

**Farnell Order Code: 1641002**  
**FOX MODEL: FXO-HC736R-20**  
**FOX Part Number: 768-20-163**  
**HCMOS, CERAMIC, SMD, OSCILLATOR**

**A. Specifications**

Parameters	
Frequency	20.000 MHz
Frequency Stability <sup>1</sup>	±25 PPM
Temperature Range	
Operating (T <sub>OPR</sub> )	-40°C ~ +85°C
Storage (T <sub>STG</sub> )	-55°C ~ +125°C
Supply Voltage (V <sub>DD</sub> )	3.3V ± 5%
Input Current (I <sub>DD</sub> )	32 mA Max
Output Voltage (V <sub>OL</sub> ) (V <sub>OH</sub> )	10% V <sub>DD</sub> Max 90% V <sub>DD</sub> Min
Output Symmetry (50% V <sub>p-p</sub> Level)	45% ~ 55%
Rise Time (10% ~ 90% V <sub>p-p</sub> ) (TR)	3 nS Max
Fall Time (90% ~ 10% V <sub>p-p</sub> ) (TF)	3 nS Max
Output Load (HCMOS)	15 pF Max
Startup Time (T <sub>S</sub> )	10 ms Max
Output Enable / Disable Time <sup>2</sup>	100 nS Max
Phase Jitter (12kHz ~ 20MHz)	< 1.1 pS Typ.
Maximum Soldering Temp / Time	260°C / 10 Seconds
Moisture Sensitivity Level (MSL)	1
Termination Finish	Au

<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 4 allows active output if pin 1 is left open.

ENABLE/DISABLE FUNCTION <sup>2</sup>	
Pin 1	OUTPUT (Pin 3)
OPEN <sup>2</sup>	ACTIVE
'1' Level VIH ≥ 70%V <sub>DD</sub>	ACTIVE
'0' Level VIL ≤ 30%V <sub>DD</sub>	High Z

**NOTE:** A 0.01µF bypass capacitor should be placed between V<sub>DD</sub> (Pin4) and GND (Pin 2) to minimize power supply line noise.

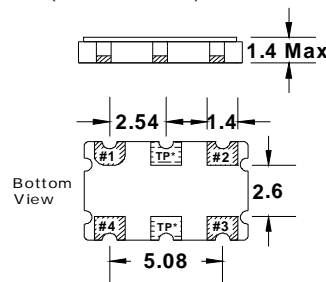
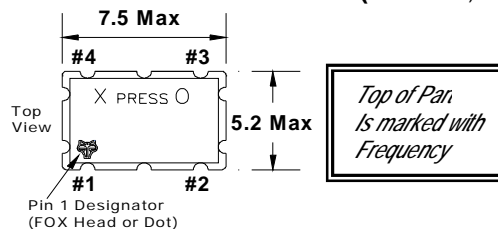
**RoHS Compliance Status: Compliant**



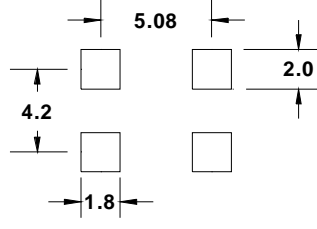
Drawing is for reference to critical specifications defined by size measurements. Certain non-critical visual attributes, such as side castellations, reference pin shape, etc. may vary

**NOTE:** 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.

**B. Mechanical / Dimensions (millimeters):**



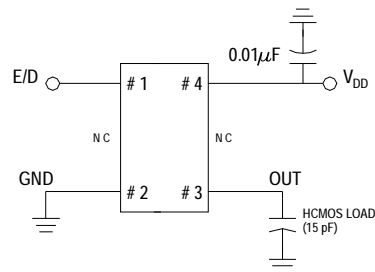
Recommended Solder Pad Layout



Note: Xpresso HCMOS XOs are designed to fit or industry standard, 4 pad, layouts.

**Pin Connections**  
 #1) E/D    #3 Output  
 #2 GND    #4 VDD  
 \*TP are test points and are NC

**Recommended Circuit**



Reference / Comments	Title / Description: Product Specifications		
	Drawing Number: DWG-4549-20	Rev: 1	Size: A
	Part Number: 768-20-163		Cage: 61429
	Draftsperson: AR	Approved: BN	Date: 08/25/2008