



PCN# : P52AAAB
Issue Date : Jun. 24, 2016

DESIGN/PROCESS CHANGE NOTIFICATION

This is to inform you that a change is being made to the products listed below.

Unless otherwise indicated in the details of this notification, the identified change will have no impact on product quality, reliability, electrical, visual or mechanical performance and affected products will remain fully compliant to all published specifications. Products incorporating this change may be shipped interchangeably with existing unchanged products.

This change is planned to take effect in 90 calendar days from the date of this notification. Please work with your local Fairchild Sales Representative to manage your inventory of unchanged product if your evaluation of this change will require more than 90 calendar days.

Please contact your local Customer Quality Engineer within 30 days of receipt of this notification if you require any additional data or samples.

Implementation of change:

Expected First Shipment Date for Changed Product :Sep. 22, 2016

Expected First Date Code of Changed Product :1639

Description of Change (From) :

- 1) Wire bonding with 1.0mils PCC and 1.3mils Au.
- 2) Assembly in Fairchild Semiconductor Cebu, Philippines.

Package	Current Assembly Site	BOM					
		Leadframe	Die & Clip Attach Material	Clip Material	Wire	Mold Compound	Terminal Finish
MP PQFN5x6	Fairchild Cebu, Philippines	C194 Cu leadframe with Ag spot plating	Indium Corp. NC-SMQ75	C194 Cu Clip	1.0 mils PCC wire 1.3 mils Au wire	Hitachi CEL9240HF10LS	Sn

Description of Change (To) :

- 1) Standardize wire bonding to 1.0mils PCC only.

2) Added alternate assembly location in sub-contractor Malaysia. No changes to current marketing outline specification

Package	Assembly Site	BOM					
		Leadframe	Die Attach Material	Clip Material	Wire	Mold Compound	Terminal Finish
MP PQFN5x6	Fairchild Cebu, Philippines	C194 Cu leadframe with Ag spot plating	Indium Corp. NC-SMQ75	C194 Cu Clip	1.0 mils PCC wire	Hitachi CEL9240HF10LS	Sn
MP PQFN5x6	Sub-contractor in Malaysia	C194 Cu leadframe with Ag spot plating	Indium Corp. NC-SMQ75	C194 Cu Clip	1.0 mils PCC wire	Hitachi CEL9240HF10LS	Sn

Reason for Change:

- Improved supply flexibility.
- Better quality and yields through equipment and facility upgrades.
- Increased automation in handling and inspection in assembly.
- Fairchild partnerships with foundries and assembly subcontractors.
- Best manufacturing practices- access to many customer methods and practices.
- Advanced technology for fast ramp of future new products and technologies.

Affected Product(s):

FDPC5018SG	FDPC5030SG	FDPC8014AS
FDPC8014S	FDPC8016S	

Qualification Plan	Device	Package	Process	No. of Lots
Q20150482A	FDPC5030SG	PQFN 56 Multiphase	PT8 N PT8 N W S PE	2

Test Description:	Condition:	Standard :	Duration:	Results:
MSL1 Precondition	260°C, 3 cycles	JESD22-A113		0/770
Highly Accelerated Stress Test (Die 1)	130°C, 85%RH, Vr = 24V	JESD22-A110	96 hrs	0/154
Highly Accelerated Stress Test (Die 2)	130°C, 85%RH, Vr = 24V	JESD22-A110	96 hrs	0/154
High Temperature Storage Life	150°C	JESD22-A103	1000hrs	0/154
Temperature Cycle	-65°C, 150°C	JESD22-A104	500 cycles	0/154
Unbiased Highly Accelerated Stress Test	130°C, 85%RH	JESD22-A118	96 hrs	0/154

Qualification Plan	Device	Package	Process	No. of Lots
Q20150482A	FDPC8016S	PQFN 56 Multiphase	PT9 N PT9 N S	1

Test Description:	Condition:	Standard :	Duration:	Results:
MSL1 Precondition	260°C, 3 cycles	JESD22-A113		0/462
Highly Accelerated Stress Test (Die 1)	130°C, 85%RH, Vr = 20V	JESD22-A110	96 hrs	0/77
Highly Accelerated Stress Test (Die 2)	130°C, 85%RH, Vr = 20V	JESD22-A110	96 hrs	0/77
High Temperature Gate Bias	150°C, Vgs = 12V	JESD22-A108	1000hrs	0/77
High Temperature Reverse Bias (Die 1)	150°C, Vr = 20V	JESD22-A108	1000hrs	0/77
High Temperature Reverse Bias (Die 2)	125°C, Vr = 20V	JESD22-A108	1000hrs	0/77
Power Cycle (Die 1)	Delta 100CC, 2.0 Min cyc Vdd = 10.58V Vref = .58V	JESD22-A105	10000 cycles	0/77
Power Cycle (Die 2)	Delta 100CC, 2.0 Min cyc Vdd = 10.63V Vref = .63V	JESD22-A105	10000 cycles	0/77
Temperature Cycle	-65°C, 150°C	JESD22-A104	500 cycles	0/77
Unbiased Highly Accelerated Stress Test	130°C, 85%RH	JESD22-A118	96hrs	0/77

