



Initial Product/Process Change Notification

Document #: IPCN25225X

Issue Date: 15 Feb 2023

Title of Change:	Qualification of onsemi ISMF (Malaysia) wafer fab for Small signal bipolar junction transistor devices
Proposed First Ship date:	16 Oct 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.
Type of Notification:	This is an Initial Product/Process Change Notification (IPCN) sent to customers. An IPCN is an advance notification about an upcoming change and contains general information regarding the change details and devices affected. It also contains the preliminary reliability qualification plan. The completed qualification and characterization data will be included in the Final Product/Process Change Notification (FPCN). This IPCN notification will be followed by a Final Product/Process Change Notification (FPCN) at least 90 days prior to implementation of the change. In case of questions, 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:	Assembly Change, Wafer Fab Change
Change Sub-Category(s):	Material Change, Manufacturing Site Addition

Sites Affected:

onsemi Sites	External Foundry/Subcon Sites
onsemi Leshan, China	JCET, China
onsemi, ISMF Malaysia	

Description and Purpose:

This is the Initial Notification by onsemi notifying customers of its plan to qualify small signal bipolar junction transistor devices in onsemi ISMF fab (Malaysia). onsemi ISMF fab has been an existing qualified manufacturing site for onsemi which certified with IATF 16949:2016. onsemi ISMF qualification includes top metal consolidation from Al, AISi to AISi for all products, and wire change from Au to Pd coated Cu for SOT23 and SC70.

SOT23, SC70

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

SOT223

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

TO92

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

SSOT3

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

There is no product marking change as a result of this change



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Qualification Plan:

QV DEVICE NAME: FSB560A

RMS: 87865/87866

PACKAGE: SSOT3

Test	Specification	Condition	Interval
High Temperature Reverse Bias	JESD22-A108	Ta=150°C, 100% max rated V	1008 hrs
High Temperature Storage Life	JESD22-A103	Ta= 150°C	1008 hrs
Preconditioning	J-STD-020 JESD-A113	MSL 1 @ 260°C	-
Intermittent Operating Life	MIL-STD-750 (M1037) AEC-Q101	Ta=+25°C, delta Tj=100°C On/off = 2 min	15,000 cyc
Temperature Cycling	JESD22-A104	Ta= -55°C to +150°C	1000 cyc
Highly Accelerated Stress Test	JESD22-A110	110°C, 85% RH, 17.7psia, bias	264 hrs
Unbiased Highly Accelerated Stress Test	JESD22-A118	130°C, 85% RH, 33.38psia, unbiased	96 hrs
Resistance to Solder Heat	JESD22- B106	Ta = 265°C, 10 sec Required for through hole devices only	-
Solderability	JSTD002	Ta = 245°C, 5 sec	-

QV DEVICE NAME: FJT44TF

RMS: 87878

PACKAGE: SOT223

Test	Specification	Condition	Interval
High Temperature Reverse Bias	JESD22-A108	Ta=150°C, 100% max rated V	1008 hrs
High Temperature Storage Life	JESD22-A103	Ta= 150°C	1008 hrs
Preconditioning	J-STD-020 JESD-A113	MSL 1 @ 260°C	-
Intermittent Operating Life	MIL-STD-750 (M1037) AEC-Q101	Ta=+25°C, delta Tj=100°C On/off = 2 min	15,000 cyc
Temperature Cycling	JESD22-A104	Ta= -55°C to +150°C	1000 cyc
Highly Accelerated Stress Test	JESD22-A110	110°C, 85% RH, 17.7psia, bias	264 hrs
Unbiased Highly Accelerated Stress Test	JESD22-A118	130°C, 85% RH, 33.38psia, unbiased	96 hrs
Resistance to Solder Heat	JESD22- B106	Ta = 265°C, 10 sec Required for through hole devices only	-
Solderability	JSTD002	Ta = 245°C, 5 sec	-



