ON Semiconductor®

Final Product/Process Change Notification

Document #:FPCN23031X
Issue Date:12 Aug 2020

Title of Change:	Capacity Expansion of Assembly and Test operations of ON Semiconductor Cebu for SSOT6 package to ON Semiconductor Seremban, Malaysia.
Proposed First Ship date:	19 Nov 2020 or earlier if approved by customer
Contact Information:	Contact your local ON Semiconductor Sales Office or Maricel.Escobedo@onsemi.com
PCN Samples Contact:	Contact your local ON Semiconductor Sales Office or <PCN.samples@onsemi.com>. 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 ON Semiconductor 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. ON Semiconductor 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 ON Semiconductor Seremban, Malaysia will be identified through product marking which follow ON Semiconductor marking format.
Change Category:	Assembly Change, Test Change
Change Sub-Category(s):	Manufacturing Site Addition, Material Change, Shipping/Packaging/Marking

Sites Affected:

ON Semiconductor Sites	**External Foundry/Subcon Sites**
ON Semiconductor Seremban, Malaysia	None

Description and Purpose:

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

- No change on existing OPN. There will be two separate BOMs for ON Cebu, Philippines and ON Seremban, Malaysia.
- Marking date code & Tape/Reel & Label follow with ON Semiconductor 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 ON Semiconductor standards.

	Before Change Description	**After Change Description**	
Assembly & Test Site	ON Cebu, Philippines	ON Cebu, Philippines	ON Seremban, Malaysia
Mold Compound	CK5000A	CK5000A	G600FB
Wire type	2.0mil Au 1.5mil Au	2.0mil Au 1.5mil Au	2.0mil Cu 1.5mil Cu
Case Outline	419BL	Refer below	
Product marking change	Ex-FCS Format	ON 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 : FDC653N
RMS: F58339
PACKAGE: TSOT-23-6

Test	Specification	Condition	Interval	Results
HTRB	JESD22-A108	Ta=150°C, 80% max rated V	1008 hrs	0/77
HTGB	JESD22-A108	Ta= 150°C, 100% max rated Vgss	1008 hrs	0/77
HTSL	JESD22-A103	Ta= 150°C	1008 hrs	0/77
IOL	MIL-STD-750 (M1037) AEC-Q101	Ta=+25°C, delta Tj=100°C On/off = 2 min	15000 cyc	0/77
TC	JESD22-A104	Ta= -55°C to +150°C	1000 cyc	0/77
HAST	JESD22-A110	130°C, 85% RH, 18.8psig, bias	192 hrs	0/77
uHAST	JESD22-A118	130°C, 85% RH, 18.8psig, unbiased	96 hrs	0/77
PC	J-STD-020 JESD-A113	MSL 1 @ 260 °C		
RSH	JESD22- B106	Ta = 265C, 10 sec		0/30
SD	JSTD002	Ta = 245C, 5 sec		0/10

QV DEVICE NAME : FDC6327C
RMS: F57950
PACKAGE: TSOT-23-6

Test	Specification	Condition	Interval	Results
HTRB (Die 1)	JESD22-A108	Ta=150°C, 80% max rated V	1008 hrs	0/77
HTRB (Die 2)	JESD22-A108	Ta=150°C, 80% max rated V	1008 hrs	0/77
HTGB (Die 1)	JESD22-A108	Ta= 150°C, 100% max rated Vgss	1008 hrs	0/77
HTGB (Die 1)	JESD22-A108	Ta= 150°C, 100% max rated Vgss	1008 hrs	0/77
HTSL	JESD22-A103	Ta= 150°C	1008 hrs	0/77
IOL (Die 1)	MIL-STD-750 (M1037) AEC-Q101	Ta=+25°C, delta Tj=100°C On/off = 2 min	15000 cyc	0/77
IOL (Die 2)	MIL-STD-750 (M1037) AEC-Q101	Ta=+25°C, delta Tj=100°C On/off = 2 min	15000 cyc	0/77
TC	JESD22-A104	Ta= -55°C to +150°C	1000 cyc	0/77
HAST (Die 1)	JESD22-A110	130°C, 85% RH, 18.8psig, bias	192 hrs	0/77
HAST (Die 2)	JESD22-A110	130°C, 85% RH, 18.8psig, bias	192 hrs	0/77
uHAST	JESD22-A118	130°C, 85% RH, 18.8psig, unbiased	96 hrs	0/77
PC	J-STD-020 JESD-A113	MSL 1 @ 260 °C		
RSH	JESD22- B106	Ta = 265C, 10 sec		0/30
SD	JSTD002	Ta = 245C, 5 sec		0/10

