

Product Change Notification PCN2003-04

Additional Manufacturer for the XC18V00 Family of In-System Programmable Configuration PROMs

Overview: This notification is to inform you of an additional wafer fabrication facility for the C-grade members of the XC18V00™ family of In-System Programmable Configuration PROMs. This product is currently manufactured at UMC, Taiwan. STMicroelectronics in Catania, Italy, will also be used to manufacture the C-Grade members of the XC18V00 family on a 0.15 μM CMOS FLASH process.

This change is being made to expand manufacturing capacity for the listed devices and to ensure continuity of supply.

The STMicroelectronics offerings will be form, fit, and functionally compatible with the current product. The operating/processing temperature range for all new XC18V00 devices has been expanded:

Temperature Grade	Current Range	New Range
Commercial	T _A = 0° to +70°C	T _A = -40° to +85°C

The die-attach material and mold compound for product manufactured at both UMC and STMicroelectronics shall be per the table below. STMicroelectronics material meets Moisture Sensitivity Level 3 as defined in JEDEC standard J-STD-020A.

Package	UMC		STMicroelectronics	
	Die Attach	Mold Compound	Die Attach	Mold Compound
PC20	Sumitomo 8361J	Nitto MP8000	Sumitomo CRM1076E	Sumitomo G-600
PC44	Sumitomo 8361J	Nitto MP8000	Sumitomo CRM1076E	Sumitomo G-600
SO20	Sumitomo 84-1MIS	Nitto MP8000	Sumitomo CRM1076E	Sumitomo G-600
VQ44	Ablestik 8361J	Sumitomo 7320	Ablestik 3230 AA	Sumitomo G-700

Products Affected:

XC18V512PC20C	XC18V01PC20C	XC18V02PC44C	XC18V04PC44C
XC18V512SO20C	XC18V01SO20C	XC18V02VQ44C	XC18V04VQ44C
XC18V512VQ44C	XC18V01VQ44C		

Key Dates: Qualification samples for product manufactured at STMicroelectronics are now available. Xilinx is offering 5 sample units free of charge per customer. Use special ordering code 0901 when placing orders for these sample units. To use ordering code 0901, append "0901" to the end of the standard ordering part number (e.g., XC18V04VQ44C0901). The ordering code 0901 will not be marked on the package topmark.

Customers who need product manufactured at STMicroelectronics beyond the onset of device cross-shipment (September 10, 2003) should also use ordering code 0901. Only product manufactured at STMicroelectronics will be used to fulfill SCD0901 orders – *this clarification paragraph was added on July 21, 2003.*

Xilinx will begin shipping production devices manufactured at STMicroelectronics starting September 10, 2003. After this date, customers ordering the standard part number may receive product manufactured at either UMC or STMicroelectronics.

Customers who need product manufactured at UMC beyond the onset of device cross-shipment (September 10, 2003) may do so on a short-term basis only by using special ordering number SCD0799*. To use SCD0799, append "0799" to the end of the standard part ordering number (e.g., XC18V04VQ44C0799). Only product manufactured at UMC will be used to fulfill SCD0799 orders. SCD0799 will be available for use starting June 10, 2003 and will be discontinued after December 31, 2003. The ordering code 0799 will not be marked on the package topmark.

Traceability: The devices manufactured at UMC and STMicroelectronics can be distinguished both visually and electrically.

Visually: The devices can be distinguished visually by a 3-letter code located on the second line of the package topmark in between the package/pin code and the datecode. The second letter in this 3-letter code will be an "R" for product manufactured at STMicroelectronics. Also, a new traceability code will be added to the top mark for XC18V00 devices manufactured at STMicroelectronics. See the example below.

Sample topmark for the 44-pin VQFP and PLCC Packages

Example of a UMC package topmark



Example of an STMicro package topmark

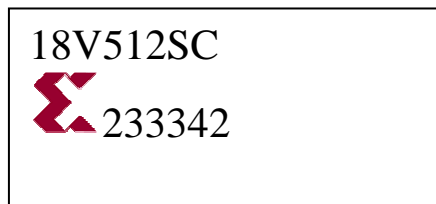


← STMicroelectronics
traceability code

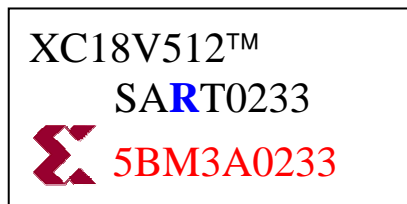
* Reference [PCN2003-04A](#) for the latest update on the availability of SCD0799.

