Final Product/Process Change Notification

Document #:FPCN25225X
Issue Date:02 Aug 2023

Title of Change:	Wafer fab transfer from JS foundry, Japan to onsemi ISMF, Malaysia for small signal bipolar junction transistor products. Top metal standardization to AlSi and wire change from Au to Pd coated Cu for SOT23 and SC70 packages.
Proposed First Ship date:	09 Nov 2023 or earlier if approved by customer
Contact Information:	Contact your local onsemi Sales Office or Hiroshi.Koizumi@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 ChangKit.Mok@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:	Product marking follows onsemi marking format / Changed material can be identified by lot code.
Change Category:	Wafer Fab Change, Assembly Change
Change Sub-Category(s):	Manufacturing Site Addition, Material Change

Sites Affected:

onsemi Sites	**External Foundry/Subcon Sites**
onsemi Cebu, Philippines	JCET, China
onsemi Leshan, China	
onsemi Seremban, Malaysia	
onsemi, ISMF Malaysia	

Description and Purpose:

onsemi is publishing this Product Change Notification in order to notify customers of the transfer of small signal bipolar junction transistor products produced in JS Foundry, Japan (former onsemi Niigata).

The transfer stems from the onsemi Fab Liter strategy and the resulting sale of Niigata factory; the parts identified in this notification are currently sole sourced from this site and will be transferred to onsemi ISMF fab, Malaysia to ensure supply continuity. Included in the change are several bill of material changes to standardize BOM aligning to the existing onsemi BJT product family.

These changes include top metal standardization to AlSi and wire change from Au to Pd coated Cu for SOT23 and SC70 packages. onsemi ISMF fab is an existing qualified manufacturing site for onsemi which certified with IATF 16949:2016.
SOT23, SC70

	From	**To**
Wafer Fab	JS foundry, Japan	onsemi ISMF, Malaysia
Backgrind/Backmetal	JS foundry, Japan	onsemi ISMF, Malaysia
Top metal	Al, AlSi	AlSi
Bond wire	Au	Pd coated Cu/Au

In addition to the changes in the above table, the 4249-NB42102E/4249-NB42112B will also be transferred to JCET, China from onsemi Cebu, Philippines for Assembly and Final test site to standardize ATO site to other SOT23 parts.

4249-NB42102E/4249-NB42112

	From	To
Assembly/Final test site	onsemi Leshan, China onsemi Cebu, Philippines	onsemi Leshan, China JCET, China

SOT223

	From	To
Wafer Fab	JS foundry, Japan	onsemi ISMF, Malaysia
Backgrind/Backmetal	JS foundry, Japan	onsemi ISMF, Malaysia
Top metal	Al, AlSi	AlSi

TO92

	From	To
Wafer Fab	Phenitec Semiconductor, Japan JS foundry, Japan	onsemi ISMF, Malaysia
Backgrind/Backmetal	Phenitec Semiconductor, Japan JS foundry, Japan	onsemi ISMF, Malaysia
Top metal	Al, AlSi (Phenitec Semiconductor, JS foundry)	AlSi

SSOT3

	From	To
Wafer Fab	JS foundry, Japan	onsemi ISMF, Malaysia
Backgrind/Backmetal	JS foundry, Japan	onsemi ISMF, Malaysia
Top metal	Al, AlSi	AlSi

NOTE: Part details is attached:

To view attachments:
1. Download pdf copy of the PCN to your computer
2. Open the downloaded pdf copy of the PCN
3. Click on the paper clip icon available on the menu provided in the left/bottom portion of the screen to reveal the Attachment field
4. Then click on the attached file.

