



Final Product/Process Change Notification

Document #:FPCN23031XH

Issue Date:13 Dec 2021

Title of Change:	Capacity Expansion of Assembly and Test operations of onsemi Cebu, Philippines for SSOT6 package to onsemi Seremban, Malaysia and Qualification of onsemi Bucheon, Korea facility as an additional wafer fab location for PT2 Technology.
Proposed First Ship date:	20 Mar 2022 or earlier if approved by customer
Contact Information:	Contact your local onsemi Sales Office or Rafidah.MohdRasid@onsemi.com
PCN Samples Contact:	Contact your local onsemi Sales Office. Sample requests are to be submitted no later than 30 days from the date of first notification, Initial PCN or Final PCN, for this change. Samples delivery timing will be subject to request date, sample quantity and special customer packing/label requirements.
Additional Reliability Data:	Contact your local onsemi Sales Office or Aileen.Allado@onsemi.com
Type of Notification:	This is a Final Product/Process Change Notification (FPCN) sent to customers. FPCNs are issued 90 days prior to implementation of the change. onsemi will consider this change accepted, unless an inquiry is made in writing within 30 days of delivery of this notice. To do so, contact PCN.Support@onsemi.com
Marking of Parts/ Traceability of Change:	Affected parts from onsemi Seremban, Malaysia will be identified through product marking which follow onsemi marking format.
Change Category:	Test Change, Assembly Change, Wafer Fab Change
Change Sub-Category(s):	Shipping/Packaging/Marking, Material Change, Manufacturing Site Transfer, Manufacturing Site Addition

Sites Affected:

onsemi Sites	External Foundry/Subcon Sites
onsemi Bucheon, Korea	None
onsemi Seremban, Malaysia	

Description and Purpose:

This Product Change Notification is to announce that onsemi is expanding Assembly and Test Operations of Cebu former Fairchild Semiconductor for SSOT6 package to onsemi Seremban, Malaysia.

- No change on existing OPN. There will be two separate BOMs for onsemi Cebu, Philippines and onsemi Seremban, Malaysia.
- Marking date code & Tape/Reel & Label follow with onsemi standard format.
- Case Outline is compatible with existing SSOT6 solder footprint.
- These products will continue being Pb-free, Halide free and RoHS compliant. Qualification tests are designed to show that the reliability of the impacted devices will continue to meet or exceed onsemi standards.

	Before Change Description	After Change Description	
Wafer Fab	Tower Jazz, Israel	onsemi Bucheon, Korea Tower Jazz, Israel	
Assembly & Test Site	onsemi Cebu, Philippines	onsemi Cebu, Philippines	onsemi Seremban, Malaysia
Mold Compound	CK5000A	CK5000A	G600FB
Case Outline	419BL	Refer below	
Product marking change	Ex-FCS Format	onsemi Semiconductor format	

Case Outline Before and After Change Description:

Dim (mm)	Before			Dim (mm)	After		
	Min	Nom	Max		Min	Nom	Max
A	0.90	1.00	1.10	A	0.90	1.00	1.10
A1	0.00	0.05	0.10	A1	0.00	0.05	0.10
A2	0.70	0.85	1.00	A2	0.70	0.85	1.00
A3	0.25 BSC			A3	0.25 BSC		
b	0.30	0.40	0.50	b	0.25	0.38	0.50
c	0.08	0.14	0.20	c	0.10	0.18	0.26
D	2.80	2.90	3.00	D	2.80	2.95	3.10
d	0.30 REF			d	0.30 REF		
E	2.60	2.80	3.00	E	2.50	2.75	3.00
E1	1.50	1.60	1.70	E1	1.30	1.50	1.70
e	0.95 BSC			e	0.95 BSC		
e1	1.90 BSC			e1	1.90 BSC		
L1	0.60 REF			L1	0.60 REF		
L2	0.35	0.45	0.55	L2	0.20	0.40	0.60
θ	0°	---	8°	θ	0°	---	10°

Reliability Data Summary:

