

## PRODUCT / PROCESS CHANGE NOTIFICATION

### 1. PCN basic data

|                      |   |  |
|----------------------|---|--|
| 1.1 Company          |  | STMicroelectronics International N.V                     |
| 1.2 PCN No.          |   | ADG/19/11528   |
| 1.3 Title of PCN     |   | Mold compound replacement for TO247                      |
| 1.4 Product Category |   | TM8050H-12W, STPSxxx, STPSCxxx, STBRxxx, STTHxxx series. |
| 1.5 Issue date       |   | 2019-05-06   |

### 2. PCN Team

|                           |                          |
|---------------------------|--------------------------|
| 2.1 Contact supplier      |                          |
| 2.1.1 Name                | ROBERTSON HEATHER        |
| 2.1.2 Phone               | +1 8475853058            |
| 2.1.3 Email               | heather.robertson@st.com |
| 2.2 Change responsibility |                          |
| 2.2.1 Product Manager     | Richard RENARD           |
| 2.1.2 Marketing Manager   | Philippe LEGER           |
| 2.1.3 Quality Manager     | Jean-Paul REBRASSE       |

### 3. Change

| 3.1 Category | 3.2 Type of change   | 3.3 Manufacturing Location  |
|--------------|--|-----------------------------|
| Materials    | New direct material part number (same supplier, different supplier or new supplier), Mold compound | ST assy site in China (STS) |

### 4. Description of change

|   | Old   | New  |
|---|---|--|
| 4.1 Description   | Samsung SDI product termination of the following references of molding compound for through hole packages | Replacement of current mold compounds with alternative material. ST is already proceeding with new resins evaluation and qualification, to guarantee adequate products continuity. |
| 4.2 Anticipated Impact on form,fit, function, quality, reliability or processability? | no  |  |

### 5. Reason / motivation for change

|                      |   |
|----------------------|---|
| 5.1 Motivation       | Product discontinuance from current supplier. |
| 5.2 Customer Benefit | SERVICE CONTINUITY                            |

### 6. Marking of parts / traceability of change

|                 |                                     |
|-----------------|-------------------------------------|
| 6.1 Description | internal codification and QA number |
|-----------------|-------------------------------------|

### 7. Timing / schedule

|                                     |              |
|-------------------------------------|--------------|
| 7.1 Date of qualification results   | 2019-08-29   |
| 7.2 Intended start of delivery      | 2019-09-13   |
| 7.3 Qualification sample available? | Upon Request |

### 8. Qualification / Validation

|  |             |
|--|-------------|
| 8.1 Description                                    |             |
| 8.2 Qualification report and qualification results | In progress |

**9. Attachments (additional documentations)**

11528 Public product.pdf  
11528 PCN-TO247 industrial draft.pdf

**10. Affected parts**

| <b>10. 1 Current</b>           |                                | <b>10.2 New (if applicable)</b> |
|--------------------------------|--------------------------------|---------------------------------|
| <b>10.1.1 Customer Part No</b> | <b>10.1.2 Supplier Part No</b> | <b>10.1.2 Supplier Part No</b>  |
|                                | STBR3012W                      |                                 |
|                                | STBR6012W                      |                                 |
| STPS30150CW                    | STPS30150CW                    |                                 |
| STPS30170CW                    | STPS30170CW                    |                                 |
| STPS3045CW                     | STPS3045CW                     |                                 |
| STPS30H100CW                   | STPS30H100CW                   |                                 |
| STPS30L45CW                    | STPS30L45CW                    |                                 |
| STPS30L60CW                    | STPS30L60CW                    |                                 |
| STPS40150CW                    | STPS40150CW                    |                                 |
|                                | STPS40170CW                    |                                 |
| STPS4045CW                     | STPS4045CW                     |                                 |
| STPS40H100CW                   | STPS40H100CW                   |                                 |
| STPS40L15CW                    | STPS40L15CW                    |                                 |
| STPS6045CW                     | STPS6045CW                     |                                 |
| STPS60L30CW                    | STPS60L30CW                    |                                 |
| STPS60L45CW                    | STPS60L45CW                    |                                 |
|                                | STPS60SM200CW                  |                                 |
| STPS61150CW                    | STPS61150CW                    |                                 |
| STPS61170CW                    | STPS61170CW                    |                                 |
| STPS61H100CW                   | STPS61H100CW                   |                                 |
|                                | STPS61L60CW                    |                                 |
| STPS80150CW                    | STPS80150CW                    |                                 |
| STPS80170CW                    | STPS80170CW                    |                                 |
|                                | STPSC16H065AW                  |                                 |
|                                | STPSC20065W                    |                                 |
|                                | STPSC2006CW                    |                                 |
|                                | STPSC20H065CW                  |                                 |
|                                | STPSC40065CW                   |                                 |
|                                | STTH100W04CW                   |                                 |
|                                | STTH100W06CW                   |                                 |
|                                | STTH1512W                      |                                 |
|                                | STTH15RQ06W                    |                                 |
| STTH3002CW                     | STTH3002CW                     |                                 |
| STTH3003CW                     | STTH3003CW                     |                                 |
|                                | STTH3006W                      |                                 |
|                                | STTH3010W                      |                                 |
|                                | STTH3012W                      |                                 |
|                                | STTH30ACS06W                   |                                 |
| STTH30L06CW                    | STTH30L06CW                    |                                 |
| STTH30L06W                     | STTH30L06W                     |                                 |
| STTH30R03CW                    | STTH30R03CW                    |                                 |
|                                | STTH30R04W                     |                                 |
| STTH30R06CW                    | STTH30R06CW                    |                                 |
|                                | STTH30RQ06W                    |                                 |

