

Passivation Material Change For Wafer of Spartan-6 FPGA Defense-grade "XQ" Products

XCN15007 (v1.0) July 20, 2015

Product Change Notice

Overview

The purpose of this notification is to announce the transitioning of passivation material change for wafers of Spartan®-6 FPGA Defense-grade "XQ" products. There is no change to the fit, form, function or MSL rating of the packages.

Description

Xilinx will be transitioning all passivation material used for wafer fabrication to align with industry best practice and secure equipment capacity. Xilinx is currently using the proposed new material for 7 Series Artix®-7 FPGA and Zyng®-7000 AP SoC (28nm) products and is in mature production phase.

This change will not affect fit, form, function or MSL rating of the packages.

Products Affected

This change affects all speed, package, and temperature variations of Defense-grade "XQ" product families mentioned in the title and overview.

Affected device packages are included in the Table 1.

Table 1: Spartan-6 FPGA Defense-grade "XQ" Product Families Affected

Xilinx part number	Xilinx part number	Xilinx part number
XQ6SLX150-2CS484I	XQ6SLX150T-2FG676Q	XQ6SLX75T-2CS484Q
XQ6SLX150-2CS484Q	XQ6SLX150T-2FGG676I	XQ6SLX75T-2CSG484I
XQ6SLX150-2CSG484I	XQ6SLX150T-3CS484I	XQ6SLX75T-2FG484I
XQ6SLX150-2FG484I	XQ6SLX150T-3CSG484I	XQ6SLX75T-2FG484Q
XQ6SLX150-2FG484Q	XQ6SLX150T-3FG484I	XQ6SLX75T-2FG676I
XQ6SLX150-L1CS484I	XQ6SLX150T-3FG676I	XQ6SLX75T-2FG676Q
XQ6SLX150-L1CSG484I	XQ6SLX150T-3FGG676I	XQ6SLX75T-2FGG676I
XQ6SLX150-L1FG484I	XQ6SLX75-2CS484I	XQ6SLX75T-3CS484I
XQ6SLX150T-2CS484I	XQ6SLX75-2CSG484I	XQ6SLX75T-3CSG484I
XQ6SLX150T-2CS484Q	XQ6SLX75-2FG484I	XQ6SLX75T-3FG484I
XQ6SLX150T-2CSG484I	XQ6SLX75-L1CS484I	XQ6SLX75T-3FG676I
XQ6SLX150T-2FG484I	XQ6SLX75-L1CSG484I	XQ6SLX75T-3FGG676I
XQ6SLX150T-2FG484Q	XQ6SLX75-L1FG484I	XQ6SLX75T-DIE0628
XQ6SLX150T-2FG676I	XQ6SLX75T-2CS484I	XQ6SLX150T-DIE0628

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Key Dates and Ordering Information

Xilinx will begin cutover transition using new passivation material on approximately November 17th, 2015 (target date code 1549). Any changes to the cutover date will be communicated through XTP404.

Qualification Data

Xilinx has successfully completed package qualification and the Mil-Std 883 Group D with new passivation material using Xilinx device/packages listed in <u>Table 2</u> and <u>Table 3</u>.

Table 2: Xilinx Reliability qualification vehicle

Device-Package	Preconditioning Level 3 (min of 192hrs at 30°C/60%RH and 3X reflow)	Temperature Cycle 'B' condition (T/C-B, min of 1000 cycles, -55°C to 125°C)	Test Results
XQ6SLX150T-CSG484	25 units *3 lots	25 units *3 lots	Passed
XQ6SLX150T-FGG484	25 units *3 lots	25 units *3 lots	Passed

Table 3: Test conditions and Results for the Group D test for Spartan-6 Defense-grade (XQ) device qualification vehicles

Device	Package	Subgroup	Process / Test Steps	Test Method Per Mil-Std-883	Test Condition	Sample Size per device	Test Results
		1A	Physical Dimensions	TM 2016		15	Pass
		ЗА	Thermal Shock	TM 1011	Condition B, 15 cycles	15	Pass
		3B	Temperature Cycling	TM 1010	Condition C, 100 cycles	15	Pass
		3C	Moisture Resistance	TM 1004	Keep Test Window	15	Pass
		3D	Visual Examination	TM 1004 TM 1010		15	Pass
		3F	Functional Test			15	Pass
	CSG484	4A	Mechanical Shock	TM 2002	Condition B minimum	15	Pass
XQ6SLX150T	FGG484 FGG676	4B	Vibration (Variable Frequency)	TM 2007	Condition A minimum	15	Pass
	4C	Constant Acceleration (Centrifuge)	TM 2001	Condition D minimum (Y1 orientation only)	15	Pass	
		4E	Visual Examination	TM 1004 TM 1010		15	Pass
		4F	Functional Test			15	Pass
		5A	Salt Atmosphere	TM 1009	Condition A minimum	15	Pass
		5B	Visual Examination	TM 1009			



Response

A response of acknowledgement with feedback within 30 days and approval 90 days from this notice. For additional information or questions, please contact Xilinx Technical Support.

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Additional Documentation

XTP404 - FAQ: Implications of XCN15007 https://secure.xilinx.com/webreg/clickthrough.do?cid=394411

Revision History

The following table shows the revision history for this document.

Date	Version	Description of Revisions	
07/20/2015	1.0	Initial release.	

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