

Product Change Notification

PCN Publish Date: 09/20/2005
(Revision 2)

PCN#: 223

Change Title: Product Process Change

Products Affected: Fox Pb (lead) containing product families:
HC49U, HC49S, HC49SS, HC49SD, HC49SSD, HC49SPX, FPX, FSM, FSR, FSX, NC15, NC26 Series, NC38, All Monolithic Crystal Filters, F1100E Series, F5C-2E Series, H5C-2E Series, FSO-2 Series, FSO-3 Series, F5L Series, VCXO-B Series, VCXO-C Series, VCXO-D Series, VCXO-CH Series, VCXO-DH Series, F7250 Series, F7350 Series, FOX801 Series.

See the attached list of all affected model numbers and corresponding Fox smart part numbers.

Description of Change to the Customer: In an effort to make our product line more environmentally compatible and in compliance with regulatory guidelines, we are changing the volume manufacturing processes for the above products to a Pb free process*.

**(Once the manufacturing process has been changed to a Pb free process, it may still be possible to manufacture product with the Pb process; however product manufactured with the Pb process may be more expensive due to cost increases associated with older, low volume, raw materials.)*

Model numbers for product manufactured with the Pb free process will have an "LF" suffix added: HC49ULF, F1100ELF, etc. The attached list gives all the Pb free model numbers and Fox smart part numbers.

All Pb free products should be backward compatible to the Pb/Sn solder process with the following exceptions: FSMLF, FSMALF, FSRLF, FSXLF.

The manufacturing process for these products is being changed to a 100% Sn (matte tin) process which is backward compatible to the Pb/Sn solder process. See PCN220 <http://www.foxonline.com/pcn220.htm> for details.

Schedule of Change:

Start of change-over is July 1, 2005

Last buy date for product manufactured with volume manufacturing Pb process is December 31, 2005.

Customer Impact and Response: We sincerely hope this change will have minimal impact on our customers. If you have any questions, please contact Fox Technical Support at www.foxonline.com/email.htm or call 239-693-0099.

FOX MODEL AND PART NUMBERS.*

This table list products currently manufactured with a Pb process and the corresponding model and part numbers for the Pb free manufacturing process.

¹For more information on Fox Part Numbers, see <http://foxonline.com/onefamilytype.asp> on the Fox website.

Pb Process		Pb Free/RoHS Compliant Process	
Fox Model No.	Fox Part No. ¹ (xxxxx = random no. ²)	Fox Model No.	Fox Part No. ¹ (xxxxx = random no. ²)
HC49U	281-freq-xxxxx ²	HC49ULF	281LF-freq-xxxxx ²
HC49S	277-freq-xxxxx ²	HC49SLF	277LF-freq-xxxxx ²
HC49SS	279-freq-xxxxx ²	HC49SSLF	279LF-freq-xxxxx ²
HC49SD	278-freq-xxxxx ²	HC49SDLF	278LF-freq-xxxxx ²
HC49SSD	280-freq-xxxxx ²	HC49SSDLF	280LF-freq-xxxxx ²
HC49SPX	448-freq-xxxxx ²	HC49SPXLF	448LF-freq-xxxxx ²
FPX	256-freq-xxxxx ²	FPXLF	256LF-freq-xxxxx ²
FSM	258-freq-xxxxx ²	FSMLF	258LF-freq-xxxxx ²
FSR	414-freq-xxxxx ²	FSRLF	414LF-freq-xxxxx ²
FSX	501-freq-xxxxx ²	FSXLF	501LF-freq-xxxxx ²
NC15	298-freq-xxxxx ²	NC15LF	298LF-freq-xxxxx ²
NC26	299-freq-xxxxx ²	NC26LF	299LF-freq-xxxxx ²
NC26S	416-freq-xxxxx ²	NC26SLF	416LF-freq-xxxxx ²
NC38	300-freq-xxxxx ²	NC38LF	300LF-freq-xxxxx ²
F1100E Series			
F1100E	049-freq-xxxxx ²	F1100ELF	049LF-freq-xxxxx ²
F1100ER	343-freq-xxxxx ²	F1100ERLF	343LF-freq-xxxxx ²
F1145E	060-freq-xxxxx ²	F1145ELF	060LF-freq-xxxxx ²
F1145ER	061-freq-xxxxx ²	F1145ERLF	061LF-freq-xxxxx ²
F1144	055-freq-xxxxx ²	F1144ELF	055LF-freq-xxxxx ²
F1144ER	465-freq-xxxxx ²	F1144ERLF	465LF-freq-xxxxx ²
F1148E	512-freq-xxxxx ²	F1148ELF	512LF-freq-xxxxx ²
F5C-2E Series			
F5C-2E	147-freq-xxxxx ²	F5C-2ELF	147LF-freq-xxxxx ²
F5C-2ER	326-freq-xxxxx ²	F5C-2ERLF	326LF-freq-xxxxx ²
F6C-2E	180-freq-xxxxx ²	F6C-2ELF	180LF-freq-xxxxx ²
F6C-2ER	181-freq-xxxxx ²	F6C-2ERLF	181LF-freq-xxxxx ²
F7C-2E	199-freq-xxxxx ²	F7C-2ELF	199LF-freq-xxxxx ²
F7C-2ER	330-freq-xxxxx ²	F7C-2ERLF	330LF-freq-xxxxx ²
F8C-2E	513-freq-xxxxx ²	F8C-2ELF	513LF-freq-xxxxx ²
H5C-2E Series			
H5C-2E	267-freq-xxxxx ²	H5C-2ELF	267LF-freq-xxxxx ²
H5C-2ER	347-freq-xxxxx ²	H5C-2ERLF	347LF-freq-xxxxx ²
H6C-2E	271-freq-xxxxx ²	H6C-2ELF	271LF-freq-xxxxx ²
H6C-2ER	335-freq-xxxxx ²	H6C-2ERLF	335LF-freq-xxxxx ²
H7C-2E	275-freq-xxxxx ²	H7C-2ELF	275LF-freq-xxxxx ²
H7C-2ER	336-freq-xxxxx ²	H7C-2ERLF	336LF-freq-xxxxx ²