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QV DEVICE NAME: KSA1013YBU

RMS: 87880

PACKAGE: TO92

Test	Specification	Condition	Interval
High Temperature Reverse Bias	JESD22-A108	Ta=150°C, 100% max rated V	1008 hrs
High Temperature Storage Life	JESD22-A103	Ta= 150°C	1008 hrs
Intermittent Operating Life	MIL-STD-750 (M1037) AEC-Q101	Ta=+25°C, delta Tj=100°C On/off = 2 min	15,000 cyc
Temperature Cycling	JESD22-A104	Ta= -55°C to +150°C	1000 cyc
Highly Accelerated Stress Test	JESD22-A110	130°C, 85% RH, 17.7psia, bias	264 hrs
Unbiased Highly Accelerated Stress Test	JESD22-A118	130°C, 85% RH, 33.38psia, unbiased	96 hrs
Resistance to Solder Heat	JESD22- B106	Ta = 265°C, 10 sec Required for through hole devices only	-
Solderability	JSTD002	Ta = 245°C, 5 sec	-

QV DEVICE NAME: NZT753

RMS: 87888

PACKAGE: SOT223

Test	Specification	Condition	Interval
High Temperature Reverse Bias	JESD22-A108	Ta=150°C, 100% max rated V	1008 hrs
High Temperature Storage Life	JESD22-A103	Ta= 150°C	1008 hrs
Intermittent Operating Life	MIL-STD-750 (M1037) AEC-Q101	Ta=+25°C, delta Tj=100°C On/off = 2 min	15,000 cyc
Temperature Cycling	JESD22-A104	Ta= -55°C to +150°C	1000 cyc
Highly Accelerated Stress Test	JESD22-A110	130°C, 85% RH, 17.7psia, bias	264 hrs
Unbiased Highly Accelerated Stress Test	JESD22-A118	130°C, 85% RH, 33.38psia, unbiased	96 hrs
Resistance to Solder Heat	JESD22- B106	Ta = 265°C, 10 sec Required for through hole devices only	-
Solderability	JSTD002	Ta = 245°C, 5 sec	-



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QV DEVICE NAME: KSC3265YMTF
RMS: 87883/ 87887
PACKAGE: SOT23

Test	Specification	Condition	Interval
High Temperature Reverse Bias	JESD22-A108	Ta=150°C, 100% max rated V	1008 hrs
High Temperature Storage Life	JESD22-A103	Ta= 150°C	1008 hrs
Intermittent Operating Life	MIL-STD-750 (M1037) AEC-Q101	Ta=+25°C, delta Tj=100°C On/off = 2 min	15,000 cyc
Temperature Cycling	JESD22-A104	Ta= -55°C to +150°C	1000 cyc
Highly Accelerated Stress Test	JESD22-A110	130°C, 85% RH, 17.7psia, bias	264 hrs
Unbiased Highly Accelerated Stress Test	JESD22-A118	130°C, 85% RH, 33.38psia, unbiased	96 hrs
Resistance to Solder Heat	JESD22- B106	Ta = 265°C, 10 sec Required for through hole devices only	-
Solderability	JSTD002	Ta = 245°C, 5 sec	-

QV DEVICE NAME: MMBTH81
RMS: 87893/ 87894
PACKAGE: SOT23

Test	Specification	Condition	Interval
High Temperature Reverse Bias	JESD22-A108	Ta=150°C, 100% max rated V	1008 hrs
High Temperature Storage Life	JESD22-A103	Ta= 150°C	1008 hrs
Intermittent Operating Life	MIL-STD-750 (M1037) AEC-Q101	Ta=+25°C, delta Tj=100°C On/off = 2 min	15,000 cyc
Temperature Cycling	JESD22-A104	Ta= -55°C to +150°C	1000 cyc
Highly Accelerated Stress Test	JESD22-A110	130°C, 85% RH, 17.7psia, bias	264 hrs
Unbiased Highly Accelerated Stress Test	JESD22-A118	130°C, 85% RH, 33.38psia, unbiased	96 hrs
Resistance to Solder Heat	JESD22- B106	Ta = 265°C, 10 sec Required for through hole devices only	-
Solderability	JSTD002	Ta = 245°C, 5 sec	-



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QV DEVICE NAME: 4249-NB42102E
RMS: 87896/ 87898
PACKAGE: SOT23

