ON Semiconductor®

Final Product/Process Change Notification

Document #:FPCN23279XB
Issue Date:27 Jan 2021

Title of Change:	Capacity expansion of Assembly and Test operations of former Fairchild SC88/SOD123 Transistor and Diode to ON Semiconductor Leshan, China , wafer fab change from Phenetic, Japan to ON ISMF Malaysia ,wire change from Au wire to Pd-Coated Cu/ Pd-doped Cu wire
Proposed First Ship date:	04 May 2021 or earlier if approved by customer
Contact Information:	Contact your local ON Semiconductor Sales Office or Andy.Tao@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 Dustin.Tenney@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:	Customer may receive the parts from ON Semiconductor Leshan, China from month of May 2021 onwards once FPCN expire. Parts from ON Semiconductor Leshan, China can be identified through product marking which follow ON Semiconductor marking format.
Change Category:	Test Change, Assembly Change, Wafer Fab Change
Change Sub-Category(s):	Material Change, Manufacturing Site Transfer

Sites Affected:

ON Semiconductor Sites	**External Foundry/Subcon Sites**
Leshan Phoenix Semiconductor, China	AUK Dalian
ON Semiconductor Cebu, Philippines	AUK Corporation, Korea
ON Semiconductor Seremban, Malaysia	Phenitec Semiconductor, Japan

Description and Purpose:

This Final Notification announces to customers of its plans to :

- Transfer Assembly and Test operations sites of formerly Fairchild SC88/SOD123 package from existing internal/external manufacturing facility to existing internal manufacturing site ON Semiconductor Leshan, China.
- Wafer FAB change from Phenitic Japan to ON ISMF ,Malaysia
- Backmetal change from TiNiAgSn Backmetal to Au backmetal
- Small Signal Transistors of SC88 will be converted from Gold wire to Pd-Coated Cu wire
  Small Signal Transistors of SOD123 will be converted from Gold wire to Pd-doped Cu wire
  as part of the process Standardization in ON Semiconductor Leshan, China (as per table in List of affected parts).
- Mold compound from Panasonic CK5000A/Edale ELER-8 100HFE to Hysol GR640HV

	Before Change Description	After Change Description
Assembly/Test Site	ON Cebu, Philippine AUKD ,China AUK,Korea	ON Leshan, China
Wafer FAB /BG/BM Site	Phenitic, Japan	ISMF, Malaysia
Back metal	TiNiAgSn Backmetal	Au Backmetal
Lead Frame	Ag plated LF	Cu Plated LF
Mold Compound	CK5000A EDALE ELER-8-100HFE	Hysol GR640 HV
Bond wire	0.8mil Au	0.8mil Pd-Coated Cu wire(SC88) 0.8mil Pd-doped Cu wire(SOD123)

ON Semiconductor ISMF are internal factory that is TS16949, ISO-9001 and ISO-14000 certified ,
ON Semiconductor Leshan are internal facility is certified with ISO/TS 16949:2009 and is currently running production for SC88/SOD123 package.

Products listed in this notification will continue being Pb-free, Halide free and ROHS compliant. Qualification tests are designed to show that the reliability of the transferred devices will continue to meet or exceed ON Semiconductor standards.

Reliability Data Summary:

QV DEVICE NAME FFB5551
RMS: 72391,63400,67683,67054(SAT)
PACKAGE: SC-88

Test	Specification	Condition	Interval	Results
HTRB	JESD22-A108	Ta=150°C, 100% max rated V	1008 hrs	0/231
TC	JESD22-A104	Ta= -65°C to +150°C	1000 cycs	0/231
H3TRB	JESD22-A101	85°C, 85% RH, 49.1kPa, bias	1008 hrs	0/231
PC	J-STD-020 JESD-A113	MSL 1 @ 260 °C		

QV DEVICE NAME FFB2907A
RMS: 63408
PACKAGE: SC-88

Test	Specification	Condition	Interval	Results
HTRB	JESD22-A108	Ta=150°C, 100% max rated V	1008 hrs	0/231
HTSL	JESD22-A103	Ta= 150°C	1008 hrs	0/231
TC	JESD22-A104	Ta= -65°C to +150°C	1000 cycs	0/231
HAST	JESD22-A110	130°C, 85% RH, 18.8psig, bias	96 hrs	0/231
uHAST	JESD22-A118	130°C, 85% RH, 18.8psig, unbiased	96 hrs	0/231
IOL	MIL-STD-750 (M1037) AEC-Q101	Ta=+25°C, delta Tj=100°C On/off = 2 min	15k cyc	0/120
PC	J-STD-020 JESD-A113	MSL 1 @ 260 °C		
SD	JSTD002	Ta = 245C, 5 sec		0/ 45

QV DEVICE NAME: MMSD4148T1G
RMS: 73607D
PACKAGE: SOD123

Test	Specification	Condition	Interval	Results
HTRB	JESD22-A108	Ta=150°C, 100 % max rated V	1008 hrs	0/77
TC	JESD22-A104	Ta= -65°C to + 150 °C	1000 cyc	0/77
HAST	JESD22-A110	110°C, 85% RH, 17.7psia, bias	264 hrs	0/77
uHAST	JESD22-A118	130°C, 85% RH, 18.8psig, unbiased	96hrs	0/77
PC	J-STD-020 JESD-A113	MSL 1 @ 260 °C		

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
MMSD3070	MMSD4148T1G
FFB5551	FFB5551
FFB2227A	FFB2907A
FFB2907A	FFB2907A
MMSD4448	MMSD4148T1G