Qualification Plan	Device	Package	Process	No. of Lots
Q20160052	FDPC8016S	PQFN 56 Multiphase	PT9 N PT9 N S	1

Test Description:	Condition:	Standard :	Duration:	Results:
MSL1 Precondition	260°C, 3 cycles	JESD22-A113		0/308
Highly Accelerated Stress Test (Die 1)	130°C, 85%RH, Vr = 20V	JESD22-A110	96 hrs	0/77
Highly Accelerated Stress Test (Die 2)	130°C, 85%RH, Vr = 20V	JESD22-A110	96 hrs	0/77
High Temperature Storage Life	150°C	JESD22-A103	1000hrs	0/77
Temperature Cycle	-65°C, 150°C	JESD22-A104	500 cycles	0/77
Resistance to Solder Heat	260C	JESD22-B106	10sec	0/30



Title : Qualification Report for PCN : P52AAAB

Date : Jun. 23, 2016

Affected devices :

Customer Name : DIGI-KEY CONSIGNMENT

Customer Code :

Product	Customer Part Number	BBB	Drawing
FDPC5018SG		Y	N
FDPC5030SG		Y	N
FDPC8014AS		Y	N
FDPC8014S		Y	N
FDPC8016S		Y	N

Qualification Test Summary :

Qualification Plan	Device	Package	Process	No. of Lots
Q20150482A	FDPC5030SG	PQFN 56 Multiphase	PT8 N PT8 N W S PE	2

Test Description:	Condition:	Standard :	Duration:	Results:
MSL1 Precondition	260°C, 3 cycles	JESD22-A113		0/770
Highly Accelerated Stress Test (Die 1)	130°C, 85%RH, $V_{rr} = 24V$	JESD22-A110	96 hrs	0/154
Highly Accelerated Stress Test (Die 2)	130°C, 85%RH, $V_{rr} = 24V$	JESD22-A110	96 hrs	0/154
High Temperature Storage Life	150°C	JESD22-A103	1000hrs	0/154
Temperature Cycle	-65°C, 150°C	JESD22-A104	500 cycles	0/154
Unbiased Highly Accelerated Stress Test	130°C, 85%RH	JESD22-A118	96 hrs	0/154

Qualification Plan	Device	Package	Process	No. of Lots
Q20150482A	FDPC8016S	PQFN 56 Multiphase	PT9 N PT9 N S	1

Test Description:	Condition:	Standard :	Duration:	Results:
MSL1 Precondition	260°C, 3 cycles	JESD22-A113		0/462
Highly Accelerated Stress Test (Die 1)	130°C, 85%RH, $V_{rr} = 20V$	JESD22-A110	96 hrs	0/77
Highly Accelerated Stress Test (Die 2)	130°C, 85%RH, $V_{rr} = 20V$	JESD22-A110	96 hrs	0/77
High Temperature Gate Bias	150°C, $V_{gs} = 12V$	JESD22-A108	1000hrs	0/77
High Temperature Reverse Bias (Die 1)	150°C, $V_{rr} = 20V$	JESD22-A108	1000hrs	0/77
High Temperature Reverse Bias (Die 2)	125°C, $V_{rr} = 20V$	JESD22-A108	1000hrs	0/77
Power Cycle (Die 1)	Delta 100CC, 2.0 Min cyc $V_{dd} = 10.58V$ $V_{ref} = .58V$	JESD22-A105	10000 cycles	0/77
Power Cycle (Die 2)	Delta 100CC, 2.0 Min cyc $V_{dd} = 10.63V$ $V_{ref} = .63V$	JESD22-A105	10000 cycles	0/77
Temperature Cycle	-65°C, 150°C	JESD22-A104	500 cycles	0/77
Unbiased Highly Accelerated Stress Test	130°C, 85%RH	JESD22-A118	96hrs	0/77

Qualification Plan	Device	Package	Process	No. of Lots
Q20160052	FDPC8016S	PQFN 56 Multiphase	PT9 N PT9 N S	1

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MSL1 Precondition	260°C, 3 cycles	JESD22-A113		0/308
Highly Accelerated Stress Test (Die 1)	130°C, 85%RH, $V_{rr} = 20V$	JESD22-A110	96 hrs	0/77
Highly Accelerated Stress Test (Die 2)	130°C, 85%RH, $V_{rr} = 20V$	JESD22-A110	96 hrs	0/77
High Temperature Storage Life	150°C	JESD22-A103	1000hrs	0/77
Temperature Cycle	-65°C, 150°C	JESD22-A104	500 cycles	0/77
Resistance to Solder Heat	260C	JESD22-B106	10sec	0/30

The selection methodology of qualification vehicles is aligned with JESD47 and if automotive devices are impacted by the PCN the selection of qualification vehicles is also align with the requirements in AEC-Q100 or AEC-Q101

Please contact your local Customer Quality Engineer if you have any questions concerning this data.