Test	Specification	Condition	Interval
High Temperature Reverse Bias	JESD22-A108	Ta=150°C, 100% max rated V	1008 hrs
High Temperature Storage Life	JESD22-A103	Ta= 150°C	1008 hrs
Intermittent Operating Life	MIL-STD-750 (M1037) AEC-Q101	Ta=+25°C, delta Tj=100°C On/off = 2 min	15,000 cyc
Temperature Cycling	JESD22-A104	Ta= -55°C to +150°C	1000 cyc
Highly Accelerated Stress Test	JESD22-A110	130°C, 85% RH, 17.7psia, bias	264 hrs
Unbiased Highly Accelerated Stress Test	JESD22-A118	130°C, 85% RH, 33.38psia, unbiased	96 hrs
Resistance to Solder Heat	JESD22- B106	Ta = 265°C, 10 sec Required for through hole devices only	-
Solderability	JSTD002	Ta = 245°C, 5 sec	-

Estimated date for qualification completion: 31 May 2023

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



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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



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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
SS8550DTA	KSA1013YBU, KSC3265YMTF
SS8550DBU	KSA1013YBU, KSC3265YMTF
SS8550CTA	KSA1013YBU, KSC3265YMTF
SS8550CBU	KSA1013YBU, KSC3265YMTF
SS8050DTA	FJT44TF, KSC3265YMTF
SS8050DBU	FJT44TF, KSC3265YMTF
SS8050CTA	FJT44TF, KSC3265YMTF
SS8050CBU	FJT44TF, KSC3265YMTF
KSC3265YMTF	KSC3265YMTF
KSC1008YTA	FJT44TF, KSC3265YMTF
KSC1008YBU	FJT44TF, KSC3265YMTF
KSC1008CYTA	FJT44TF, KSC3265YMTF
KSA708YTA	KSA1013YBU, KSC3265YMTF
KSA708YBU	KSA1013YBU, KSC3265YMTF
KSA708CYTA	KSA1013YBU, KSC3265YMTF
KSA1298YMTF	KSA1013YBU, KSC3265YMTF
BC640TA	KSA1013YBU, KSC3265YMTF
BC638TA	KSA1013YBU, KSC3265YMTF
BC636TA	KSA1013YBU, KSC3265YMTF
KSA916YTA	KSA1013YBU
KSD471AYTA	FJT44TF, KSC3265YMTF

Appendix A: Changed Products
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DIKG: DIGI-KEY (page 1 of 3)

Product	Customer Part Number	Qualification Vehicle	New Part Number	Replacement Supplier
FSB649		FJT44TF, FSB560A	NA	
FZT790A		NZT753	NA	
NZT560A		FJT44TF, NZT753	NA	
NZT902		FJT44TF, NZT753	NA	
MMBTH81		MMBTH81	NA	
MMBT100		FJT44TF, KSC3265YMTF	NA	
MMBTA28		FJT44TF, FSB560A	NA	
MPSA29		FJT44TF, KSA1013YBU	NA	
FZT649		FJT44TF, NZT753	NA	
PZTA28		FJT44TF, NZT753	NA	
PZTA29		FJT44TF, NZT753	NA	
MPSA29-D26Z		FJT44TF, KSA1013YBU	NA	
BC63916-D74Z		FJT44TF, KSA1013YBU	NA	
BCP54		FJT44TF, NZT753	NA	
BC63916-D27Z		FJT44TF, KSA1013YBU	NA	
BC516-D27Z		KSA1013YBU, KSC3265YMTF	NA	
BCP55		FJT44TF, NZT753	NA	
NZT753		NZT753	NA	
NZT7053		FJT44TF, NZT753	NA	
NZT605		FJT44TF, NZT753	NA	
FSB660A		KSA1013YBU, FSB560A	NA	
BC517-D74Z		4249-NB42102E, KSA1013YBU	NA	
MPS751-D26Z		KSA1013YBU	NA	
MPS751		KSA1013YBU	NA	
NZT660A		NZT753	NA	
NZT660		NZT753	NA	
FSB560A		FSB560A	NA	
FSB560		FJT44TF, FSB560A	NA	
MMBT5179		4249-NB42102E	NA	
NZT560		FJT44TF, NZT753	NA	
KSC2328AYBU		FJT44TF, KSA1013YBU	NA	
KSA928AYTA		KSA1013YBU	NA	
FJT44KTF		FJT44TF, NZT753	NA	
KSC2328AYTA		FJT44TF, KSA1013YBU	NA	
KSP44BU		FJT44TF, KSA1013YBU	NA	