QV DEVICE NAME : FDC6326L
RMS: F58803
PACKAGE: TSOT-23-6

Test	Specification	Condition	Interval	Results
HTRB (Die 1)	JESD22-A108	Ta=150°C, 80% max rated V	1008 hrs	0/77
HTRB (Die 2)	JESD22-A108	Ta=150°C, 80% max rated V	1008 hrs	0/77
HTGB (Die 1)	JESD22-A108	Ta= 150°C, 100% max rated Vgss	1008 hrs	0/77
HTGB (Die 1)	JESD22-A108	Ta= 150°C, 100% max rated Vgss	1008 hrs	0/77
HTSL	JESD22-A103	Ta= 150°C	1008 hrs	0/77
IOL (Die 1)	MIL-STD-750 (M1037) AEC-Q101	Ta=+25°C, delta Tj=100°C On/off = 2 min	15000 cyc	0/77
IOL (Die 2)	MIL-STD-750 (M1037) AEC-Q101	Ta=+25°C, delta Tj=100°C On/off = 2 min	15000 cyc	0/77
TC	JESD22-A104	Ta= -55°C to +150°C	1000 cyc	0/77
HAST (Die 1)	JESD22-A110	130°C, 85% RH, 18.8psig, bias	192 hrs	0/77
HAST (Die 2)	JESD22-A110	130°C, 85% RH, 18.8psig, bias	192 hrs	0/77
uHAST	JESD22-A118	130°C, 85% RH, 18.8psig, unbiased	96 hrs	0/77
PC	J-STD-020 JESD-A113	MSL 1 @ 260 °C		
RSH	JESD22- B106	Ta = 265C, 10 sec		0/30
SD	JSTD002	Ta = 245C, 5 sec		0/10

QV DEVICE NAME : FDC6333C
RMS: F57949
PACKAGE: TSOT-23-6

Test	Specification	Condition	Interval	Results
HTRB (Die 1)	JESD22-A108	Ta=150°C, 80% max rated V	1008 hrs	0/77
HTRB (Die 2)	JESD22-A108	Ta=150°C, 80% max rated V	1008 hrs	0/77
HTGB (Die 1)	JESD22-A108	Ta= 150°C, 100% max rated Vgss	1008 hrs	0/77
HTGB (Die 1)	JESD22-A108	Ta= 150°C, 100% max rated Vgss	1008 hrs	0/77
HTSL	JESD22-A103	Ta= 150°C	1008 hrs	0/77
IOL (Die 1)	MIL-STD-750 (M1037) AEC-Q101	Ta=+25°C, delta Tj=100°C On/off = 2 min	15000 cyc	0/77
IOL (Die 2)	MIL-STD-750 (M1037) AEC-Q101	Ta=+25°C, delta Tj=100°C On/off = 2 min	15000 cyc	0/77
TC	JESD22-A104	Ta= -55°C to +150°C	1000 cyc	0/77
HAST (Die 1)	JESD22-A110	130°C, 85% RH, 18.8psig, bias	192 hrs	0/77
HAST (Die 2)	JESD22-A110	130°C, 85% RH, 18.8psig, bias	192 hrs	0/77
uHAST	JESD22-A118	130°C, 85% RH, 18.8psig, unbiased	96 hrs	0/77
PC	J-STD-020 JESD-A113	MSL 1 @ 260 °C		
RSH	JESD22- B106	Ta = 265C, 10 sec		0/30
SD	JSTD002	Ta = 245C, 5 sec		0/10

Electrical Characteristics Summary:

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

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
FDC653N	FDC653N, FDC6326L, FDC6333C
FDC6327C	FDC6327C, FDC6326L, FDC6333C