|             |              |  |
|-------------|--------------|--|
|             | STTH30S12W   |  |
|             | STTH30W02CW  |  |
|             | STTH50W03CW  |  |
| STTH6002CW  | STTH6002CW   |  |
| STTH6003CW  | STTH6003CW   |  |
|             | STTH6004W    |  |
|             | STTH6006W    |  |
|             | STTH6010W    |  |
|             | STTH6012W    |  |
|             | STTH60AC06CW |  |
| STTH60L06CW | STTH60L06CW  |  |
| STTH60L06W  | STTH60L06W   |  |
| STTH60P03SW | STTH60P03SW  |  |
|             | STTH60R04W   |  |
|             | STTH60RQ06W  |  |
|             | STTH60W03CW  |  |
|             | STTH61W04SW  |  |
|             | STTH75S12W   |  |
|             | TM8050H-8W   |  |

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(1) ADG: Automotive and Discrete Group

| <b>PCN</b><br><b>Product/Process Change Notification</b> |  |                   |            |
|--|--|-------------------|------------|
| <b>Mold compound replacement for TO247</b>               |  |                   |            |
| <b>Notification number:</b>                              | ADG-DIS/19/xxxx  | <b>Issue Date</b> | 29/04/2019 |
| <b>Issued by</b>   | Aline Augis  |                   |            |
| <b>Product series affected by the change</b>             | Industrial rectifiers in TO247 package.<br>TM8050H-12W, STPSxxx, STPSCxxx, STBRxxx, STTHxxx series.  |                   |            |
| <b>Type of change</b>                                    | Back end realization   |                   |            |
| <b>Description of the change</b>                         | <p>Following 11478 Early Notification sent in W15-2019, the change is the mold compound replacement for TO247 package. Additional change is the extension of product perimeter at back-end subcontractor with Power Schottky products up to 100V included and bipolar rectifier products up to 300V included.</p>  |                   |            |
| <b>Reason for change</b>                                 | Product discontinuance from current supplier.  |                   |            |
| <b>Former versus changed product:</b>                    | <p>The changed products do not present modified electrical, dimensional or thermal parameters, leaving unchanged the current information published in the product datasheet</p> <p>The footprint recommended by ST remains the same.</p> <p>There is no change in the packing modes and the standard delivery quantities either.</p> <p>The products remain in full compliance with the ST ECOPACK®2 grade ("halogen-free").</p> |                   |            |
| <b>Disposition of former products</b>                    | Delivery of current product will be done until stock depletion.  |                   |            |
| <b>Marking and traceability</b>                          | No change of marking. Traceability through new finished good codes (printed on labels).  |                   |            |
| <b>Qualification forecasted date</b>                     | Week 35 - 2019   |                   |            |

(1) ADG: Automotive and Discrete Group

### Forecasted sample availability

Samples will be available on demand with a typical lead time of 5 weeks after order entry.

