)	OUTPUT (Pin 4)
OPEN	ACTIVE
'1' Level V _{IH} ≥ 70% V _{DD}	ACTIVE
'0' Level V _{IL} ≤ 30% V _{DD}	High Z

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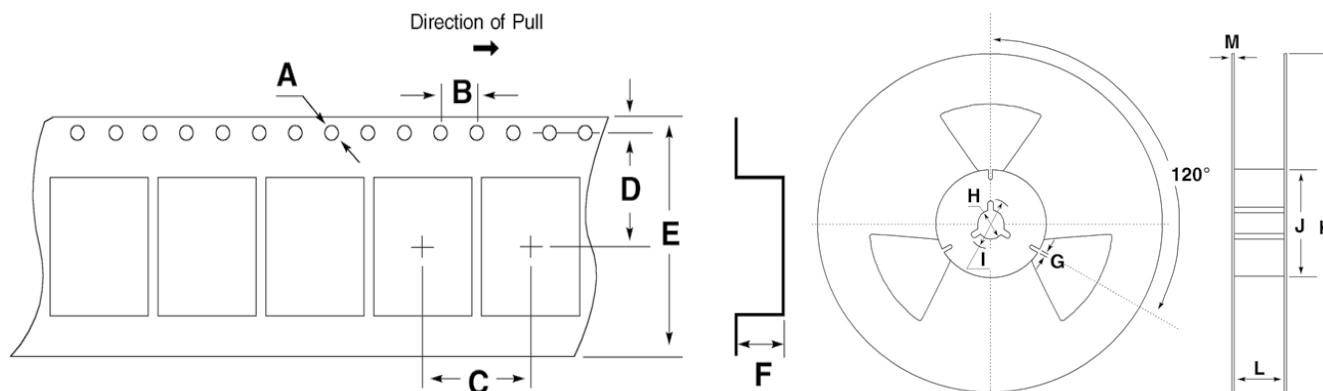
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**• TAPE SPECIFICATIONS (millimeters)**

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

¹ Inclusive of 25°C tolerance, operating temperature range, input voltage change, load change, aging, shock, and vibration.

² An internal pullup resistor from pin 1 to pin 6 allows active output if pin 1 is left open.

³ A complementary output version with output 2 on pin 5 is available.

⁴ Typical values at select frequencies. Jitter is frequency dependent.

⁵ Integrated from HP3048 Phase Noise Measurement System; measured directly into 50 ohm input; V_{DD} = 3.3V.

⁶ 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