



## Final Product/Process Change Notification

Document #:FPCN24244X

Issue Date:03 Mar 2022

<b>Title of Change:</b>	Qualification of onsemi ISMF fab (Malaysia) and consolidation of Assembly and Test site operations of Small Signal diode devices in SOT-23 packages.
<b>Proposed First Ship date:</b>	10 Jun 2022 or earlier if approved by customer
<b>Contact Information:</b>	Contact your local onsemi Sales Office or <a href="mailto:Hiroshi.Koizumi@onsemi.com">Hiroshi.Koizumi@onsemi.com</a>
<b>PCN Samples Contact:</b>	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.
<b>Additional Reliability Data:</b>	Contact your local onsemi Sales Office or <a href="mailto:Nicky.Siu@onsemi.com">Nicky.Siu@onsemi.com</a>
<b>Type of Notification:</b>	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 <a href="mailto:PCN.Support@onsemi.com">PCN.Support@onsemi.com</a>
<b>Marking of Parts/ Traceability of Change:</b>	Customer may receive the parts once FPCN expired or earlier depending on customer approval. Parts from new assembly & test site can be identified through product marking which follow onsemi marking format.
<b>Change Category:</b>	Wafer Fab Change, Assembly Change, Test Change
<b>Change Sub-Category(s):</b>	Manufacturing Site Transfer, Material Change

### Sites Affected:

onsemi Sites	External Foundry/Subcon Sites
Leshan Phoenix Semiconductor, China	AUK Corporation, Korea
onsemi Cebu, Philippines	JCET, China
onsemi Seremban, Malaysia	Phenitex Semiconductor, Japan

### Description and Purpose:

This is the final notification of onsemi's plan to consolidate assembly & test site to Leshan Phoenix Semiconductor, China and JCET, China and wafer fab site from Phenitex Semiconductor, Japan to onsemi Seremban, Malaysia on the impacted devices. This change, initiated from the Phenitex HD fab closure, ensures continuity of supply for our customers. All receiving sites are ISO/TS16949:2009 certified.

Qualification tests are designed to show that the reliability of the transferred devices will continue to meet or exceed onsemi standard.

	Before Change Description	After Change Description
Assembly/Test Site	onsemi, Cebu, Philippines Leshan Phoenix Semiconductor, China AUK Corporation JCET,China	Leshan Phoenix Semiconductor, China JCET,China
Wafer FAB /BG/BM Site	Phenitex Semiconductor, Japan	onsemi Seremban, Malaysia
Top metal	Al	AlSi
Back metal	TiNiAgSn	Au
Lead Frame	Ag plated LF	Cu plated LF (Leshan) Ag Plated LF (JCET)
Bond wire	0.8mil Au	0.8mil bare Cu (Leshan) 0.8mil Pd-coated Cu (JCET)



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Mold Compound	CK5000A EDALE ELER-8-100HFE Sumitomo G600FB	Hysol GR640 HV (Leshan) ELER-8-100HFE (JCET)
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There is no product marking change as a result of this change

### Reliability Data Summary:

**QV DEVICE NAME: MMBD1504A**

**RMS: 77130**

**PACKAGE: SOT-23**

Test	Specification	Condition	Interval	Results
HTRB	JESD22-A108	Ta=150°C, 100% max rated V	1008 hrs	0/240
HTSL	JESD22-A103	Ta= 150°C	1008 hrs	0/240
IOL	MIL-STD-750 (M1037) AEC-Q101	Ta=+25°C, delta Tj=100°C On/off = 2 min	15,000 cyc	0/240
TC	JESD22-A104	Ta= -65°C to +150°C	1000 cyc	0/240
H3TRB	JESD22-A101	85°C, 85% RH bias	1008hrs	0/240
uHAST	JESD22-A118	130°C, 85% RH, 18.8psig, unbiased	96 hrs	0/240
PC	J-STD-020, JESD22-A113	MSL 1 @ 260 °C		Pass
RSH	JESD22- B106	Ta = 265°C, 10 sec		0/30
SD	J-STD-002	Ta = 245°C, 5 sec		0/45

**QV DEVICE NAME: BAV23S**

**RMS: 63413**

**PACKAGE: SOT-23**

Test	Specification	Condition	Interval	Results
HTRB	JESD22-A108	Ta=150°C, 100% max rated V	1008 hrs	0/240
HTSL	JESD22-A103	Ta= 150°C	1008 hrs	0/240
IOL	MIL-STD-750 (M1037) AEC-Q101	Ta=+25°C, delta Tj=100°C On/off = 2 min	15,000 cyc	0/240
TC	JESD22-A104	Ta= -65°C to +150°C	1000 cyc	0/240
HAST	JESD22-A110	130°C, 85% RH, 18.8psig, bias	96 hrs	0/240
uHAST	JESD22-A118	130°C, 85% RH, 18.8psig, unbiased	96 hrs	0/240
PC	J-STD-020, JESD22-A113	MSL 1 @ 260 °C		Pass
RSH	JESD22- B106	Ta = 265°C, 10 sec		0/30
SD	J-STD-002	Ta = 245°C, 5 sec		0/45



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### Electrical Characteristics Summary:

The temperature characterization meets 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
MMBD1501A	MMBD1504A, BAV23S
MMBD1503A	MMBD1504A, BAV23S
MMBD1503A-D87Z	MMBD1504A, BAV23S
MMBD1504A	MMBD1504A, BAV23S
BAS35	MMBD1504A, BAV23S
BAS31-D87Z	MMBD1504A, BAV23S
BAS31	MMBD1504A, BAV23S
BAS29	MMBD1504A, BAV23S
MMBD1405	MMBD1504A, BAV23S
MMBD1404	MMBD1504A, BAV23S
MMBD1403	MMBD1504A, BAV23S
MMBD1401	MMBD1504A, BAV23S
MMBD1505A	MMBD1504A, BAV23S