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H8C-2E		342-freq-xxxxx ²		H8C-2ELF		342LF-freq-xxxxx ²	
Pb Process				Pb Free/RoHS Compliant Process			
Fox Model No.	Fox Part No. ¹ (xxxxx = random no. ²)	Fox Model No.	Fox Part No. ¹ (xxxxx = random no. ²)	Fox Model No.	Fox Part No. ¹ (xxxxx = random no. ²)	Fox Model No.	Fox Part No. ¹ (xxxxx = random no. ²)
F5C-2E3 Series							
F5C-2E3	148-freq-xxxxx ²	F5C-2E3LF	148LF-freq-xxxxx ²				
F5C-2E3R	355-freq-xxxxx ²	F5C-2E3RLF	355LF-freq-xxxxx ²				
F6C-2E3	328-freq-xxxxx ²	F6C-2E3LF	328LF-freq-xxxxx ²				
F6C-2E3R	356-freq-xxxxx ²	F6C-2E3RLF	356LF-freq-xxxxx ²				
F7C-2E3	329-freq-xxxxx ²	F7C-2E3LF	329LF-freq-xxxxx ²				
F7C-2E3R	358-freq-xxxxx ²	F7C-2E3RLF	358LF-freq-xxxxx ²				
F8C-2E3	567-freq-xxxxx ²	F8C-2E3LF	567LF-freq-xxxxx ²				
H5C-2E3 Series							
H5C-2E3	350-freq-xxxxx ²	H5C-2E3LF	350LF-freq-xxxxx ²				
H5C-2E3R	351-freq-xxxxx ²	H5C-2E3RLF	351LF-freq-xxxxx ²				
H6C-2E3	272-freq-xxxxx ²	H6C-2E3LF	272LF-freq-xxxxx ²				
H6C-2E3R	352-freq-xxxxx ²	H6C-2E3RLF	352LF-freq-xxxxx ²				
H7C-2E3	354-freq-xxxxx ²	H7C-2E3LF	354LF-freq-xxxxx ²				
H7C-2E3R	353-freq-xxxxx ²	H7C-2E3RLF	353-freq-xxxxx ²				
H8C-2E3	566-freq-xxxxx ²	H8C-2E3LF	566LF-freq-xxxxx ²				
FSO Series							
FSO-2	259-freq-xxxxx ²	FSO-2LF	259LF-freq-xxxxx ²				
FSO-2R	547-freq-xxxxx ²	FSO-2RLF	547LF-freq-xxxxx ²				
FSO-25	432-freq-xxxxx ²	FSO-25LF	432LF-freq-xxxxx ²				
FSO-3	433-freq-xxxxx ²	FSO-3LF	433LF-freq-xxxxx ²				
FSO-3R	543-freq-xxxxx ²	FSO-3RLF	543LF-freq-xxxxx ²				
FSO-35	434-freq-xxxxx ²	FSO-35LF	434LF-freq-xxxxx ²				
F5L Series							
F5L-B	165-freq-xxxxx ²	F5L-BLF	165LF-freq-xxxxx ²				
F5L-BR	166-freq-xxxxx ²	F5L-BRLF	166LF-freq-xxxxx ²				
F5L-E	169-freq-xxxxx ²	F5L-ELF	169LF-freq-xxxxx ²				
F5L-ER	170-freq-xxxxx ²	F5L-ERLF	170LF-freq-xxxxx ²				
F5L-C	167-freq-xxxxx ²	F5L-CLF	167LF-freq-xxxxx ²				
F5L-CR	168-freq-xxxxx ²	F5L-CRLF	168LF-freq-xxxxx ²				
F5L-F	171-freq-xxxxx ²	F5L-FLF	171LF-freq-xxxxx ²				
F5L-FR	172-freq-xxxxx ²	F5L-FRLF	172LF-freq-xxxxx ²				
F5L-H	175-freq-xxxxx ²	F5L-HLF	175LF-freq-xxxxx ²				
F5L-HR	176-freq-xxxxx ²	F5L-HRLF	176LF-freq-xxxxx ²				
F5L-G	173-freq-xxxxx ²	F5L-GLF	173LF-freq-xxxxx ²				
F5L-GR	174-freq-xxxxx ²	F5L-GRLF	174LF-freq-xxxxx ²				
F5L-4B	153-freq-xxxxx ²	F5L-4BLF	153LF-freq-xxxxx ²				
F5L-4BR	154-freq-xxxxx ²	F5L-4BRLF	154LF-freq-xxxxx ²				

