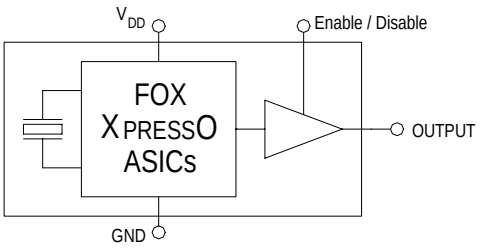
Model: FXO-LC73 SERIES

LVDS 7 x 5mm 3.3V Oscillator

Freq: 0.75 MHz to 1.35GHz

Features

- XTREMELY Low Jitter
- Low Cost
- XPRESS Delivery
- Frequency Resolution to six decimal places
- Stabilities to ± 20 PPM
- -20 to +70°C or -40 to +85°C operating temperatures
- Tri-State Enable / Disable Feature
- Industry Standard Package, Footprint & Pin-Out
- Fully RoHS compliant
- Gold over Nickel Termination Finish
- Serial ID with Comprehensive Traceability



For more information -- Click on the drawing

Need a Sample

RoHS Compliant

Applications

- ANY application requiring an oscillator
- SONET
- Ethernet
- Storage Area Network
- Broadband Access
- Microprocessors / DSP / FPGA
- Industrial Controllers
- Test and Measurement Equipment
- Fiber Channel

Description

The Fox XPRESSO Crystal Oscillator is a breakthrough in configurable Frequency Control Solutions. XPRESSO utilizes a family of proprietary ASICs, designed and developed by Fox, with a key focus on noise reduction technologies.

The 3rd order Delta Sigma Modulator reduces noise to the levels that are comparable to traditional Bulk Quartz and SAW oscillators. The ASICs family has ability to select the output type, input voltages, and temperature performance features.

With the XPRESS lead-time, low cost, low noise, wide frequency range, excellent ambient performance, XpressO is an excellent choice over the conventional technologies.

Finished XPRESSO parts are 100% final tested.

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Model Selection Guide & Fox Part Number

STEP #1: Customer selects the Model Description and provides to Fox Customer Service

Model Description

F X O – L C 7 3 6 R – 7 8 1 . 2 5 Frequency (in MHz)
Resolutions to 6 places past the decimal point

H = HCMOS	**C = Ceramic**	**5** = 5 x 3.2mm	**3 = 3.3 V**	0 = ± 100 PPM	*blank* = -20°C to +70°C
L = **LVDS**	Q = Quartz	**7 = 7 x 5mm**	2 = 2.5 V	5 = ± 50 PPM	R = -40°C to +85°C
P = LVPECL				6 = ± 25 PPM	
M = **LVDS** ***(pin 2 E/D)***				8 = ± 20 PPM (-20 ~ +70°C)	
Q = LVPECL *(pin 2 E/D)*					
X = HCMOS *(comp 2nd Output)*					

STEP #2: The Fox Customer Service team provides a customer specific Part Number for use on their Bill Of Materials (BOM).

Fox Part Number

(The assigned Fox Part Number must be on the BOM – not the above Model Description)
(This will ensure receipt of the proper part)

7 7 1 – 7 8 1 . 2 5 – 1

The 1st Field
Product Code #
767 = FXO–HC5
768 = FXO–HC7
770 = FXO–LC5
771 = FXO–LC7
773 = FXO–PC5
774 = FXO–PC7

The 2nd Field
The Customer's Frequency

The 3rd Field
Fox Internally Generated Number
(If any specification changes, the last digits change)
(The same specs for a different customer also changes the last digits)

This example, FXO-LC736R-781.25 = LVDS Output, Ceramic, 7 x 5mm Package, 3.3V, ±25 PPM Stability, -40 to +85°C Temperature Range, at 781.25 MHz