Appendix A: Changed Products

DIKG: DIGI-KEY (page 2 of 3)

Product	Customer Part Number	Qualification Vehicle	New Part Number	Replacement Supplier
FJT44TF		FJT44TF	NA	
KSP44TF		FJT44TF, KSA1013YBU	NA	
KSP44TA		FJT44TF, KSA1013YBU	NA	
FJV992FMTF		KSA1013YBU, KSC3265YMTF	NA	
FJX992TF		KSA1013YBU, KSC3265YMTF	NA	
FJV1845FMTF		FJT44TF, KSC3265YMTF	NA	
KSA992FBTA		KSA1013YBU, KSC3265YMTF	NA	
KSA992FATA		KSA1013YBU, KSC3265YMTF	NA	
KSA992FTA		KSA1013YBU, KSC3265YMTF	NA	
KSA992FBU		KSA1013YBU, KSC3265YMTF	NA	
KSA1015YTA		KSA1013YBU, KSC3265YMTF	NA	
KSC1845FTA		FJT44TF, KSC3265YMTF	NA	
KSD5041RTA		FJT44TF, KSA1013YBU	NA	
KSC1815YTA		FJT44TF, KSC3265YMTF	NA	
KSD1616AGBU		FJT44TF, KSA1013YBU	NA	
KSD1616AYTA		FJT44TF, KSA1013YBU	NA	
KSD1616AGTA		FJT44TF, KSA1013YBU	NA	
2N6517TA		FJT44TF, KSC3265YMTF	NA	
2N6517BU		FJT44TF, KSC3265YMTF	NA	
KSA1013YTA		KSA1013YBU	NA	
KSA1013YBU		KSA1013YBU	NA	
KSC2383YTA		FJT44TF, KSA1013YBU	NA	
KSC2383OTA		FJT44TF, KSA1013YBU	NA	
SS8550DTA		KSA1013YBU, KSC3265YMTF	NA	
KSD471ACYTA		FJT44TF, KSC3265YMTF	NA	
SS8550CTA		KSA1013YBU, KSC3265YMTF	NA	
SS8550DBU		KSA1013YBU, KSC3265YMTF	NA	
SS8050DTA		FJT44TF, KSC3265YMTF	NA	
SS8550CBU		KSA1013YBU, KSC3265YMTF	NA	
SS8050CBU		FJT44TF, KSC3265YMTF	NA	
SS8050DBU		FJT44TF, KSC3265YMTF	NA	
KSC3265YMTF		KSC3265YMTF	NA	

Appendix A: Changed Products

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Product	Customer Part Number	Qualification Vehicle	New Part Number	Replacement Supplier
SS8050CTA		FJT44TF, KSC3265YMTF	NA	
KSC1008YBU		FJT44TF, KSC3265YMTF	NA	
KSC1008YTA		FJT44TF, KSC3265YMTF	NA	
KSA708YTA		KSA1013YBU, KSC3265YMTF	NA	
KSC1008CYTA		FJT44TF, KSC3265YMTF	NA	
KSA1298YMTF		KSA1013YBU, KSC3265YMTF	NA	
KSA708YBU		KSA1013YBU, KSC3265YMTF	NA	
KSA708CYTA		KSA1013YBU, KSC3265YMTF	NA	
BC638TA		KSA1013YBU, KSC3265YMTF	NA	
BC640TA		KSA1013YBU, KSC3265YMTF	NA	
BC636TA		KSA1013YBU, KSC3265YMTF	NA	
KSA916YTA		KSA1013YBU	NA	