## Standardized Information for Process/Product Change Notification (PCN)

|                                     |  | <u></u>                                   | _    |
|-------------------------------------|--|---|------|
|                                     | 1. PCN   | N basic data                              | For  |
| 1.1 Company TAIWAN SEMICONDUCTOR    | TAIWAN SEMICONDUCTOR CO., LTD  |   |      |
| 1.2 PCN No.                         | QPCN15010  |   | <br> |
| 1.3 Title of PCN                    | Qualification of Mold Compound & Inner Structure Change in Package ABS & MBS Bridge Rectifiers |   |      |
| 1.4 Product Category                | Semiconductor compo  | nents                                     | isic |
| 1.5 Issue date                      | 2015/06/25   |   | n 1  |
| 1.6 PCN revision history (optional) | 1.7 Issue date of previous revision (optional)   | 1.8 Delta to previous revision (optional) | .8c  |
|                                     |  |   |      |
|                                     |  |   |      |
|                                     |  |   |      |

| 2. PCN Team                  |                            |                        |  |  |  |  |
|------------------------------|----------------------------|------------------------|--|--|--|--|
| 2.1 Contact supplier         |                            |                        |  |  |  |  |
| 2.1.1 Name                   | Owen Wang                  |                        |  |  |  |  |
| 2.1.2 Phone                  | +886 2 8913 1588 ext. 2201 |                        |  |  |  |  |
| 2.1.3 Email                  | owen@mail.ts.com.tw        | owen@mail.ts.com.tw    |  |  |  |  |
| 2.2 Team supplier (optional) |                            |                        |  |  |  |  |
| 2.2.1 Name (optional)        | 2.2.2 Phone (optional)     | 2.2.3 Email (optional) |  |  |  |  |
| Savrina Tung                 | +886 2 8913-1588 Ext. 2114 | savrina@mail.ts.com.tw |  |  |  |  |
|                              |                            |                        |  |  |  |  |
|                              |                            |                        |  |  |  |  |

| 3. Changes |                    |   |  |  |  |
|------------|--------------------|---|--|--|--|
|            | 3.1 Category       | 3.2 Type of change                            |  |  |  |
| Change #1  | Process - Assembly | Change in leadframe dimensions                |  |  |  |
| Change #2  | Process - Assembly | Change of mold compound                       |  |  |  |
| Change #3  | Process - Assembly | Change of specified assembly process sequence |  |  |  |
| Change #4  |                    |   |  |  |  |
| Change #5  |                    |   |  |  |  |

|   | 4. Description of change                                  |   |  |  |  |
|---|---|---|--|--|--|
|   | Old   | New   |  |  |  |
| Change #1   | Original inner structure (See attached comparison report) | Inner structure change (See attached comparison report) |  |  |  |
| Change #2   | Die attaching process for manual                          | Die attaching process for automatic                     |  |  |  |
| Change #3   | Mold compound source from A                               | Mold compound source from B                             |  |  |  |
| Change #4   | Mold compound type<br>Halogen-free from A                 | Mold compound type<br>Halogen-free from B               |  |  |  |
| Change #5   |   |   |  |  |  |
| 4.6 Anticipated impact on form, fit, function, reliability or processability? | It was impacted on the fit & the function                 |   |  |  |  |
| 4.7 Reference parts with customer number (optional)                           |   |   |  |  |  |
| _   |   |   |  |  |  |

| 5. Reason / motivation for change  |  |  |  |  |
|--|--|--|--|--|
| 5.1 Motivation Mold compound change & inner structure change for soldering process and yield |  |  |  |  |
| 5.2 Additional explanation (optional)  |  |  |  |  |

|                 | 6. Marking of parts / traceability of change |
|-----------------|--|
| 6.1 Description |  |

|                                      | 7. Timing / schedule |  |  |  |  |  |  |
|--------------------------------------|----------------------|--|--|--|--|--|--|
| 7.1 Date of qualification results    | 2015/05/08           |  |  |  |  |  |  |
| 7.2 Last order date (optional)       | 2015/09/25           |  |  |  |  |  |  |
| 7.3 Last delivery date (optional)    | 2016/09/25           |  |  |  |  |  |  |
| 7.4 Intended start of delivery       | 2015/09/25           |  |  |  |  |  |  |
| 7.5 Qualification samples available? |                      |  |  |  |  |  |  |
|                                      | 2015/06/25           |  |  |  |  |  |  |
| 7.6 Customer feedback required until | 2015/07/27           |  |  |  |  |  |  |

| 8. Qualification / validation                      |                             |            |  |  |  |
|--|-----------------------------|------------|--|--|--|
| 8.1 Description                                    | According to JESD           |            |  |  |  |
| (e.g. qual. plan/report, AEC-Q)                    |                             |            |  |  |  |
| 8.2 Qualification report and qualification results | available (see attachement) | issue date |  |  |  |

| 9. Input to customer for risk assessment process |
|--|
|  |

| 10. Attachments (e.g. new datasheet,   | additional documentation, | , pictures, proces | ss flow, sample p | olan,) |
|--|---------------------------|--------------------|-------------------|--------|
| see attached involved part number list |                           |                    |                   |        |



| 11. Affected parts             |                                 |  |                           |   |   |                                 |  |                           |   |
|--------------------------------|---------------------------------|--|---------------------------|---|---|---------------------------------|--|---------------------------|---|
| 11.1 Current                   |                                 |  |                           | 11.2 New (if applicable)                    |   |                                 |  |                           |   |
| 11.1.1<br>Customer<br>Part No. | 11.1.2<br>Supplier Part<br>Name | 11.1.3<br>Supplier<br>Part No.<br>(optional) | 11.1.4<br>Package<br>Name | 11.1.5<br>Part<br>Description<br>(optional) | 11.1.6<br>Additional<br>Part<br>Information<br>(optional) | 11.2.2<br>Supplier<br>Part Name | 11.2.3<br>Supplier<br>Part No.<br>(optional) | 11.2.4<br>Package<br>Name | 11.2.6<br>Additional<br>Part<br>Information<br>(optional) |
|                                |                                 |  |                           |   |   |                                 |  |                           |   |
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