Electrical Characteristics

Parameters	Symbol	Condition	Maximum Value (unless otherwise noted)
Frequency Range	F_O		0.750 MHz to 1.35 GHz
Frequency Stability [1]			100, 50, 25, & 20 ppm
Temperature Range	T_O T_{STG}	Standard operating *Optional operating* Storage	-20°C to +70°C *-40°C to +85°C* -55°C to +125°C
Supply Voltage	V_{DD}	Standard	3.3 V ± 5%
Input Current (@ 100 Ohm LOAD)	I_{DD}	Standard Load	100 mA
Output Load	Differential	Standard	100 Ohms Typ.
Start-Up Time	T_S		10 mS
Output Enable / Disable Time			100 nS
Moisture Sensitivity Level	MSL	*JEDEC J-STD-20*	1
Termination Finish			Au

Note 1 – Stability is inclusive of 25°C tolerance, operating temperature range, input voltage change, load change, aging, shock and vibration.

Absolute Maximum Ratings *(Useful life may be impaired. For user guidelines only, not tested)*

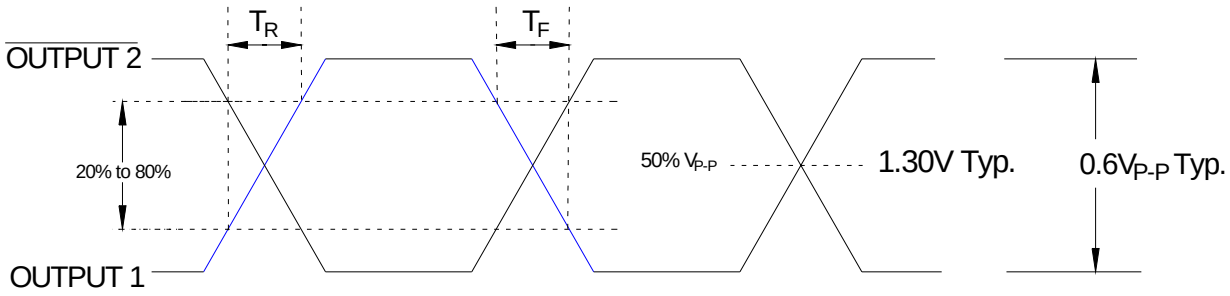
Parameters	Symbol	Condition	Maximum Value (unless otherwise noted)
Input Voltage	V_{DD}		–0.5V to +5.0V
Operating Temperature	T_{AMAX}		–55°C to +105°C
Storage Temperature	T_{STG}		–55°C to +125°C
Junction Temperature			150°C
ESD Sensitivity	HBM	Human Body Model	1 kV

Output Wave Characteristics

Parameters	Symbol	Condition	Maximum Value (unless otherwise noted)
Differential Output Voltage	V_{OD}	0.75 MHz to 1.35 GHz	0.6V Typ.
Output Offset Voltage	V_{OS}	Volts DC	1.3V Typ
Output Symmetry (See Drawing Below)		@ 50% V_{P-P} Level	45% ~ 55%
Output Enable (PIN # 1) Voltage Note1	V_{IH}		> 70% V_{DD}
Output Disable (PIN # 1) Voltage Note1	V_{IL}		< 30% V_{DD}
Cycle Rise Time (See Drawing Below)	T_R	20%~80%	400 pS
Cycle Fall Time (See Drawing Below)	T_F	80%~20%	400 pS

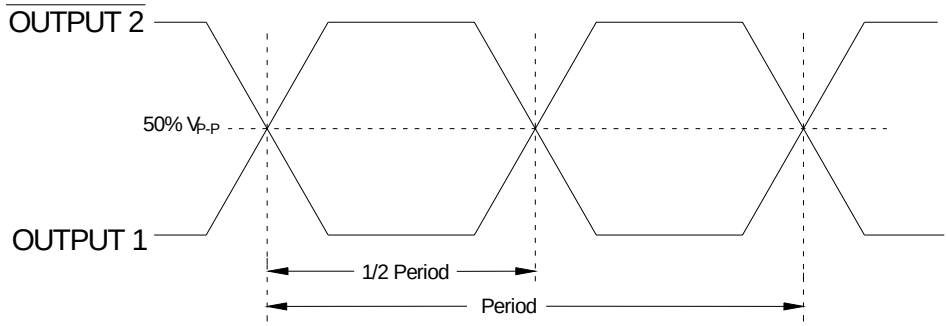
Note1 *An optional PIN # 2 as Enable / Disable is available – see Model Selection Guide (page 2)*

