

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 Part Number:	PI5A4157CE
Supplier (Code):	CAT (T)
Pkg Type - Code:	SC70-6 (C06)
Outline Drawing:	PD-0026
By Extension Pkg:	C05

Qual Test Date:	May-2016
Die Attach Material:	XS8488-7
Wire Size & Material:	0.8 mil PdCu
Mold Compound:	CEL-1700-D3 (M2)
Leadframe Material:	Copper
Lead Finish:	100% Matte Sn
Date Codes:	1603TG, 1604TG, 1605TG

Pericom's Qualification Test Results:

Stress Test	Test Procedure	Test Conditions	Duration	# of Lots	Samples per Lot	Results Pass/Fail
Preconditioning	JESD22-A113	MSL1	NA	3	253	759 / 0
CSAM	J-STD-020	No delamination of Die Top, Wire bond, Down bond areas	NA	3	22	66 / 0
PreCon UHAST	JESD22-A118	130C, 85% RH, 96Hrs, 33.3 psia (230kPa)	96 hrs	3	77	231 / 0
PreCon BHAST	JESD22-A110	130C, 85% RH, 33.3 psia (230kPa), Vmax	96 hrs	3	77	231 / 0
		130C, 85% RH, 33.3 psia (230kPa), Vmax	192 hrs	3	77	231 / 0
PreCon Temp Cycle	JESD22-A104	-65°C to +150°C	100 cycles	3	77	231 / 0
		-65°C to +150°C	500 cycles	3	77	231 / 0
HTSL (no PreCon)	JESD22-A103	1000hrs, 0V, 150°C	500 hrs	3	77	231 / 0
		1000hrs, 0V, 150°C	1000 hrs	3	77	231 / 0
Physical Dimension	JESD22-B100	Per Datasheet	NA	3	5	15 / 0
External Visual Insp	JESD22-B101	Workmanship, Marking, etc.	NA	3	5	15 / 0
Solderability	J-STD-020 JESD22-B102	Pb-Free Solder Dip 245°C	NA	3	5	15 / 0

Qualification 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@diodes.com