### Change implementation schedule

| Sales types             | Estimated production start | Estimated first shipments |
|-------------------------|----------------------------|---------------------------|
| All Commercial Products | Week 36-2019               | Week 37-2019              |

### Comments:

### Customer's feedback

Please contact your local ST sales representative or quality contact for requests concerning this change notification.

Absence of acknowledgement of this PCN within 30 days of receipt will constitute acceptance of the change  
 Absence of additional response within 90 days of receipt of this PCN will constitute acceptance of the change

### Qualification program:

Qualification will be performed through a global plan covering both TO220 and TO247 packages with the following Product Test Vehicles.

| Product Test Vehicle | Package |
|----------------------|---------|
| TN5050H-12WY         | TO247   |
| STTH60RQ06WY         | TO247   |
| STTH30R4WY           | TO247   |
| STBR6012WY           | TO247   |
| STPS4045CWY          | TO247   |
| STTH50W03CW          | TO247   |
| STPS40H100CW         | TO247   |
| STPSC20H12DY         | TO220   |
| ACST1235-7T          | TO220   |
| TYN612MRG            | TO220   |
| STPS41H100CTY        | TO220   |
| STTH1210DY           | TO220   |
| STPS20200CT          | TO220   |
| STPS41H100CT         | TO220   |
| FERD40H100STS        | TO220   |

Reliability tests will be conducted following below table.

| Stress  | Abrv  | Reference   |
|---|-------|---|
| High Temperature Reverse Bias                   | HTRB  | MIL-STD-750-1 M1038 Method A (for diodes, rectifiers) |
| AC blocking voltage                             | ACBV  | MIL-STD-750-1 M1040 Test condition A (for SCR)        |
| High Humidity High Temperature Reverse Bias     | H3TRB | JESD22A-101   |
| Unbiased Highly Accelerated Stress Test         | UHAST | JESD22A-118 or A101                                   |
| Temperature Cycling                             | TC    | JESD22A-104   |
| Intermittent Operational Life / Thermal Fatigue | IOL   | MIL-STD-750 Method 1037                               |
| Destructive Physical Analysis                   | DPA   | AEC-Q101-004 Section 4                                |
| Resistance to Solder Heat                       | RSH   | JESD22 A-111 (SMD) B-106 (PTH)                        |
| Solderability                                   | SD    | J-STD-002 JESD22B102                                  |



## Public Products List

Public Products are off the shelf products. They are not dedicated to specific customers, they are available through ST Sales team, or Distributors, and visible on ST.com

**PCN Title :** Mold compound replacement for TO247

**PCN Reference :** ADG/19/11528

**Subject :** Public Products List

Dear Customer,

Please find below the Standard Public Products List impacted by the change.

|               |               |               |
|---------------|---------------|---------------|
| STPS40L45CW   | STTH6003CW    | STPS61L45CW   |
| STPS40H100CW  | STTH50W03CW   | STTH60P03SW   |
| STTH30W02CW   | STPS61H100CW  | STPS61170CW   |
| STTH60L06CW   | STPS40150CW   | STPS3045CW    |
| STPSC16H065AW | STTH3002CW    | STPS40170CW   |
| STPS30170CW   | STTH30ACS06W  | STTH3006W     |
| STTH60R04W    | STTH6006W     | STPS60SM200CW |
| STPS6045CW    | STTH60W03CW   | STPS61L60CW   |
| STTH30R04W    | STTH30R03CW   | STTH60AC06CW  |
| STTH6012W     | STPSC40065CW  | STPS4045CW    |
| STTH30RQ06W   | STTH15RQ06W   | STPS30L60CW   |
| STPS30L45CW   | STTH30L06CW   | STPS60L45CW   |
| STPS80150CW   | STTH6002CW    | STPS30H100CW  |
| STPS30150CW   | STPSC2006CW   | STBR3012W     |
| STTH30R06CW   | STPS80170CW   | STTH100W06CW  |
| STTH61W04SW   | STTH30R06W    | STPS40L15CW   |
| STPS60L30CW   | STPSC20065W   | STTH3010W     |
| STTH6010W     | STPSC20H065CW | STTH3003CW    |
| STTH100W04CW  | STTH60L06W    | STTH6004W     |
| STPS61150CW   | STTH30S12W    | STBR6012W     |
| STTH75S12W    | TM8050H-8W    | STTH1512W     |
| STTH60RQ06W   | STTH3012W     | STPS3060CW    |



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