

PRODUCT CHANGE NOTIFICATION

Overview

The Classic product family is being transitioned to a 0.65-micron process. This change will improve Altera's ability to support the product line on a long-term basis. The new die revisions will be pin, function, timing and programming-file compatible with existing die revisions. This notification addresses Altera's intent to substitute 0.65-micron die into the Classic devices that currently use larger critical-dimension die.

Implementation

Altera will begin die substitution for all EP6xx devices on May 1, 1996. After this date, Altera may use either existing die or 0.65-micron die in EP6xx devices.

In all cases of die substitution, the 0.65-micron process may be distinguished by the fourth digit character of the nine character lot number, which is marked on the backside of the device. The 0.65-micron process is identified by a 7.

Altera will transition EP9xx and EP18xx devices to a 0.65-micron process per the following approximate schedule:

<u>Device</u>	<u>Month</u>
EP9xx	September '96
EP18xx	March '97

Reliability results for the 0.65-micron process are provided with this PCN. Reliability test results will be available, upon request, for each product in advance of the transition to the 0.65-micron process. Reliability data was gathered for this process on the EPM5128A, which has more logic elements than the classic devices.

0.65m EPM5128A Reliability Results

Package	Stress	Duration	Sample Size	# Fail
68 PLCC	Lifetest 130°C, 6.0V	2000 hrs	154	0
68 PLCC	Lifetest 130°C, 6.0V	500 hrs	45	0
68 PLCC	Autoclave 121°C	168 hrs	199	0
68 PLCC	Temperature Cycle Cond. B	1000 cy	199	0
68 PLCC	HAST 130°C/85% RH	168 hrs	47	0

68 PLCC	Retention Bake 150°C	1000 hrs	154	0
68 PLCC	Retention Bake 150°C	500 hrs	45	0

If you have any questions or require additional information regarding the changes described herein, please contact your local Altera sales representative.

Sincerely,

Prakash Vaswani
Quality Manager