

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:	April-2004 updated Jun-2015
Process Technology:	0.50um 1P2M
Foundry & Code:	GBL (C) formerly CSM
Qual Test Number:	QDC03007-1, Global Rel Data

By Ext. Process:	0.50um 1P3M 0.50um 1PxM
Qual Part Number:	PI6C2510-133E, PI6C2510AL
Date Code(s):	0323OC 0025AOC

Pericom's Qualification Test Results:

Stress Test	Test Procedure	Test Conditions	Duration	# of Lots	Samples per Lot	Results Pass/Fail
Dynamic High Temp	JESD22-A108B	3000 hrs 3.6V 150°C	168 hrs	1	130	130 / 0
Operating Life		3000 hrs 3.6V 150°C	500 hrs	1	130	130 / 0
(DHTOL)		3000 hrs 3.6V 150°C	1000 hrs	1	130	130 / 0
		3000 hrs 3.6V 150°C	2000 hrs	1	130	130 / 0
		3000 hrs 3.6V 150°C	3000 hrs	1	130	116 / 0*
Dynamic High Temp	JESD22-A108B	1000 hrs 3.3V 145°C	168 hrs	3	167	501 / 0
Operating Life		1000 hrs 3.3V 145°C	500 hrs	3	167	501 / 0
(CSM Rel Monitor -- Mar, May, Jun of 2011)		1000 hrs 3.3V 145°C	1000 hrs	3	167	501 / 0
Dynamic High Temp	JESD22-A108B	1000 hrs 3.3V 145°C	168 hrs	4	167	668 / 0
Operating Life		1000 hrs 3.3V 145°C	500 hrs	4	167	668 / 0
(CSM Rel Monitor - Jan, Mar July Sep of 2012)		1000 hrs 3.3V 145°C	1000 hrs	4	167	668 / 0
	ELFR Rate is based on 1299 units at 168 hours.	ELF Rate (55°C, 0.7eV, 3.3V, 60%CL)		11.0		
	FIT Rate is based on 1299 units at 1,000 hours	FIT Rate (55°C, 0.7eV, 3.3V, 60%CL)		1.9		
		Calculated MTBF (hrs)		539,568,944		
Temp Cycle Test	JESD22-A104C	-65°C to 150°C, 100, 500 cycles	100 cycles	1	76	76 / 0
		-65°C to 150°C, 100, 500 cycles	500 cycles	1	76	76 / 0
Temp Cycle Test	JESD22-A104C	-65°C to 150°C, 100, 500 cycles	100 cycles	19	76	1444 / 0
(P-TC - from Ongoing Rel Monitor - 2014)		-65°C to 150°C, 100, 500 cycles	500 cycles	19	76	1444 / 0
High Temp Storage	JESD22-A103B	3000 hrs 0V 150°C	168 hrs	1	100	100 / 0
(HTS)		3000 hrs 0V 150°C	500 hrs	1	100	100 / 0
		3000 hrs 0V 150°C	1000 hrs	1	100	100 / 0
High Temp Storage	JESD22-A103B	1000 hrs 0V 150°C	168 hrs	19	76	1444 / 0
(HTS)		1000 hrs 0V 150°C	500 hrs	19	76	1444 / 0
(HTS - from Ongoing Rel Monitor - 2014)		1000 hrs 0V 150°C	1000 hrs	19	76	1444 / 0
Latch Up Test	EIA JESD78	Report available by Device				
ESD-HBM Test	JESD22-A114D	Report available by Device				

*NOTE: 14 units were electrically damaged during the High Temp Operating Life; there were no device issues found, this was a malfunction of the board/power supply interface that electrically overstressed these devices.

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

Date: **April-2004 updated Jun-2015**

Subject: **Pericom Process Qualification Report**

Mfg-Fab-Process: **GBL2 0.50um 1P2M**

Qual Vehicle(s): **PI6C2510-133E, PI6C2510AL**

By extension: Pericom active devices using the Fab/Process at the time of the Qualification:

PI3C3125LE	PI5C3126QEX	PI6C2405A-1HWE		
PI3C3125LEX	PI5C3253LE	PI6C2405A-1HWEX		
PI3C3125WE	PI5C3253LEX	PI6C2405A-1HWIE		
PI3C3125WEX	PI5C3253QE	PI6C2405A-1HWIEX		
PI3C3125ZJEX	PI5C3253QEX	PI6C2405A-1LE		
PI3C3126LE	PI5C3253WE	PI6C2405A-1LEX		
PI3C3126LEX	PI5C3253WEX	PI6C2405A-1WE		
PI3C3126QE	PI5C3257LE	PI6C2405A-1WEX		
PI3C3126QEX	PI5C3257LEX	PI6C2409-1HLE		
PI3C3245LE	PI5C3257QE	PI6C2409-1HLEX		
PI3C3245LEX	PI5C3257QEX	PI6C2409-1HWE		
PI3C3245QE	PI5C3257WE	PI6C2409-1HWEX		
PI3C3245QEX	PI5C3257WEX	PI6C4511WE		
PI3C32X245BE	PI5C3303TEX	PI6C4511WEX		
PI3C32X245BEX	PI5C3305LE	PT7A6525JE		
PI3C32X384BE	PI5C3305LEX	PT7A6525JEX		
PI3C32X384BEX	PI5C3305UEX	PT7A6525LJE		
PI3C3305LE	PI5C3306LE	PT7A6525LJEX		
PI3C3305LEX	PI5C3306LEX	PT7A6526JE		
PI3C3305UEX	PI5C3309UEX	PT7A6526JEX		
PI3C3306LE	PI5C33X257BE	PT7A6527JE		
PI3C3306LEX	PI5C33X257BEX	PT7A6527JEX		
PI3C3306UEX	PI5L100QE	PT7A8980JE		
PI3C3384QE	PI5L100QEX	PT7A8980JEX		
PI3C3384QEX	PI5L200LE	PT7C4501WE		
PI3C34X245BE	PI5L200LEX	PT7C4501WEX		
PI3C34X245BEX	PI5L200QE	PT7C4502WE		
PI3C3861-AQE	PI5L200QEX	PT7C4502WEX		
PI3C3861-AQEX	PI5L200WE	PT7C4511WE		
PI3VT3306LE	PI5L200WEX	PT7C4511WEX		
PI3VT3306LEX	PI5V330AQE	PT7C4512WE		
PI3VT3306UEX	PI5V330AQEX	PT7C4512WEX		
PI5A100QE	PI5V330QE	PT8A2611PE		
PI5A100QEX	PI5V330QEX	PT8A2611WE		
PI5A100WE	PI5V330WE	PT8A2611WEX		
PI5A100WEX	PI5V330WEX			
PI5A124TEX	PI5V331QE			
PI5A3157CEX	PI5V331QEX			
PI5A3158ZAEX	PI6C22409P-1HLE			
PI5A392AQE	PI6C22409P-1HLEX			
PI5A392AQEX	PI6C2405A-1HLE			
PI5C3125QE	PI6C2405A-1HLEX			
PI5C3125QEX	PI6C2405A-1HLIE			
PI5C3126QE	PI6C2405A-1HLIEX			