Rise Time / Fall Time Measurements

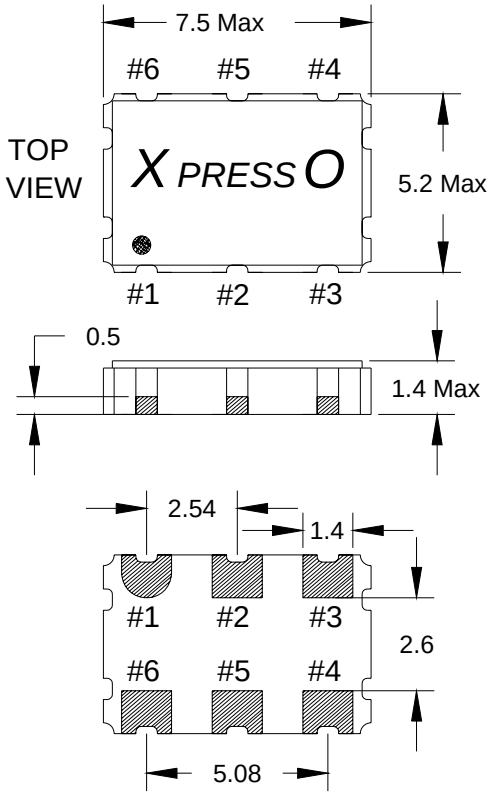


Oscillator Symmetry

Ideally, Symmetry should be 50/50 for 1/2 period -- Other expressions are 45/55 or 55/45



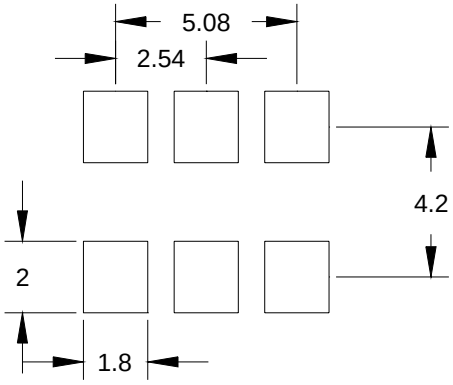
Mechanical Dimensional Drawing & Pad Layout



Actual part marking is depicted.

See **Traceability** *(pg. 9)* for more information

Recommended
Solder Pad Layout



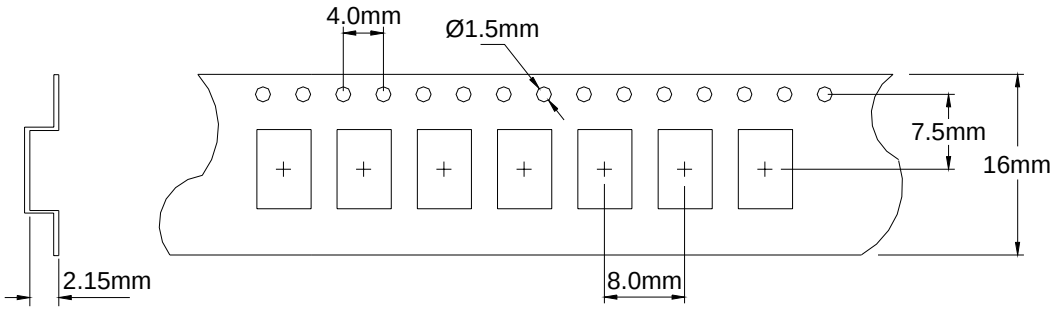
Note: XPRESSO LVDS XOs are designed to fit on Industry standard, 6 pad, layouts.