Reliability Data Summary:

QV DEVICE NAME: FSB560A
RMS: S87865 / S87866 / S90424
PACKAGE: SSOT3

Test	Specification	Condition	Interval	Results
High Temperature Reverse Bias	JESD22-A108	Ta=150°C, 100% max rated V	1008 hrs	0/308
High Temperature Storage Life	JESD22-A103	Ta=150°C	1008 hrs	0/308
Preconditioning	J-STD-020 / JESD-A113	MSL 1 @ 260°C, Pre IOL, TC, uHAST, HAST for surface mount pkgs only	-	0/1232
Intermittent Operating Life	MIL-STD-750 (M1037) AEC-Q101	Ta=+25°C, delta Tj=100°C On/off =2 min	15,000 cyc	0/308
Temperature Cycling	JESD22-A104	Ta= -55°C to +150°C	1000 cyc	0/308
Highly Accelerated Stress Test	JESD22-A110	110°C, 85% RH, 17.7psia, bias	264 hrs	0/308
Unbiased Highly Accelerated Stress Test	JESD22-A118	130°C, 85% RH, 18.8psig, unbiased	96 hrs	0/308
Resistance to Solder Heat	JESD22- B106	Ta = 265°C, 10 sec Required for through hole devices only	-	0/40

QV DEVICE NAME: NZT753
RMS: S87888
PACKAGE: SOT223

Test	Specification	Condition	Interval	Results
High Temperature Reverse Bias	JESD22-A108	Ta=150°C, 100% max rated V	1008 hrs	0/231
High Temperature Storage Life	JESD22-A103	Ta=150°C	1008 hrs	0/231
Preconditioning	J-STD-020 / JESD-A113	MSL 1 @ 260°C, Pre IOL, TC, uHAST, HAST for surface mount pkgs only	-	0/693
Intermittent Operating Life	MIL-STD-750 (M1037) AEC-Q101	Ta=+25°C, delta Tj=100°C On/off =2 min	15,000 cyc	0/231
Temperature Cycling	JESD22-A104	Ta= -55°C to +150°C	1000 cyc	0/231
Highly Accelerated Stress Test	JESD22-A110	110°C, 85% RH, 17.7psia, bias	264 hrs	0/77
Unbiased Highly Accelerated Stress Test	JESD22-A118	130°C, 85% RH, 18.8psig, unbiased	96 hrs	0/231
Resistance to Solder Heat	JESD22- B106	Ta = 265°C, 10 sec Required for through hole devices only	-	0/30

QV DEVICE NAME: MMBTH81
RMS: L87893
PACKAGE: SOT23-3L

Test	Specification	Condition	Interval	Results
High Temperature Reverse Bias	JESD22-A108	Ta=150°C, 100% max rated V	1008 hrs	0/77
High Temperature Storage Life	JESD22-A103	Ta=150°C	1008 hrs	0/77
Preconditioning	J-STD-020 / JESD-A113	MSL 1 @ 260°C, Pre IOL, TC, uHAST, HAST for surface mount pkgs only	-	0/308
Intermittent Operating Life	MIL-STD-750 (M1037) AEC-Q101	Ta=+25°C, delta Tj=100°C On/off =2 min	15,000 cyc	0/77
Temperature Cycling	JESD22-A104	Ta= -55°C to +150°C	1000 cyc	0/77
Highly Accelerated Stress Test	JESD22-A110	110°C, 85% RH, 17.7psia, bias	264 hrs	0/77
Unbiased Highly Accelerated Stress Test	JESD22-A118	130°C, 85% RH, 18.8psig, unbiased	96 hrs	0/77
Resistance to Solder Heat	JESD22- B106	Ta = 265°C, 10 sec Required for through hole devices only	-	0/10

QV DEVICE NAME: KSC3265YMTF
RMS: S87883 / S87887
PACKAGE: SOT23-3L

Test	Specification	Condition	Interval	Results
High Temperature Reverse Bias	JESD22-A108	Ta=150°C, 100% max rated V	1008 hrs	0/308
High Temperature Storage Life	JESD22-A103	Ta=150°C	1008 hrs	0/308
Preconditioning	J-STD-020 / JESD-A113	MSL 1 @ 260°C, Pre IOL, TC, uHAST, HAST for surface mount pkgs only	-	0/1232
Intermittent Operating Life	MIL-STD-750 (M1037) AEC-Q101	Ta=+25°C, delta Tj=100°C On/off =2 min	15,000 cyc	0/308
Temperature Cycling	JESD22-A104	Ta= -55°C to +150°C	1000 cyc	0/308
Highly Accelerated Stress Test	JESD22-A110	110°C, 85% RH, 17.7psia, bias	264 hrs	0/308
Unbiased Highly Accelerated Stress Test	JESD22-A118	130°C, 85% RH, 18.8psig, unbiased	96 hrs	0/308
Resistance to Solder Heat	JESD22- B106	Ta = 265°C, 10 sec Required for through hole devices only	-	0/308

