PERICOM®
Enabling Serial Connectivity

Package Qualification Report

Reliability By Design

Qualification Description:

The information contained herein represents proof of Reliability and Performance of the Package Series listed below in accordance with the Qualification Plan and test methods referenced in Section 7.0, after exposure to a variety of environments and mechanical events that 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 referenced Package Series. The Pericom product data presented in this report qualifies the products manufactured in this package configuration, using the same bill of materials and assembled by the identified subcontractor location. The report describes the qualification test program, procedures utilized, criteria enforced (at the time of product validation), and specific result data obtained during the testing of three lots of semiconductors. The three lots consist of an equal number of units from different date codes, from the same production line and SubContractor to ensure manufacturing repeatability.

Lot Background Information:

Qual Vehicle:	PI3WVR12612NEE	Qual Test Date:	Aug-2013
Supplier (Code):	GTK (G)	Die Attach Material:	Ablebond 2000
Pkg Type - Code:	TFBGA-50 (NE50)	Wire Size & Material:	0.8mil PdCu
Outline Drawing:	PD-2158	Mold Compound:	KE-G1250TC
By Extension Pkg:	NE48	Leadframe Material:	BT Substrate
		Lead Finish:	SnAgCu Balls

Pericom's Qualification Test Results:

Stress Test	Test Procedure	Test Conditions	Duration	# of Lots	Samples per Lot	Results Pass/Fail
Preconditioning	JESD22-A113	MSL3	NA	3	240	240 / 0
CSAM	J-STD-020	No delamination of Die Top, Wire bond, Down bond areas	NA	3	22	22 / 0
PreCon UHAST	JESD22-A118	130°C, RH 85%, 33.3 psia, 0V	168 hrs	3	75	75 / 0
PreCon Temp Cycle	JESD22-A104	-65°C to +150°C 500 Cycles	100 cycles	3	75	75 / 0
		-65°C to +150°C 500 Cycles	500 cycles	3	75	75 / 0
HTSL (no PreCon)	JESD22-A103	1000hrs, 0V, 150°C	500 hrs	3	80	80 / 0
		1000hrs, 0V, 150°C	1000 hrs	3	80	80 / 0
Physical Dimension	JESD22-B100	Per Datasheeet	NA	3	5	5 / 0
External Visual Insp	JESD22-B101	NA	NA	3	5	5 / 0

Qualificaton by Extension Information:

Where a product of interest is not sampled during this period, it is valid to use the reliability data of the particular process technology or package type family to which the part belongs. All parts within the same family are designed to the same rules, and manufacturing is controlled by SPC. Within a product family, a device can only be fabricated on one process technology/ option, and only assembled on one package type process.

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

Date: **Aug-2013**

PKG Type & Code: **TFBGA-50 (NE50)**

Assembler-Code: **GTK (G)**

Qual Vehicle: **PI3WVR12612NEE**

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

PI3VDP12412NEE				
PI3VDP12412NEEX				
PI3WVR12612NEE				
PI3WVR12612NEEX				

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Lot Background Information:

Qual Vehicle:	PI3VDP12412NEE	Qual Test Date:	Mar-2012
Supplier (Code):	ASECL (E)	Die Attach Material:	Ablebond 2025D
Pkg Type - Code:	TFBGA (NE48)	Wire Size & Material:	0.8 mil PdCu
Outline Drawing:	PD-2101	Mold Compound:	KE-G1250
By Extension Pkg:	NC48	Leadframe Material:	BGA Substrate
		Lead Finish:	Sn/Ag/Cu/Ni Balls
		Date Codes:	1145EG 1146EG 1147EG

Pericom's Qualification Test Results:

