



PCN# : P629AAB  
Issue Date : Mar. 03, 2016

**DESIGN/PROCESS CHANGE NOTIFICATION**

This is to inform you that a change is being made to the products listed below.

Unless otherwise indicated in the details of this notification, the identified change will have no impact on product quality, reliability, electrical, visual or mechanical performance and affected products will remain fully compliant to all published specifications. Products incorporating this change may be shipped interchangeably with existing unchanged products.

This change is planned to take effect in 90 calendar days from the date of this notification. Please work with your local Fairchild Sales Representative to manage your inventory of unchanged product if your evaluation of this change will require more than 90 calendar days.

Please contact your local Customer Quality Engineer within 30 days of receipt of this notification if you require any additional data or samples.

**Implementation of change:**

Expected First Shipment Date for Changed Product :Jun. 01, 2016

Expected First Date Code of Changed Product :1623

Description of Change (From) :  
Qualify alternate Assy location

FROM Assembly & Test Site: PSTS China

| Assembly Site   | PSTS                |
|-----------------|---------------------|
| Package         | SOIC – N 8 Ids      |
| Lead frame      | Copper with Spot Ag |
| Die attach      | Able 84-1MISR4      |
| Wire            | 2.0 mil Au wire     |
| Mold Compound   | KTMC-5900GM         |
| Terminal Finish | 100% tin plate      |

Description of Change (To) :

TO Assembly & Test Site: Adding HANA AYT, Thailand as alternate sites.

| <b>Assembly Site</b> | <b>HANA AYT</b>        |
|----------------------|------------------------|
| Package              | SOIC – N 8 lds         |
| Lead frame           | Samsung RT UPG1        |
| Die attach           | Henkel QMI519          |
| Wire                 | 2.0 mil Au wire        |
| Mold Compound        | Hitachi CEL8240HF10LYR |
| Terminal Finish      | NiPdAuAg               |

Reason for Change:  
Improve supply flexibility.



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**Affected Product(s):**

|           |           |  |
|-----------|-----------|--|
| FQS4900TF | FQS4903TF |  |
|-----------|-----------|--|

| Qualification Plan | Device   | Package   | Process | No. of Lots |
|--------------------|----------|-----------|---------|-------------|
| Q20140077          | FQA24N60 | TO-3PN 3L | Q-FET   | 3           |

| Test Description:              | Condition:              | Standard :       | Duration:   | Results: |
|--------------------------------|-------------------------|------------------|-------------|----------|
| High Temperature Reverse Bias  | 150C, 400V (80% BV)     | JESD22-A108      | 1000 hrs    | 0/231    |
| High Temperature Reverse Bias  | 150C, 600V (100% BV)    | JESD22-A108      | 1000 hrs    | 0/231    |
| High Temperature Gate Bias     | 150C, 30V               | JESD22-A108      | 1000 hrs    | 0/231    |
| Highly Accelerated Stress Test | 85%RH, 130C, 42V        | JESD22-A110      | 96 hrs      | 0/231    |
| Temperature Cycle              | -65C, 150C              | JESD22-A104      | 500 cycles  | 0/231    |
| Power Cycle                    | Delta 100C, 2 Min cycle | MIL-STD-750-1036 | 6000 cycles | 0/77     |
| High Temperature Storage Life  | 150C                    | JESD22-A103      | 1000 hrs    | 0/231    |

| Qualification Plan | Device       | Package | Process | No. of Lots |
|--------------------|--------------|---------|---------|-------------|
| Q20150060          | FDS8949_F085 | SO8     | PT 4N   | 2           |

| Test Description:                     | Condition:                    | Standard :       | Duration:    | Results: |
|---------------------------------------|-------------------------------|------------------|--------------|----------|
| Highly Accelerated Stress Test        | 85%RH, 130C, 42V              | JESD22-A110      | 96 hrs       | 0/154    |
| High Temperature Reverse Bias         | 150C, 40V                     | JESD22-A108      | 1000 hrs     | 0/154    |
| High Temperature Gate Bias            | 150C, 20V                     | JESD22-A108      | 1000 hrs     | 0/154    |
| High Temperature Storage Life         | 150C                          | JESD22-A103      | 1000 hrs     | 0/231    |
| Power Cycle                           | Delta 100C, 2 Min cycle       | MIL-STD-750-1036 | 15000 cycles | 0/154    |
| Temperature Cycle                     | -65C, 150C                    | JESD22-A104      | 500 cycles   | 0/154    |
| Unbias Highly Accelerated Stress Test | 85%RH, 130C                   | JESD22-A118      | 96 hrs       | 0/154    |
| MSLNL1A                               | PeakTemp(260°C),<br>Cycles 3X | J-STD-020        | -            | 0/44     |
| Resistance to Solder Heat             | 260°C                         | JESD22-B106      | 3X @ 10s     | 0/20     |
| Solderability, Condition B            | 245°C, 5 sec                  | JESD22-B102      | 8 hrs        | 0/20     |

| Qualification Plan | Device    | Package | Process | No. of Lots |
|--------------------|-----------|---------|---------|-------------|
| Q20160089          | FQS4903TF | SO8     | Q-FET   | 1           |

| Test Description:                     | Condition:                    | Standard :  | Duration:  | Results: |
|---------------------------------------|-------------------------------|-------------|------------|----------|
| High Temperature Reverse Bias         | 150C, 400V                    | JESD22-A108 | 1000 hrs   | 0/77     |
| High Temperature Storage Life         | 150C                          | JESD22-A103 | 1000 hrs   | 0/77     |
| Temperature Humidity Bias Test        | 85%RH, 85C, 100V              | JESD22-A101 | 1000 hrs   | 0/77     |
| Temperature Cycle                     | -65C, 150C                    | JESD22-A104 | 500 cycles | 0/77     |
| Unbias Highly Accelerated Stress Test | 85%RH, 130C                   | JESD22-A118 | 96 hrs     | 0/77     |
| MSLNL1A                               | PeakTemp(260°C),<br>Cycles 3X | J-STD-020   | -          | 0/11     |