Pin Connections

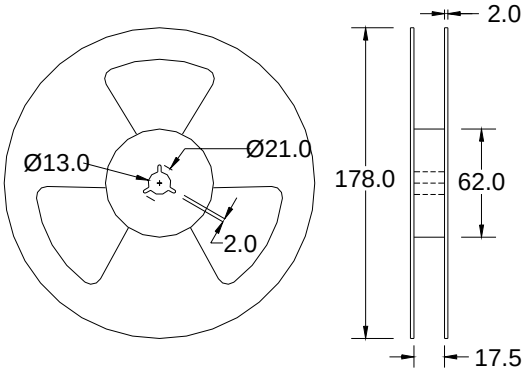
#1) E/D	**#4) Output**
#2) *NC*	**#5) Output 2**
#3) GND	**#6) V_{DD}**

Drawing is for reference to critical specifications defined by size measurements.
Certain non-critical visual attributes, such as side castellations, reference pin shape, etc. may vary

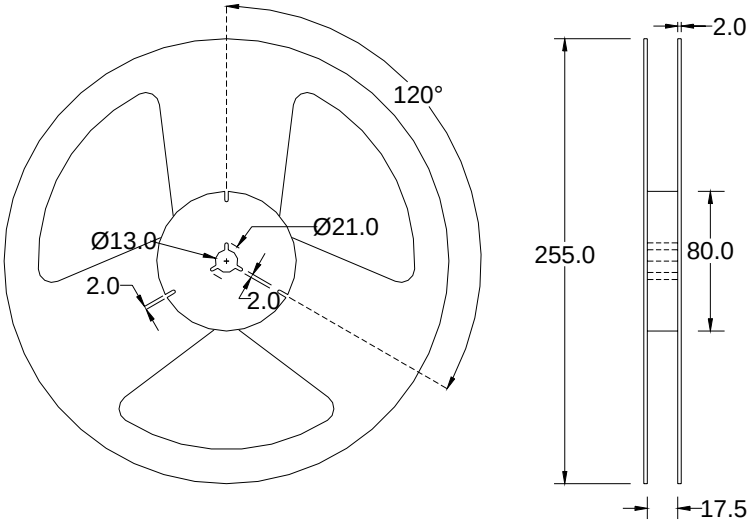
Tape and Reel Dimensions



1k Reel Dimensions in mm

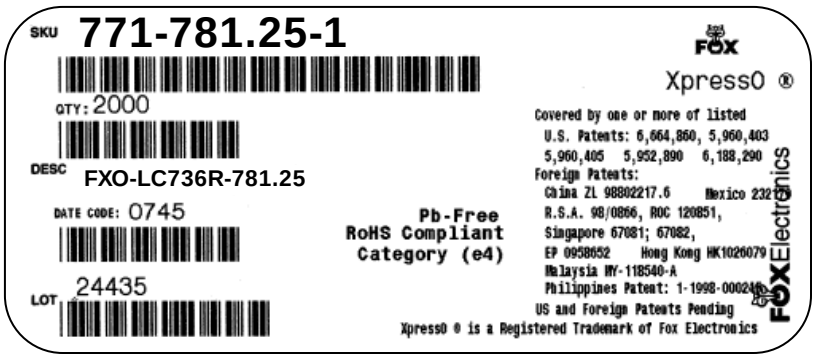


2k Reel Dimensions in mm



Labeling (Reels and smaller packaging are labeled with the below)

- Fox Part Number: **771-781.25-1**
- Quantity: **2000** pieces
- Description: **FXO-LC736R-781.25**
- Date Code **0745**
  (YYWW 2007 45th wk)
- LOT # **24435**
  If traceability should become necessary



An additional identification code is contained internally if tracking should ever be necessary