



| | |
|-------------------------------------|---|
| Title of Change: | Qualification of AFSM (Aizu Fujitsu Semiconductor Manufacturing) as an additional Wafer Fab facility for ONC25 Technology |
| Proposed first ship date: | 28 September 2017 or earlier upon customer approval |
| Contact information: | Contact your local ON Semiconductor Sales Office or <Shannon.riggs@onsemi.com> |
| Samples: | Contact your local ON Semiconductor Sales Office |
| Additional Reliability Data: | Contact your local ON Semiconductor Sales Office or <Shannon.riggs@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>. |
| Change Part Identification: | Shipments made after work week 30, 2017 may contain die sourced from either AFSM Fab or ON Semiconductor fab in Gresham, Oregon. The product date code will indicate the work week of manufacturing and the product labels will contain the wafer source indicator. |
| Change category: | <input checked="" type="checkbox"/> Wafer Fab Change <input type="checkbox"/> Assembly Change <input type="checkbox"/> Test Change <input type="checkbox"/> Other _____ |
| Change Sub-Category(s): | <input checked="" type="checkbox"/> Manufacturing Site Change/Addition <input type="checkbox"/> Material Change <input type="checkbox"/> Datasheet/Product Doc change <input type="checkbox"/> Manufacturing Process Change <input type="checkbox"/> Product specific change <input type="checkbox"/> Shipping/Packaging/Marking <input type="checkbox"/> Other: _____ |
| Sites Affected: | <input type="checkbox"/> All site(s) <input type="checkbox"/> not applicable <input type="checkbox"/> ON Semiconductor site(s) : <input checked="" type="checkbox"/> External Foundry/Subcon site(s) AFSM (Aizu Fujitsu Semiconductor Manufacturing) Wafer Fab, Aizuwakatmatsu, Japan |
| Description and Purpose: | <p>The AFSM (Aizu Fujitsu Semiconductor Manufacturing) Wafer Fab located in Aizuwakamatsu, Japan has been qualified to process the ONC25 CMOS process.</p> <p>The exact same process technology has been transferred as is currently running in the ON Semiconductor wafer fab located at Gresham, Oregon, USA. Tool sets are different but the exact same masking layers and steps are being used in the AFSM Fab.</p> <p>This is a capacity expansion to supplement the existing ON Semiconductor wafer fab. The parts being qualified are dual sourced and may be processed at either wafer fab in the future depending on capacity requirements.</p> <p>Additional part families will be announced on future PCNs once qualifications of those parts are completed.</p> <p>This PCN will apply to future Regulator output voltage versions of the part families listed below.</p> |



Reliability Data Summary:

QV DEVICE NAME
NCP170A/BXVxxxT2G

| Test | Specification | Condition | Interval | Results |
|-------|-------------------------|------------------------------------|--------------------|-------------------|
| HTOL | JESD22-A108 | Ta=125°C, 100 % max rated V_{CC} | 1008 hrs | 0/160 |
| ELFR | JA108 | Ta=125°C, 100 % max rated V_{CC} | 48 hrs | 0/2400 |
| HTSL | JA103 | Ta=150°C | 1008 hrs | 0/240 |
| TC | JESD22-A104 | Ta= -65°C to +150°C | 500 cyc | 0/270 |
| HAST | JESD22-A110 | 130°C, 85% RH, 18.8psig, bias | 264 hrs | 0/270 |
| UHAST | JESD22-A118 | 130°C, 85% RH, 18.8psig, unbiased | 96 hrs | 0/240 |
| PC | J-STD-020 JESD-A113 | MSL 1 @ 260 °C | | PASS |
| RSH | JESD22- B106 | Ta = 265C, 10 sec | | 0/90 |
| ED | Electrical Distribution | Critical parameters | | CPK>1.67, Pass |
| BPS | MILSTD883 Method 2011 | Cond C. | | CPK>1.67, Pass |
| SAT | J-STD-020 JESD-A113 | | | Pass |
| ESD | CDM JS002 | | 1kV | Pass |
| ESD | HBM JS001 | | 2kV | Pass |
| LU | JESD78 | Class II | +/-100ma | Pass |

