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PCN# : P2C2A
Issue Date : Jan. 18, 2013

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. Alternatively, you may send an email request for data, samples or other information to PCNSupport@fairchildsemi.com.

Implementation of change:

Expected First Shipment Date for Changed Product : Apr. 18, 2013

Expected First Date Code of Changed Product :1310

Description of Change (From) :
Existing TSSOP 28L Shin-etsu Mold Compound (KMC-289) was obsoleted by mold compound vendor in Pd12'12 and the remaining existing KMC-289 mold compound will only last until Pd03'13. FSPM will have no KMC-289 mold compound to support customer demand after Pd03'13. Below is the existing BOM for TSSOP 28L package:

1) Mold Compound: KMC-289 (Non-green) (Stock#: 500219)
2) DA Epoxy: 84-1LMISR4 (Stock#:500357) and Poly6 (Stock#: 010137)
3) Leadframe: Cu leadframe with silver plated DAP - Etch (Stock#: 500305) and Stamp (Stock#: 500394)

Description of Change (To) :
The green BOM is identified using the green (halogen free) mold compound with the QMI519 die attach epoxy which is proven to have good combination with UPG2 roughening leadframe in FSPM.

1) Mold Compound: CEL800JF (Green) (Stock#: 501209)
2) DA Epoxy: QMI519 (Stock#: 500359)
3) Leadframe: Samsung RT-UPG2 - Etch (Stock#:501150) and Stamp (Stock#: 501170)

The MSL1 result shown the improvement in terms of DAP delamination and DA delamination for this green BOM.

Reason for Change:
TSSOP 28L existing KMC-289 non-green mold compound was obsoleted in Pd12'12 and the remaining existing KMC-289 mold compound will only last until Pd03'13. FSPM will have no KMC-289 mold compound to support

customer demand after Pd03'13. The green BOM using CEL-800JF mold compound (halogen free) has been selected and gone through the reliability and qualification run. This qualication is crucial to prevent the customer line down because there will be no more KMC-289 mold compound to support customer demand after Pd03'13. Additionally, the qualification result for this green BOM shown passed and there is improvement in terms of DAP & DA delamination compared to the existing KMC-289 mold compound.

Affected Product(s):

FAN47411MTCX	FAN47412MTCX	FAN5026MTCX
FAN5236MTCX	FAN5236MTCX_NA3C246	FAN77011MTCX
FAN77012MTCX		

Qualification Plan	Device	Package	Process	No. of Lots
Q20120200A	FAN47412MTCX	TSSOP 28L	HDG4D	1

Test Description:	Condition:	Standard :	Duration:	Results:
MSL1 Precondition	260C, 3 cycles	**JESD22-A113**		0/122
MSL1	260C, 3 cycles	**J-STD_020**		0/11
Highly Accelerated Stress Test	110C, 85%RH	**JESD22-A110**	264 hrs	0/45
Temperature Cycle	-65C, 150C	**JESD22-A104**	500 cycles	0/77
Bond Pull	3.0g	**JESD22-C100**		0/5
Bond Shear	15g	**AEC-Q100-001**		0/5
Die Shear	0.4g/mil sq	**MIL-STD-883-2019**		0/5
Solderability CA	Condition C steam aging (8hrs), Condition A solder Dip (215 for 5 sec)	**JESD22-B102**		0/11
Solderability CB	Condition C steam aging (8hrs), Condition A solder Dip (245 for 5 sec)	**JESD22-B102**		0/11
Physical dimensions		**JESD22-B100**		0/5
Gate leakage positive	155C, 400V	**AEC-Q100-006**		0/3
Gate leakage negative	155C, - 400V	**AEC-Q100-006**		0/3
Construction Analysis				0/2

Qualification Plan	Device	Package	Process	No. of Lots
Q20120200A	FAN77012MTCX	TSSOP 28L	HDG4D	1

Test Description:	Condition:	Standard :	Duration:	Results:
MSL1 Precondition	260C, 3 cycles	**JESD22-A113**		0/122
MSL1	260C, 3 cycles	**J-STD_020**		0/11
Highly Accelerated Stress Test	110C, 85%RH	**JESD22-A110**	264 hrs	0/45
Temperature Cycle	-65C, 150C	**JESD22-A104**	500 cycles	0/77
Bond Pull	3.0g	**JESD22-C100**		0/5
Bond Shear	15g	**AEC-Q100-001**		0/5
Die Shear	0.4g/mil sq	**MIL-STD-883-2019**		0/5
Solderability CA	Condition C steam aging (8hrs), Condition A solder Dip (215 for 5 sec)	**JESD22-B102**		0/11
Solderability CB	Condition C steam aging (8hrs), Condition A solder Dip (245 for 5 sec)	**JESD22-B102**		0/11
Physical dimensions		**JESD22-B100**		0/5
Gate leakage positive	155C, 400V	**AEC-Q100-006**		0/3
Gate leakage negative	155C, - 400V	**AEC-Q100-006**		0/3
Construction Analysis				0/2

Qualification Plan	Device	Package	Process	No. of Lots
Q20120200A	FAN5236MTCX	TSSOP 28L	CS80	1

Test Description:	Condition:	Standard :	Duration:	Results:
MSL1 Precondition	260C, 3 cycles	**JESD22-A113**		0/122
MSL1	260C, 3 cycles	**J-STD_020**		0/11
Highly Accelerated Stress Test	110C, 85%RH	**JESD22-A110**	264 hrs	0/45
Temperature Cycle	-65C, 150C	**JESD22-A104**	500 cycles	0/77
Bond Pull	3.0g	**JESD22-C100**		0/5
Bond Shear	15g	**AEC-Q100-001**		0/5
Die Shear	0.4g/mil sq	**MIL-STD-883-2019**		0/5
Solderability CA	Condition C steam aging (8hrs), Condition A solder Dip (215 for 5 sec)	**JESD22-B102**		0/11
Solderability CB	Condition C steam aging (8hrs), Condition A solder Dip (245 for 5 sec)	**JESD22-B102**		0/11
Physical dimensions		**JESD22-B100**		0/5
Gate leakage positive	155C, 400V	**AEC-Q100-006**		0/3
Gate leakage negative	155C, - 400V	**AEC-Q100-006**		0/3
Construction Analysis				0/2

Comment:
All test mention in Q20120200A completed without ATE failure.
Hence TSSOP 28L Green Conversion primary BOM (CEL800JF) is well qualified.