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F5L-4E	157-freq-xxxxx ²	F5L-4ELF	157LF-freq-xxxxx ²
F5L-4ER	158-freq-xxxxx ²	F5L-4ERLF	158LF-freq-xxxxx ²
Pb Process		Pb Free/RoHS Compliant Process	
Fox Model No.	Fox Part No.¹ (xxxxx = random no.²)	Fox Model No.	Fox Part No.¹ (xxxxx = random no.²)
F5L Series			
F5L-4C	155-freq-xxxxx ²	F5L-4CLF	155LF-freq-xxxxx ²
F5L-4CR	156-freq-xxxxx ²	F5L-4CRLF	156LF-freq-xxxxx ²
F5L-4F	159-freq-xxxxx ²	F5L-4FLF	159LF-freq-xxxxx ²
F5L-4FR	160-freq-xxxxx ²	F5L-4FRLF	160LF-freq-xxxxx ²
F5L-4H	163-freq-xxxxx ²	F5L-4HLF	163LF-freq-xxxxx ²
F5L-4HR	164-freq-xxxxx ²	F5L-4HRLF	164LF-freq-xxxxx ²
F5L-4G	161-freq-xxxxx ²	F5L-4GLF	161LF-freq-xxxxx ²
F5L-4GR	162-freq-xxxxx ²	F5L-4GRLF	162LF-freq-xxxxx ²
VCXO-B Series			
VCXO-B1	312-freq-xxxxx ²	VCXO-B1LF	312LF-freq-xxxxx ²
VCXO-B1R	399-freq-xxxxx ²	VCXO-B1RLF	399LF-freq-xxxxx ²
VCXO-B2	313-freq-xxxxx ²	VCXO-B2LF	313LF-freq-xxxxx ²
VCXO-B2R	400-freq-xxxxx ²	VCXO-B2RLF	400LF-freq-xxxxx ²
VCXO-B3	314-freq-xxxxx ²	VCXO-B3LF	314LF-freq-xxxxx ²
VCXO-B3R	401-freq-xxxxx ²	VCXO-B3RLF	401LF-freq-xxxxx ²
VCXO-B4	315-freq-xxxxx ²	VCXO-B4LF	315LF-freq-xxxxx ²
VCXO-B4R	402-freq-xxxxx ²	VCXO-B4RLF	402LF-freq-xxxxx ²
VCXO-B5	316-freq-xxxxx ²	VCXO-B5LF	316LF-freq-xxxxx ²
VCXO-C Series			
VCXO-C2	458-freq-xxxxx ²	VCXO-C2LF	458LF-freq-xxxxx ²
VCXO-C2R	456-freq-xxxxx ²	VCXO-C2RLF	456LF-freq-xxxxx ²
VCXO-C3	317-freq-xxxxx ²	VCXO-C3LF	317LF-freq-xxxxx ²
VCXO-C3R	467-freq-xxxxx ²	VCXO-C3RLF	467LF-freq-xxxxx ²
VCXO-C4	318-freq-xxxxx ²	VCXO-C4LF	318LF-freq-xxxxx ²
VCXO-C4R	468-freq-xxxxx ²	VCXO-C4RLF	468LF-freq-xxxxx ²
VCXO-C7	319-freq-xxxxx ²	VCXO-C7LF	319LF-freq-xxxxx ²
VCXO-C7R	469-freq-xxxxx ²	VCXO-C7RLF	469LF-freq-xxxxx ²
VCXO-C8	320-freq-xxxxx ²	VCXO-C8LF	320LF-freq-xxxxx ²
VCXO-C8R	470-freq-xxxxx ²	VCXO-C8RLF	470LF-freq-xxxxx ²
VCXO-D Series			
VCXO-D3	459-freq-xxxxx ²	VCXO-D3LF	459LF-freq-xxxxx ²
VCXO-D3R	463-freq-xxxxx ²	VCXO-D3RLF	463LF-freq-xxxxx ²
VCXO-D4	460-freq-xxxxx ²	VCXO-D4LF	460LF-freq-xxxxx ²
VCXO-D4R	671-freq-xxxxx ²	VCXO-D4RLF	671LF-freq-xxxxx ²
VCXO-D7	461-freq-xxxxx ²	VCXO-D7LF	461LF-freq-xxxxx ²