QV DEVICE NAME: KSA1013YBU
RMS: S87880
PACKAGE: TO92

Test	Specification	Condition	Interval	Results
High Temperature Reverse Bias	JESD22-A108	Ta=150°C, 100% max rated V	1008 hrs	0/231
High Temperature Storage Life	JESD22-A103	Ta=150°C	1008 hrs	0/231
Intermittent Operating Life	MIL-STD-750 (M1037) AEC-Q101	Ta=+25°C, delta Tj=100°C On/off =2 min	15,000 cyc	0/231
Temperature Cycling	JESD22-A104	Ta= -55°C to +150°C	1000 cyc	0/231
Highly Accelerated Stress Test	JESD22-A110	110°C, 85% RH, 17.7psia, bias	264 hrs	0/231
Unbiased Highly Accelerated Stress Test	JESD22-A118	130°C, 85% RH, 18.8psig, unbiased	96 hrs	0/231
Resistance to Solder Heat	JESD22- B106	Ta = 265°C, 10 sec Required for through hole devices only	-	0/308

QV DEVICE NAME: 4249-NB42102E
RMS: L87896 / L87898
PACKAGE: SOT23-3L

Test	Specification	Condition	Interval	Results
High Temperature Reverse Bias	JESD22-A108	Ta=150°C, 100% max rated V	1008 hrs	0/154
High Temperature Storage Life	JESD22-A103	Ta=150°C	1008 hrs	0/154
Preconditioning	J-STD-020 / JESD-A113	MSL 1 @ 260°C, Pre IOL, TC, uHAST, HAST for surface mount pkgs only	-	0/616
Intermittent Operating Life	MIL-STD-750 (M1037) AEC-Q101	Ta=+25°C, delta Tj=100°C On/off =2 min	15,000 cyc	0/154
Temperature Cycling	JESD22-A104	Ta= -55°C to +150°C	1000 cyc	0/154
Highly Accelerated Stress Test	JESD22-A110	110°C, 85% RH, 17.7psia, bias	264 hrs	0/154
Unbiased Highly Accelerated Stress Test	JESD22-A118	130°C, 85% RH, 18.8psig, unbiased	96 hrs	0/154
Resistance to Solder Heat	JESD22- B106	Ta = 265°C, 10 sec Required for through hole devices only	-	0/154

QV DEVICE NAME: FJT44TF
RMS: S87878
PACKAGE: SOT223

Test	Specification	Condition	Interval	Results
High Temperature Reverse Bias	JESD22-A108	Ta=150°C, 100% max rated V	1008 hrs	0/77
High Temperature Storage Life	JESD22-A103	Ta=150°C	1008 hrs	0/77
Preconditioning	J-STD-020 / JESD-A113	MSL 1 @ 260°C, Pre IOL, TC, uHAST, HAST for surface mount pkgs only	-	0/308
Intermittent Operating Life	MIL-STD-750 (M1037) AEC-Q101	Ta=+25°C, delta Tj=100°C On/off =2 min	15,000 cyc	0/77
Temperature Cycling	JESD22-A104	Ta= -55°C to +150°C	1000 cyc	0/77
Highly Accelerated Stress Test	JESD22-A110	110°C, 85% RH, 17.7psia, bias	264 hrs	0/77
Unbiased Highly Accelerated Stress Test	JESD22-A118	130°C, 85% RH, 18.8psig, unbiased	96 hrs	0/77
Resistance to Solder Heat	JESD22- B106	Ta = 265°C, 10 sec Required for through hole devices only	-	0/10

Electrical Characteristics Summary:

Electrical characteristics are not impacted.

