



Package Bill of Material Change of Molding Compound for Defense-Grade Spartan-6 FPGA Products

XCN16008 (v1.2) July 20, 2016

Product Change Notice

Overview

The purpose of this notification is to announce the transitioning of epoxy molding compound for Spartan®-6 FPGA Defense-grade “XQ” wire bond package products. There is no change to the fit, form, function or MSL rating of the packages.

Description

Xilinx will be transitioning all epoxy molding compound material used for assembly manufacturing to align with mainstream supplier chain and material consolidation. Xilinx qualified and has been using this proposed new material for all Spartan-3, Spartan-6, 28nm Artix®, Kintex®, Virtex® and Zynq® SoC “XC” Commercial / Industrial and “XA” Automotive products for over 5 years.

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 “XQ” product families mentioned in the title and overview. All associated SCD’s will also be affected.

Affected device packages are included in the [Table 1](#).

Table 1: Spartan-6 FPGA Defense-grade “XQ” Devices Packages Affected

Part Number	Part Number	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	
XQ6SLX150T-2FG676I	XQ6SLX75T-2CS484I	

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Key Dates and Ordering Information

Xilinx will begin shipping products using new epoxy molding compound starting with Date Code 1641.

Qualification Data

Xilinx has successfully completed package qualification & the Mil-Std 883 Group D with new molding compound material using Xilinx device/packages listed in Table 2 & Table 3.

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)	High Temperature Storage Life (150°C, 1,000 hrs)	Unbiased /biased HAST (110°C, 85% RH, 264 hrs)	Result
XQ6SLX150T-CSG484	25 units *3 lots	25 units *3 lots	25 units *3 lots	25 units *3 lots	Passed
XQ6SLX150T-FGG484	25 units *3 lots	25 units *3 lots	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	Result
XQ6SLX150T	CSG484 FGG484	1A	Physical Dimensions	TM 2016		15	Passed
		3A	Thermal Shock	TM 1011	Condition B, 15 cycles	15	Passed
		3B	Temperature Cycling	TM 1010	Condition C, 100 cycles	15	Passed
		3C	Moisture Resistance	TM 1004	Keep Test Window	15	Passed
		3D	Visual Examination	TM 1004 TM 1010		15	Passed
		3F	Functional Test			15	Passed
		4A	Mechanical Shock	TM 2002	Condition B minimum	15	Passed
		4B	Vibration (Variable Frequency)	TM 2007	Condition A minimum	15	Passed
		4C	Constant Acceleration (Centrifuge)	TM 2001	Condition D minimum (Y1 orientation only)	15	Passed
		4E	Visual Examination	TM 1004 TM 1010		15	Passed
		4F	Functional Test			15	Passed
		5A	Salt Atmosphere	TM 1009	Condition A minimum	15	Passed
		5B	Visual Examination	TM 1009			Passed

Response

No response is required. For additional information or questions, please contact [Xilinx Technical Support](#).

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Revision History

The following table shows the revision history for this document.

Date	Version	Description of Revisions
04/25/2016	1.0	Initial release.
07/18/2016	1.1	Replaced cross-ship date with cutover date of October 2 nd , 2016 (Date Code 1641).
07/20/2016	1.2	Specified cutover date with Date code 1641.

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