



<b>Title of Change:</b>	Gen4.1 PTIC test specification change to work with the FAB BAS process change at Niigata from Gen4 to Gen5		
<b>Proposed first ship date:</b>	25 October 2018 or earlier upon customer approval		
<b>Contact information:</b>	Contact your local ON Semiconductor Sales Office or <Scott.Haddow@onsemi.com>		
<b>Samples:</b>	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.		
<b>Additional Reliability Data:</b>	Contact your local ON Semiconductor Sales Office or <Paul.Syndergaard@onsemi.com>		
<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. 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>		
<b>Change Part Identification:</b>	Affected products will be identified by the data code		
<b>Change Category:</b>	<input checked="" type="checkbox"/> Wafer Fab Change <input type="checkbox"/> Assembly Change <input checked="" type="checkbox"/> Test Change <input type="checkbox"/> Other _____		
<b>Change Sub-Category(s):</b>	<input type="checkbox"/> Manufacturing Site Addition <input type="checkbox"/> Material Change <input checked="" type="checkbox"/> Datasheet/Product Doc change <input type="checkbox"/> Manufacturing Site Transfer <input type="checkbox"/> Product specific change <input type="checkbox"/> Shipping/Packaging/Marking <input checked="" type="checkbox"/> Manufacturing Process Change <input type="checkbox"/> Other: _____		
<b>Sites Affected:</b>	ON Semiconductor Sites: ON Niigata, Japan	External Foundry/Subcon Sites: None	
<b>Description and Purpose:</b>			
<b>Change Items</b>	<b>Before Change Description</b>	<b>After Change Description</b>	<b>Reason for the change</b>
BST sputter recipe change	Gen4 condition	Gen5 condition	To increase the capacity by improving the availability of the BST sputter tool
Test Spec/ Data sheet Update	Gen 4.1 production datasheet	Tuning increases and 24V capacitance decreases to align with Gen 5.0 production datasheets	Align datasheet to electrical characterization results



**Reliability Data Summary:**

**QV DEVICE NAME:** TCP\_50xxUB-DT, TCP-50xxUA-DT, TCP-501-DT

**RMS#:** P33042, H33077, H36234

**PACKAGE:** WLCSP

Test	Specification	Condition	Interval	Results
HTOL	JESD22-A108	Ta=125°C, 100 % max rated Vcc	5hrs	0/231
HTSL	JESD22-A103	Ta= -150°C, Bridged to Gen 3, TCP-31xx	1008hrs	0/231
TC	JESD22-A104	Ta= -65°C to +150°C, Bridged to TCP-41xxXX-DT	500cyc	0/231
THB	JEDEC-A101C	85C, 85%, 12V	1000hrs	0/320
uHAST	JESD22-A118	130°C, 85% RH, 18.8psig, unbiased, Bridged to TCP-41xxXX-DT. Performed since qual on quarterly bases under RAP(0/77)	96 hrs	0/120
PC	J-STD-020 JESD-A113	MSL 1 __168hrs @ 85 °C, 85%RH, reflow 3 cycles 260C	168hrs	0/22
RSH	JESD22-A B106B	-40C to 125C, 200 cycles, 15min soak, 20s temp transfer Not n the qual plan, but one time test later	200 cycles	0/160
SD	JEDEC-B102E	Ta = 245C, 10 sec, bridged TCP-31XX		0/15
ESD-CDM	JESD22-C101	Bare die, 3 times both polarities	1000V	0/3
ESD HBM	JESD22-A114E AEC-Q100-002	Both polarities	500V	0/3
ESD MM	JESD22-A115C AEC-Q100-003	Both polarities	400V	0/3
TC	JESD22-A104D	-55C/125C, quarterly monitored -65C/150C	500cy	0/308
Mech Shock	JESD22-B104	1500g,0.5ms,0.5sine pulse, bridged to TCP-41xx	Post stress	0/52
Vibration	JESD22-B103B	Condition 2, 10g peak, 10-10,000Hz, bridged to TCP-41xx	Post stress	0/52

**Electrical Characteristic Summary:**

See attached Summary of Electrical Characterization Data.

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/s

**List of Affected Parts:**

Part Number	Qualification Vehicle
TCP-4112UB-DT TCP-4118UB-DT TCP-4127UB-DT TCP-4127UA-DT TCP-4133UB-DT TCP-4133UA-DT TCP-4139UB-DT TCP-4147UB-DT TCP-4156UB-DT TCP-4168UB-DT TCP-4182UB-DT	TCP-4182UB-DT TCP-4133UA-DT

**Appendix A: Changed Products**

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Product	Customer Part Number	Qualification Vehicle
TCP-4112UB-DT		TCP-4182UB-DT
TCP-4118UB-DT		TCP-4182UB-DT
TCP-4127UB-DT		TCP-4182UB-DT
TCP-4133UA-DT		TCP-4182UB-DT
TCP-4133UB-DT		TCP-4182UB-DT
TCP-4139UB-DT		TCP-4182UB-DT
TCP-4147UB-DT		TCP-4182UB-DT
TCP-4156UB-DT		TCP-4182UB-DT
TCP-4168UB-DT		TCP-4182UB-DT
TCP-4182UB-DT		TCP-4182UB-DT