QV DEVICE NAME
NCP160/1BFCSxxxT2G,
NCP160/1BFCTxxxT2G,
NCP160/1ABMXxxxTBG

| Test | Specification | Condition | Interval | Results |
|-------|-------------------------|------------------------------------|---------------------|-------------------|
| HTOL | JESD22-A108 | Ta=125°C, 100 % max rated V_{CC} | 1008 hrs | 0/336 |
| HTSL | JA103 | Ta=150°C | 1008 hrs | 0/251 |
| TC | JESD22-A104 | Ta= -40°C to +150°C | 1000 cyc | 0/334 |
| HAST | JESD22-A110 | 130°C, 85% RH, 18.8psig, bias | 96 hrs | 0/336 |
| UHAST | JESD22-A118 | 130°C, 85% RH, 18.8psig, unbiased | 96 hrs | 0/336 |
| PC | J-STD-020 JESD-A113 | MSL 1 @ 260 °C | | Pass |
| ED | Electrical Distribution | Critical parameters | | CPK>1.67, Pass |
| ESD | HBM JS001 | | 2kV | Pass |
| LU | JESD78 | | +/-100mA | Pass |

Electrical Characteristic Summary:

There are no changes to any electrical parameters. All data sheet specifications remain the same.



List of affected Standard Parts:

| Part Number | | | Qualification Vehicle |
|-----------------|-------------------|-----------------|-----------------------|
| NCP120AMX080TCG | NCP133AMX110TCG | NCP170BMX120TCG | |
| NCP120AMX105TCG | NCP133AMX115TCG | NCP170BMX135TCG | |
| NCP120AMX110TCG | NCP133AMX120TCG | NCP170BMX150TCG | |
| NCP120AMX115TCG | NCP133AMX125TCG | NCP170BMX250TCG | |
| NCP120AMX120TCG | NCP133AMX130TCG | NCP170BMX280TCG | |
| NCP120AMX150TCG | NCP133AMX150TCG | NCP170BMX285TCG | |
| NCP120AMX180TCG | NCP133AMX180TCG | NCP170BMX300TCG | |
| NCP120AMX210TCG | NCP133AMXADJTCG | NCP170BMX310TCG | |
| NCP120BMX080TCG | NCP133BMXADJTCG | NCP170BXV120T2G | |
| NCP120BMX105TCG | NCP134AMX100TCG | NCP170BXV135T2G | |
| NCP120BMX110TCG | NCP134AMX105TCG | NCP170BXV150T2G | |
| NCP120BMX115TCG | NCP134AMX110TCG | NCP170BXV180T2G | |
| NCP120BMX120TCG | NCP134AMX120TCG | NCP170BXV250T2G | |
| NCP120BMX150TCG | NCP137AFCTADJT2G | NCP170BXV280T2G | |
| NCP120BMX180TCG | NCP137AFCTCADJT2G | NCP170BXV300T2G | |
| NCP120BMX210TCG | NCP170AMX120TCG | NCP170BXV310T2G | |
| NCP130AMX080TCG | NCP170AMX135TCG | NCP170BXV330T2G | |
| NCP130AMX090TCG | NCP170AMX150TCG | NCP186AMX120TAG | NCP170A/BXVxxxT2G |
| NCP130AMX100TCG | NCP170AMX180TCG | NCP186AMX175TAG | NCP160/1BFCSxxxT2G |
| NCP130AMX105TCG | NCP170AMX190TCG | NCP186AMX180TAG | NCP160/1BFCTxxxT2G |
| NCP130AMX110TCG | NCP170AMX250TCG | NCP186AMX185TAG | NCP160/1A/BMXxxxTBG |
| NCP130AMX115TCG | NCP170AMX280TCG | NCP186AMX250TAG | |
| NCP130AMX120TCG | NCP170AMX285TCG | NCP186AMX280TAG | |
| NCP130AMX150TCG | NCP170AMX300TCG | NCP186AMX300TAG | |
| NCP130BMX080TCG | NCP170AMX310TCG | NCP186AMX330TAG | |
| NCP130BMX090TCG | NCP170AMX330TCG | NCP186AMX350TAG | |
| NCP130BMX100TCG | NCP170AXV120T2G | NCP186AMX390TAG | |
| NCP130BMX110TCG | NCP170AXV135T2G | NCP186BMX120TAG | |
| NCP130BMX115TCG | NCP170AXV150T2G | NCP186BMX175TAG | |
| NCP130BMX120TCG | NCP170AXV180T2G | NCP186BMX180TAG | |
| NCP130BMX150TCG | NCP170AXV210T2G | NCP186BMX185TAG | |
| NCP130BMX180TCG | NCP170AXV250T2G | NCP186BMX250TAG | |
| NCP130BMX210TCG | NCP170AXV280T2G | NCP186BMX280TAG | |
| NCP133AMX090TCG | NCP170AXV300T2G | NCP186BMX300TAG | |
| NCP133AMX100TCG | NCP170AXV310T2G | NCP186BMX330TAG | |
| NCP133AMX105TCG | NCP170AXV330T2G | NCP186BMX350TAG | |
| | | NCP186BMX390TAG | |