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## Title : Qualification Report for PCN : P629AAB

Date : Mar. 02, 2016

Affected devices :

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| Product   | Customer Part Number | BBB | Drawing |
|-----------|----------------------|-----|---------|
| FQS4903TF |                      | Y   | N       |

C

| Product   | Customer Part Number | BBB | Drawing |
|-----------|----------------------|-----|---------|
| FQS4900TF |                      | Y   | N       |

Qualification Test Summary :

| Qualification Plan | Device   | Package   | Process | No. of Lots |
|--------------------|----------|-----------|---------|-------------|
| Q20140077          | FQA24N60 | TO-3PN 3L | Q-FET   | 3           |

| Test Description:              | Condition:              | Standard :       | Duration:   | Results: |
|--------------------------------|-------------------------|------------------|-------------|----------|
| High Temperature Reverse Bias  | 150C, 400V (80% BV)     | JESD22-A108      | 1000 hrs    | 0/231    |
| High Temperature Reverse Bias  | 150C, 600V (100% BV)    | JESD22-A108      | 1000 hrs    | 0/231    |
| High Temperature Gate Bias     | 150C, 30V               | JESD22-A108      | 1000 hrs    | 0/231    |
| Highly Accelerated Stress Test | 85%RH, 130C, 42V        | JESD22-A110      | 96 hrs      | 0/231    |
| Temperature Cycle              | -65C, 150C              | JESD22-A104      | 500 cycles  | 0/231    |
| Power Cycle                    | Delta 100C, 2 Min cycle | MIL-STD-750-1036 | 6000 cycles | 0/77     |
| High Temperature Storage Life  | 150C                    | JESD22-A103      | 1000 hrs    | 0/231    |

| Qualification Plan | Device       | Package | Process | No. of Lots |
|--------------------|--------------|---------|---------|-------------|
| Q20150060          | FDS8949_F085 | SO8     | PT 4N   | 2           |

| Test Description:                     | Condition:                    | Standard :       | Duration:    | Results: |
|---------------------------------------|-------------------------------|------------------|--------------|----------|
| Highly Accelerated Stress Test        | 85%RH, 130C, 42V              | JESD22-A110      | 96 hrs       | 0/154    |
| High Temperature Reverse Bias         | 150C, 40V                     | JESD22-A108      | 1000 hrs     | 0/154    |
| High Temperature Gate Bias            | 150C, 20V                     | JESD22-A108      | 1000 hrs     | 0/154    |
| High Temperature Storage Life         | 150C                          | JESD22-A103      | 1000 hrs     | 0/231    |
| Power Cycle                           | Delta 100C, 2 Min cycle       | MIL-STD-750-1036 | 15000 cycles | 0/154    |
| Temperature Cycle                     | -65C, 150C                    | JESD22-A104      | 500 cycles   | 0/154    |
| Unbias Highly Accelerated Stress Test | 85%RH, 130C                   | JESD22-A118      | 96 hrs       | 0/154    |
| MSLNL1A                               | PeakTemp(260°C),<br>Cycles 3X | J-STD-020        | -            | 0/44     |
| Resistance to Solder Heat             | 260°C                         | JESD22-B106      | 3X @ 10s     | 0/20     |
| Solderability, Condition B            | 245°C, 5 sec                  | JESD22-B102      | 8 hrs        | 0/20     |

| Qualification Plan | Device    | Package | Process | No. of Lots |
|--------------------|-----------|---------|---------|-------------|
| Q20160089          | FQS4903TF | SO8     | Q-FET   | 1           |

| Test Description:                     | Condition:                    | Standard :  | Duration:  | Results: |
|---------------------------------------|-------------------------------|-------------|------------|----------|
| High Temperature Reverse Bias         | 150C, 400V                    | JESD22-A108 | 1000 hrs   | 0/77     |
| High Temperature Storage Life         | 150C                          | JESD22-A103 | 1000 hrs   | 0/77     |
| Temperature Humidity Bias Test        | 85%RH, 85C, 100V              | JESD22-A101 | 1000 hrs   | 0/77     |
| Temperature Cycle                     | -65C, 150C                    | JESD22-A104 | 500 cycles | 0/77     |
| Unbias Highly Accelerated Stress Test | 85%RH, 130C                   | JESD22-A118 | 96 hrs     | 0/77     |
| MSLNL1A                               | PeakTemp(260°C),<br>Cycles 3X | J-STD-020   | -          | 0/11     |

The selection methodology of qualification vehicles is aligned with JESD47 and if automotive devices are impacted by the PCN the selection of qualification vehicles is also align with the requirements in AEC-Q100 or AEC-Q101

Please contact your local Customer Quality Engineer if you have any questions concerning this data.