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Fox Model No.	Fox Part No. ¹ (xxxxx = random no. ²)	Fox Model No.	Fox Part No. ¹ (xxxxx = random no. ²)
VCXO-D7R	722-freq-xxxxx ²	VCXO-D7RLF	722LF-freq-xxxxx ²
VCXO-D8	462-freq-xxxxx ²	VCXO-D8LF	462LF-freq-xxxxx ²
VCXO-D8R	464-freq-xxxxx ²	VCXO-D8RLF	464LF-freq-xxxxx ²
Pb Process		Pb Free/RoHS Compliant Process	
Fox Model No.	Fox Part No. ¹ (xxxxx = random no. ²)	Fox Model No.	Fox Part No. ¹ (xxxxx = random no. ²)
VCXO-CH Series			
VCXO-CH4	318H-freq-xxxxx ²	VCXO-CH4LF	318HLF-freq-xxxxx ²
VCXO-CH8	320H-freq-xxxxx ²	VCXO-CH8LF	320HLF-freq-xxxxx ²
VCXO-DH Series			
VCXO-DH4	611-freq-xxxxx ²	VCXO-DH4LF	611LF-freq-xxxxx ²
FOX801 Series			
FOX801A	250-freq-xxxxx ²	FOX801ALF	250LF-freq-xxxxx ²
FOX801AE	251-freq-xxxxx ²	FOX801AELF	251LF-freq-xxxxx ²
FOX801AH	252-freq-xxxxx ²	FOX801AHLF	252LF-freq-xxxxx ²
FOX801B	253-freq-xxxxx ²	FOX801BLF	253LF-freq-xxxxx ²
FOX801BE	254-freq-xxxxx ²	FOX801BELF	254LF-freq-xxxxx ²
FOX801BH	255-freq-xxxxx ²	FOX801BHLF	255LF-freq-xxxxx ²
FOX801BHC	255C-freq-xxxxx ²	FOX801BHCLF	255CLF-freq-xxxxx ²
F7250 Series			
F7250AC	504-freq-xxxxx ²	F7250ACLF	504LF-freq-xxxxx ²
F7250BC	505-freq-xxxxx ²	F7250BCLF	505LF-freq-xxxxx ²
F7350BC	542-freq-xxxxx ²	F7350BCLF	542LF-freq-xxxxx ²
Monolithic Crystal Filters			
10M7A	008-freq-xxxxx ²	10M7ALF	008LF-freq-xxxxx ²
10M7B	009-freq-xxxxx ²	10M7BLF	009LF-freq-xxxxx ²
10M7C	010-freq-xxxxx ²	10M7CLF	010LF-freq-xxxxx ²
10M7D	011-freq-xxxxx ²	10M7DLF	011LF-freq-xxxxx ²
10M12A	001-freq-xxxxx ²	10M12ALF	001LF-freq-xxxxx ²
10M12B	321-freq-xxxxx ²	10M12BLF	321LF-freq-xxxxx ²
10M12C	002-freq-xxxxx ²	10M12CLF	002LF-freq-xxxxx ²
10M12D	003-freq-xxxxx ²	10M12DLF	003LF-freq-xxxxx ²
10M15A	004-freq-xxxxx ²	10M15ALF	004LF-freq-xxxxx ²
10M15B	323-freq-xxxxx ²	10M15BLF	323LF-freq-xxxxx ²
10M15C	005-freq-xxxxx ²	10M15CLF	005LF-freq-xxxxx ²
10M15D	324-freq-xxxxx ²	10M15DLF	324LF-freq-xxxxx ²
10M20A	006-freq-xxxxx ²	10M20ALF	006LF-freq-xxxxx ²
10M20B	007-freq-xxxxx ²	10M20BLF	007LF-freq-xxxxx ²
16M15A	012-freq-xxxxx ²	16M15ALF	012LF-freq-xxxxx ²
16M15B	013-freq-xxxxx ²	16M15BLF	013LF-freq-xxxxx ²

