ON Semiconductor

Final Product/Process Change Notification

Document# : P769AAB

Issue Date : Jul. 24, 2017

Title of Change:	Qualify alternate assembly & test site SP Semiconductor for TO3PF3 UGBT package
Proposed first ship date:	Oct. 22, 2017
Contact information:	Contact your local ON Semiconductor Sales Office
Samples:	Contact your local ON Semiconductor Sales Office
Additional Reliability Data:	Contact your local ON Semiconductor Sales Office
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>.
Change Part Identification:	1743
Change category:	☐ Wafer Fab Change ☑ Assembly Change ☐ Test Change ☐ Other

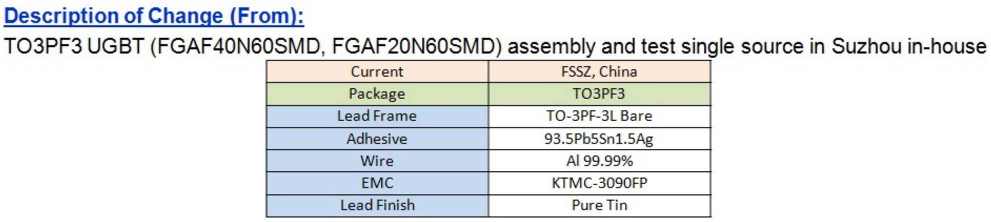
Change Sub-Category(s):

☑ Manufacturing Site Change/Addition
☐ Product specific change
☐ Other
☐ Manufacturing Process Change
☐ Datasheet/Product Doc change
☐ Material Change
☐ Shipping/Packaging/Marking

Sites Affected:

☐ All site(s)
☐ Not applicable
☐ ON Semiconductor site(s)
Select site:
☑ External Foundry/Subcon site(s)
Select site:
SPS;FSSZ

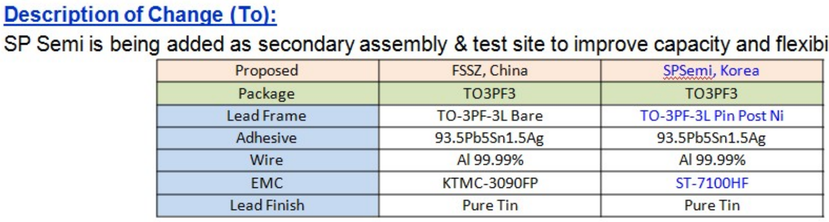
Description and Purpose:



Description of Change (From):

TO3PF3 UGBT (FGAF40N60SMD, FGAF20N60SMD) assembly and test single source in Suzhou in-house

Current	FSSZ, China
Package	TO3PF3
Lead Frame	TO-3PF-3L Bare
Adhesive	93.5Pb5Sn1.5Ag
Wire	Al 99.99%
EMC	KTMC-3090FP
Lead Finish	Pure Tin



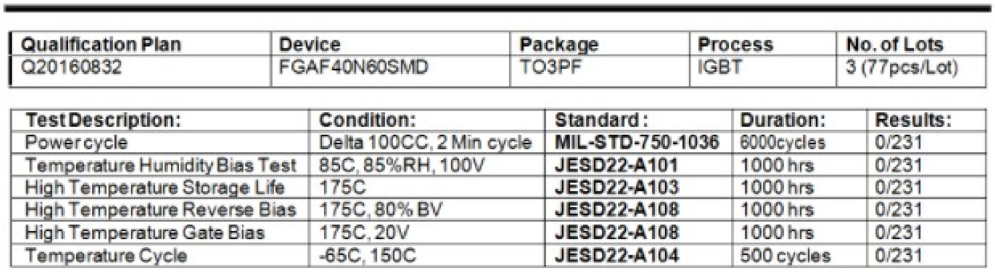
Description of Change (To):

SP Semi is being added as secondary assembly & test site to improve capacity and flexibility.

Proposed	FSSZ, China	SPSemi, Korea
Package	TO3PF3	TO3PF3
Lead Frame	TO-3PF-3L Bare	TO-3PF-3L Pin Post Ni
Adhesive	93.5Pb5Sn1.5Ag	93.5Pb5Sn1.5Ag
Wire	Al 99.99%	Al 99.99%
EMC	KTMC-3090FP	ST-7100HF
Lead Finish	Pure Tin	Pure Tin

Reason of Change: To improve capacity and flexibility.

Reliability Data Summary:



Qualification Plan	Device	Package	Process	No. of Lots
Q20160832	FGAF40N60SMD	TO3PF	IGBT	3 (77pcs/Lot)

Test Description:	Condition:	Standard :	Duration:	Results:
Power cycle	Delta 100CC, 2 Min cycle	**MIL-STD-750-1036**	6000cycles	0/231
Temperature Humidity Bias Test	85C, 85%RH, 100V	**JESD22-A101**	1000 hrs	0/231
High Temperature Storage Life	175C	**JESD22-A103**	1000 hrs	0/231
High Temperature Reverse Bias	175C, 80% BV	**JESD22-A108**	1000 hrs	0/231
High Temperature Gate Bias	175C, 20V	**JESD22-A108**	1000 hrs	0/231
Temperature Cycle	-65C, 150C	**JESD22-A104**	500 cycles	0/231

Electrical Characteristic Summary:

Electrical characteristics are not impacted.

Qualification Plan:

F20160832-2: FGAF40N60SMD, Ass’y Site Transfer(From Suzhou to SP Semi) Qualification loaded on TO3PF 3Lots had passed with required reliability test without any failures.

List of Affected Part(s):

Part Number	Qualification Vehicle
FGAF20N60SMD	FGAF40N60SMD
FGAF40N60SMD	FGAF40N60SMD