Stress Test	Test Procedure	Test Conditions	Duration	# of Lots	Samples per Lot	Results Pass/Fail
Preconditioning	JESD22-A113	MSL3	NA	3	154	154 / 0
CSAM	J-STD-020	No delamination of Die Top, Wire bond, Down bond areas	NA	3	22	22 / 0
PreCon UHAST	JESD22-A118	130°C, RH 85%, 33.3 psia, 0V	96 hrs	3	77	77 / 0
PreCon Temp Cycle	JESD22-A104	-65°C to +150°C 500 Cycles	100 cycles	3	77	77 / 0
		-65°C to +150°C 500 Cycles	500 cycles	3	77	77 / 0
HTSL (no PreCon)	JESD22-A103	1000hrs, 0V, 150°C	500 hrs	3	77	77 / 0
		1000hrs, 0V, 150°C	1000 hrs	3	77	77 / 0
Wire Strength, IMG		After 1000 hours HTSL	NA	3	2	2 / 0
Splash, Cratering		After Wire bonding	NA	3	3	3 / 0
Physical Dimension	JESD22-B100	Per Datasheeet	NA	3	5	5 / 0
External Visual Insp	JESD22-B101	NA	NA	3	5	5 / 0

Qualificaton by Extension Information:

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Qual Test Date: **Mar-2012**

PKG Type & Code: **TFBGA (NE48)**

Assembler-Code: **ASECL (E)**

Qual Vehicle: **PI3VDP12412NEE**

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

PI3VDP12412NEE				
PI3VDP12412NEEX				
PI2DDR3212NCE				
PI2DDR3212NCEX				

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Package Qualification Report

Reliability By Design

Qualification Description:

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Lot Background Information:

Qual Vehicle:	PI3WVR12612NEE	Qual Test Date:	Aug-2014 updated Sep-2014
Supplier (Code):	OSE (O)	Die Attach Material:	Ablestik 2300
Pkg Type - Code:	TFBGA-50 (NE50)	Wire Size & Material:	0.8mil PdCu
Outline Drawing:	PD-2158	Mold Compound:	EME-E770
By Extension Pkg:	NM48	Leadframe Material:	Copper
		Lead Finish:	Sn/Ag/Cu Balls

1410OG 1411OG 1412OG

Pericom's Qualification Test Results:

Stress Test	Test Procedure	Test Conditions	Duration	# of Lots	Samples per Lot	Results Pass/Fail
Preconditioning	JESD22-A113	MSL3	NA	3	231	231 / 0
CSAM	J-STD-020	No delamination of Die Top, Wire bond, Down bond areas	NA	3	22	22 / 0
PreCon UHAST	JESD22-A118	130°C, RH 85%, 33.3 psia, 0V	96 hrs	3	77	77 / 0
PreCon Temp Cycle	JESD22-A104	-65°C to +150°C 500 Cycles	100 cycles	3	77	77 / 0
		-65°C to +150°C 500 Cycles	500 cycles	3	77	77 / 0
PreCon BHAST	JESD22-A118	130°C, RH 85%, 33.3 psia, 3.6V	96 hrs	3	77	77 / 0
		130°C, RH 85%, 33.3 psia, 3.6V	192 cycles	3	77	77 / 0
HTSL (no PreCon)	JESD22-A103	1000hrs, 0V, 150°C	500 hrs	3	77	77 / 0
		1000hrs, 0V, 150°C	1000 hrs	3	77	77 / 0
Wire Strength, IMG		After 1000 hours HTSL	NA	3	2	2 / 0
Splash, Cratering		After Wire bonding	NA	3	3	3 / 0
Physical Dimension	JESD22-B100	Per Datasheeet	NA	3	5	5 / 0
External Visual Insp	JESD22-B101	NA	NA	3	5	5 / 0
Solderability	J-STD-020 JESD22-B102	Pb-Free Solder Dip 245°C	NA	3	5	5 / 0

Qualificaton by Extension Information:

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Date: **Aug-2014 updated Sep-2014**

PKG Type & Code: **TFBGA-50 (NE50)**

Assembler-Code: **OSE (O)**

Qual Vehicle: **PI3WVR12612NEE**

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

PI3WVR12612NEE				
PI3WVR12612NEEX				
PI3DDR4212NME				
PI3DDR4212NMEX				

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