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16M15C	014-freq-xxxxx ²	16M15CLF	014LF-freq-xxxxx ²
16M15D	015-freq-xxxxx ²	16M15DLF	015LF-freq-xxxxx ²
Pb Process		Pb Free/RoHS Compliant Process	
Fox Model No.	Fox Part No.¹ (xxxxx = random no.²)	Fox Model No.	Fox Part No.¹ (xxxxx = random no.²)
Monolithic Crystal Filters			
21M7A	028-freq-xxxxx ²	21M7ALF	028LF-freq-xxxxx ²
21M7B	029-freq-xxxxx ²	21M7BLF	029LF-freq-xxxxx ²
21M7C	030-freq-xxxxx ²	21M7CLF	030LF-freq-xxxxx ²
21M7D	031-freq-xxxxx ²	21M7DLF	031LF-freq-xxxxx ²
21M12A	016-freq-xxxxx ²	21M12ALF	016LF-freq-xxxxx ²
21M12B	017-freq-xxxxx ²	21M12BLF	017LF-freq-xxxxx ²
21M12C	018-freq-xxxxx ²	21M12CLF	018LF-freq-xxxxx ²
21M12D	019-freq-xxxxx ²	21M12DLF	019LF-freq-xxxxx ²
21M15A	020-freq-xxxxx ²	21M15ALF	020LF-freq-xxxxx ²
21M15B	021-freq-xxxxx ²	21M15BLF	021LF-freq-xxxxx ²
21M15C	022-freq-xxxxx ²	21M15CLF	022LF-freq-xxxxx ²
21M15D	023-freq-xxxxx ²	21M15DLF	023LF-freq-xxxxx ²
21M20A	024-freq-xxxxx ²	21M20ALF	024LF-freq-xxxxx ²
21M20B	025-freq-xxxxx ²	21M20BLF	025LF-freq-xxxxx ²
21M30A	026-freq-xxxxx ²	21M30ALF	026LF-freq-xxxxx ²
21M30B	027-freq-xxxxx ²	21M30BLF	027LF-freq-xxxxx ²
45F15A	032-freq-xxxxx ²	45F15ALF	032LF-freq-xxxxx ²
45F15B	033-freq-xxxxx ²	45F15BLF	033LF-freq-xxxxx ²
45F20A	034-freq-xxxxx ²	45F20ALF	034LF-freq-xxxxx ²
45F20B	035-freq-xxxxx ²	45F20BLF	035LF-freq-xxxxx ²
45F30A	036-freq-xxxxx ²	45F30ALF	036LF-freq-xxxxx ²
45F30B	037-freq-xxxxx ²	45F30BLF	037LF-freq-xxxxx ²
45M15A	038-freq-xxxxx ²	45M15ALF	038LF-freq-xxxxx ²
45M15B	039-freq-xxxxx ²	45M15BLF	039LF-freq-xxxxx ²
45M20A	040-freq-xxxxx ²	45M20ALF	040LF-freq-xxxxx ²
45M20B	041-freq-xxxxx ²	45M20BLF	041LF-freq-xxxxx ²
70M15A	042-freq-xxxxx ²	70M15ALF	042LF-freq-xxxxx ²
70M15B	043-freq-xxxxx ²	70M15BLF	043LF-freq-xxxxx ²
70M20A	044-freq-xxxxx ²	70M20ALF	044LF-freq-xxxxx ²
70M20B	045-freq-xxxxx ²	70M20BLF	045LF-freq-xxxxx ²