QV DEVICE NAME: FDC5612

RMS: F54344

PACKAGE: TSOT-23-6

Test	Specification	Condition	Interval	Results
HTRB	JESD22-A108	Ta=150°C, 80% max rated V	1008 hrs	0/154
HTGB	JESD22-A108	Ta= 150°C, 100% max rated Vgss	1008 hrs	0/154
HTSL	JESD22-A103	Ta= 150°C	1008 hrs	0/154
IOL	MIL-STD-750 (M1037) AEC-Q101	Ta=+25°C, delta Tj=100°C On/off = 2 min	15000 cyc	0/154
TC	JESD22-A104	Ta= -55°C to +150°C	1000 cyc	0/154
HAST	JESD22-A110	130°C, 85% RH, 18.8psig, bias	96 hrs	0/154
uHAST	JESD22-A118	130°C, 85% RH, 18.8psig, unbiased	96 hrs	0/154
PC	J-STD-020 JESD-A113	MSL 1 @ 260 °C		0/616
RSH	JESD22- B106	Ta = 265C, 10 sec		0/60

QV DEVICE NAME: FDS4465-F085

RMS: F20160300A, F20170099

PACKAGE: SO-8

Test	Specification	Condition	Interval	Results
HTRB	JESD22-A108	Tj=150°C, 100% max rated BV	1008 hrs	0/231
HTGB	JESD22-A108	Tj=150°C, 100% max rated Vgs	1008 hrs	0/231
IOL	MIL-STD-750 (M1037) AEC-Q101	Ta=+25°C, delta Tj=100°C On/off = 2 min	15,000 cyc	0/231
TC	JESD22-A104	Ta= -55°C to +150°C	1000 cyc	0/231
HAST	JESD22-A110	130°C, 85% RH, 18.8psig, bias (80% BV)	96 hrs	0/231
uHAST	JESD22-A118	130°C, 85% RH, 18.8psig, unbiased	96 hrs	0/231
PC	J-STD-020 JESD-A113	MSL 1 @ 260 °C	-	0/308

QV DEVICE NAME: FDS4675-F085

RMS: F20160300A, F20170099

PACKAGE: SO-8

Test	Specification	Condition	Interval	Results
HTRB	JESD22-A108	Tj=150°C, 100% max rated BV	1008 hrs	0/231
HTGB	JESD22-A108	Tj=150°C, 100% max rated Vgs	1008 hrs	0/231
IOL	MIL-STD-750 (M1037) AEC-Q101	Ta=+25°C, delta Tj=100°C On/off = 2 min	15,000 cyc	0/231
TC	JESD22-A104	Ta= -55°C to +150°C	1000 cyc	0/231
HAST	JESD22-A110	130°C, 85% RH, 18.8psig, bias (80% BV)	96 hrs	0/231
uHAST	JESD22-A118	130°C, 85% RH, 18.8psig, unbiased	96 hrs	0/231
PC	J-STD-020 JESD-A113	MSL 1 @ 260 °C	-	0/308

Electrical Characteristics Summary:

The temperature characterization and ESD performance meet datasheet specification. Detail of Electrical characterization result is available upon request.



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List of Affected Parts:

Note: Only the standard (off the shelf) part numbers are listed in the parts list. Any custom parts affected by this PCN are shown in the customer specific PCN addendum in the PCN email notification, or on the **PCN Customized Portal**.

Part Number	Qualification Vehicle
FDC606P	FDC5612, FDS4465-F085, FDS4675-F085
FDC634P	FDC5612, FDS4465-F085, FDS4675-F085
FDC638P	FDC5612, FDS4465-F085, FDS4675-F085
FDC602P	FDC5612, FDS4465-F085, FDS4675-F085
FDC604P	FDC5612, FDS4465-F085, FDS4675-F085
FDC640P	FDC5612, FDS4465-F085, FDS4675-F085
FDC654P	FDC5612, FDS4675-F085, FDS4465-F085
FDC658AP	FDC5612, FDS4675-F085, FDS4465-F085
FDC645N	FDC5612, FDS4675-F085, FDS4465-F085

Appendix A: Changed Products

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Product	Customer Part Number	Qualification Vehicle	New Part Number	Replacement Supplier
FDC606P		FDC5612, FDS4465-F085, FDS4675-F085		
FDC638P		FDC5612, FDS4465-F085, FDS4675-F085		
FDC602P		FDC5612, FDS4465-F085, FDS4675-F085		
FDC604P		FDC5612, FDS4465-F085, FDS4675-F085		
FDC640P		FDC5612, FDS4465-F085, FDS4675-F085		
FDC654P		FDC5612, FDS4675-F085, FDS4465-F085		
FDC658AP		FDC5612, FDS4675-F085, FDS4465-F085		
FDC645N		FDC5612, FDS4675-F085, FDS4465-F085		
FDC634P		FDC5612, FDS4465-F085, FDS4675-F085		