Sample topmark for the 20-pin SOIC Package

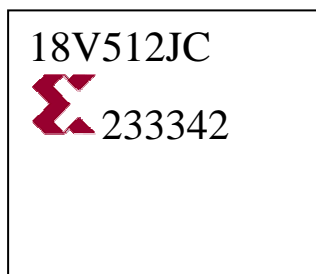
Example of a UMC package topmark



Example of an STMicro package topmark


Sample topmark for the 20-pin PLCC Package

Example of a UMC package topmark



Example of an STMicro package topmark



Electrically: The devices can be distinguished electrically by the IDCODE:

Device	UMC IDCODE	STMicroelectronics IDCODE
XC18V512	05023093h	05033093h
XC18V01	05024093h	05034093h
XC18V02	05025093h	05035093h
XC18V04	05026093h	05036093h

This change will require a software update to your programming algorithms. Please see the Algorithm Change Notification ([ACN2003-01](#)) for further details. Xilinx has informed and provided the necessary information to our third party programmer partners as well as our distribution partners to ensure a smooth transition.

Qualification Data:
STMicroelectronics Process Qualification Data for 32MBit Flash Memory:

Test Procedure	MIL-STD-883 Procedure	Test Conditions	Hours/Cy	Results		
				Lots	Sample	Fail
Retention Bake	1008	150°C	1000	1	60	0
Retention Bake	1008	250°C	1000	3	180	0
Write/Erase Cycling		25°C	100,000	3	180	0
Retention Bake (after W/E Cycling)		250°C	168	3	180	0
Temperature Cycling	1010C	-40 to 150°C	1000	1	60	0
Pressure Pot	JEDEC 22A102	121°C, 2 ATM, RH=100%	240	1	60	0
Temperature Humidity, Bias	CECC 90,000	85°C, RH=85%, Vcc=3.6V	1000	1	60	0

Xilinx Qualification Data:

Part	Test	Package	Sample	Hours/Cy	Fails	Status
XC18V04	HTOL @ 140°C	VQ44	76	1000	0	Pass
		VQ44	76	1000	0	Pass
XC18V04	Temp Cycle, Condition C -65°C to 150°C	VQ44	76	500	0	Pass
		PC44	76	500	0	Pass
		SO20	76	500	0	Pass
		PC20	76	500	0	Pass
		PC20	76	500	0	Pass
XC18V04	HTS, 150°C	VQ44	76	1000	0	Pass
		VQ44	76	500	0	Pass
		PC44	76	1000	0	Pass
		SO20	75	1000	0	Pass
		PC20	76	1000	0	Pass
XC18V04	Temperature/Humidity Bias Test - Hast 130°C/85%RH	VQ44	74	96	0	Pass
		PC44	76	96	0	Pass
		SO20	76	96	0	Pass
		PC20	76	96	0	Pass
XC18V04	Temperature/Humidity Bias Test 85°C /85%RH	VQ44	76	1000	0	Pass
XC18V04	Write/Erase Cycling 25°C	VQ44	32	20,000	0	Pass
XC18V04	ESD - HBM JESD22-A-114	VQ44	6	2000 volts	0	Pass
XC18V04	ESD - MM JESD22-A-115-A	VQ44	6	200 volts	0	Pass
XC18V04	Latchup - EIA/JESD78	VQ44	6	200 mA	0	Pass

Response and Contact: Contact your [Xilinx Sales Representative](#) for assistance in obtaining sample or production devices. Characterization data is available upon request by emailing the Xilinx Quality Assurance group at pcn@xilinx.com. All other questions may be direct pcn@xilinx.com, or directly by fax at (408) 369-1718.

Per JEDEC Standard JESD46B, customers should acknowledge receipt of the PCN within 30 days of delivery of the PCN. Lack of acknowledgement of the PCN within 30 days constitutes acceptance of the change. After acknowledgement, lack of additional response within the 90-day period constitutes acceptance of the change.

Revision History

Date	Version	Revision
6/10/03	1.0	Initial release.
6/26/03	1.1	Fixed a typographical error in the package topmark: the STMicroelectronics traceability code should be 5PM5A0233 instead of 5BM5A0233 (change the B to a P).
7/21/03	1.2	Modified the Key Dates section to clarify the use of SCD0901.
2/12/04	1.3	Modified the Key Dates section to add a footnote which references PCN2003-04A for the latest information on product availability.