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
FSB649	FJT44TF, FSB560A
FZT649	FJT44TF, NZT753
FZT790A	NZT753
NZT560A	FJT44TF, NZT753
NZT902	FJT44TF, NZT753
MMBTH81	MMBTH81
MMBT100	FJT44TF, KSC3265YMTF
MMBTA28	FJT44TF, FSB560A
MPSA29	FJT44TF, KSA1013YBU
MPSA29-D26Z	FJT44TF, KSA1013YBU

PZTA28	FJT44TF, NZT753
PZTA29	FJT44TF, NZT753
BC63916-D27Z	FJT44TF, KSA1013YBU
BC63916-D74Z	FJT44TF, KSA1013YBU
BCP54	FJT44TF, NZT753
BCP55	FJT44TF, NZT753
BC516-D27Z	KSA1013YBU, KSC3265YMTF
NZT753	NZT753
NZT605	FJT44TF, NZT753
NZT7053	FJT44TF, NZT753
BC517-D74Z	4249-NB42102E, KSA1013YBU
FSB660A	KSA1013YBU, FSB560A
MPS751	KSA1013YBU
MPS751-D26Z	KSA1013YBU
NZT660	NZT753
NZT660A	NZT753
FSB560	FJT44TF, FSB560A
FSB560A	FSB560A
NZT560	FJT44TF, NZT753
MMBT5179	4249-NB42102E
KSA928AYTA	KSA1013YBU
KSC2328AYBU	FJT44TF, KSA1013YBU
KSC2328AYTA	FJT44TF, KSA1013YBU
FJT44KTF	FJT44TF, NZT753
FJT44TF	FJT44TF
KSP44BU	FJT44TF, KSA1013YBU
KSP44TA	FJT44TF, KSA1013YBU
KSP44TF	FJT44TF, KSA1013YBU
FJV1845FMTF	FJT44TF, KSC3265YMTF
FJV992FMTF	KSA1013YBU, KSC3265YMTF
FJX992TF	KSA1013YBU, KSC3265YMTF
KSA992FATA	KSA1013YBU, KSC3265YMTF
KSA992FBTA	KSA1013YBU, KSC3265YMTF
KSA992FBU	KSA1013YBU, KSC3265YMTF

KSA992FTA	KSA1013YBU, KSC3265YMTF
KSC1845FTA	FJT44TF, KSC3265YMTF
KSA1015YTA	KSA1013YBU, KSC3265YMTF
KSC1815YTA	FJT44TF, KSC3265YMTF
KSD5041RTA	FJT44TF, KSA1013YBU
KSD1616AGBU	FJT44TF, KSA1013YBU
KSD1616AGTA	FJT44TF, KSA1013YBU
KSD1616AYTA	FJT44TF, KSA1013YBU
2N6517BU	FJT44TF, KSC3265YMTF
2N6517TA	FJT44TF, KSC3265YMTF
KSA1013YBU	KSA1013YBU
KSA1013YTA	KSA1013YBU
KSC2383OTA	FJT44TF, KSA1013YBU
KSC2383YTA	FJT44TF, KSA1013YBU
KSD471ACYBU	FJT44TF, KSC3265YMTF
KSD471ACYTA	FJT44TF, KSC3265YMTF
KSD471AYTA	FJT44TF, KSC3265YMTF
KSA916YTA	KSA1013YBU
BC636TA	KSA1013YBU, KSC3265YMTF
BC638TA	KSA1013YBU, KSC3265YMTF
BC640TA	KSA1013YBU, KSC3265YMTF
KSA1298YMTF	KSA1013YBU, KSC3265YMTF
KSA708CYTA	KSA1013YBU, KSC3265YMTF
KSA708YBU	KSA1013YBU, KSC3265YMTF
KSA708YTA	KSA1013YBU, KSC3265YMTF
KSC1008CYTA	FJT44TF, KSC3265YMTF
KSC1008YBU	FJT44TF, KSC3265YMTF
KSC1008YTA	FJT44TF, KSC3265YMTF
KSC3265YMTF	KSC3265YMTF
SS8050CBU	FJT44TF, KSC3265YMTF
SS8050CTA	FJT44TF, KSC3265YMTF
SS8050DBU	FJT44TF, KSC3265YMTF
SS8050DTA	FJT44TF, KSC3265YMTF
SS8550CBU	KSA1013YBU, KSC3265YMTF

SS8550CTA	KSA1013YBU, KSC3265YMTF
SS8550DTA	KSA1013YBU, KSC3265YMTF
SS8550DBU	KSA1013YBU, KSC3265YMTF