

Process Qualification Report

Reliability By Design

Qualification Description:

The information contained herein represents proof of Reliability and Performance of the baseline process technology listed below in accordance with the Qualification Plan and test methods referenced in Section 8.0, after exposure to a variety of environments (electrical, thermal, humidity, etc) and mechanical events that may occur during installation and operational lifetime of the product. Upon conclusion of the testing the product continued to operate within specification limits, demonstrating its capability of reliable operation throughout its lifetime.

The purpose of this report is to present Qualification Test results of the of referenced process technology. The Pericom product data presented in this report qualifies all products manufactured using the exact semiconductor materials and processing techniques used in the baseline process and its off-shoot processes. The report describes the qualification test program, procedures used, criteria enforced (at the time of product validation), and the resulting test data obtained during the Qualification Test. The materials and processing techniques used in the baseline process are incorporated into the off-shoot processes, so the quality/integrity of the baseline and off-shoots (i.e.: 2PxM, 1PxM) processes will be equivalent.

Lot Background Information:

Qual Test Date:	March-2005	By Ext. Process:	0.50um 1PxM
Process Technology:	0.50um 1P2M		
Foundry & Code:	WuXi-HJ (W)		
Qual Test Number:	Q04013-1	Qual Part Number:	PI5C3257WE

Pericom's Qualification Test Results:

Stress Test	Test Procedure	Test Conditions	Duration	# of Lots	Samples per Lot	Results Pass/Fail
Dynamic High Temp	JESD22-A108	3000 hrs 5.5V 150°C	168 hrs	1	160	160 / 0
Operating Life		3000 hrs 5.5V 150°C	500 hrs	1	160	160 / 0
(DHTOL)		3000 hrs 5.5V 150°C	1000 hrs	1	160	160 / 0
		3000 hrs 5.5V 150°C	2000 hrs	1	160	160 / 0
		3000 hrs 5.5V 150°C	3000 hrs	1	160	160 / 0
		FIT Rate (55°C, 0.5 eV, 60%CL)	18.9			
		Calculated MTBF (hrs)	52,910,053			
UHASt	JESD22-A118	130°C, RH 85%, 33.3 psia, 0V	96 hrs	1	100	100 / 0
Temp Cycle Test	JESD22-A104	-65°C to 150°C, 500cyc	500 cycles	1	76	76 / 0
High Temp Storage	JESD22-A103	1000hrs, 0V, 150°C	168 hrs	1	100	100 / 0
(HTS)		1000hrs, 0V, 150°C	500 hrs	1	100	100 / 0
		1000hrs, 0V, 150°C	1000 hrs	1	100	* 99 / 0
Latch Up Test	EIA JESD78	Report available by Device				
ESD-HBM Test	JESD22-A114	Report available by Device				

* One unit damaged in ATE handler, not testable.

Qualification by Extension Information:

It is valid to use the reliability data of a particular process technology and apply to all products within this process technology family. All parts within the same family are designed to the same rules (layout & electrical), and manufacturing is controlled by SPC. Within a product family, a device can only be fabricated on one process technology option.

If there are any questions about this qualification, please contact Quality Support at: customerquestion@pericom.com