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| Title of Change: | Qualification of CDAF515 as Die Attach Film material for NCP1031MNTXG. | | |
| Proposed first ship date: | 25 January 2017 <i>or earlier upon customer approval.</i> | | |
| Contact information: | Contact your local ON Semiconductor Sales Office or <Clarence.Wong@onsemi.com> | | |
| Samples: | Contact your local ON Semiconductor Sales Office or <Bruce.Xu@onsemi.com> | | |
| Additional Reliability Data: | Contact your local ON Semiconductor Sales Office or <Phine.Guevarra@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: | Affected parts will be identified by the date code. | | |
| Change category: | <input type="checkbox"/> Wafer Fab Change <input checked="" type="checkbox"/> Assembly Change <input type="checkbox"/> Test Change <input type="checkbox"/> Other _____ | | |
| Change Sub-Category(s): | <input type="checkbox"/> Manufacturing Site Change/Addition <input type="checkbox"/> Manufacturing Process Change | <input checked="" type="checkbox"/> Material Change <input type="checkbox"/> Product specific change | <input type="checkbox"/> Datasheet/Product Doc 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 checked="" type="checkbox"/> ON Semiconductor site(s) : ON Seremban, Malaysia | <input type="checkbox"/> External Foundry/Subcon site(s) |
| Description and Purpose: | | | |
| This Final Change Notification announces the qualification of Conductive Die Attach Film of CDAF515 in replacement of Epoxy CRM1084P as die attach material for NCP1031MNTXG which is currently assembled in DFN 4 x 4 x 1mm 8 leads package in ON Seremban, Malaysia. | | | |
| CDAF515 is able to eliminate the high variation on epoxy fillet height by means of pre fixed film thickness to attain consistent "Bond Line Thickness" (BLT). | | | |
| There is no impact to the package case outline or significant electrical performance of the affected device based on this change. | | | |
| | Before Change | After Change | |
| Die attach material | CRM1084P | CDAF515 | |



Reliability Data Summary:

Qualification Vehicle Device Name: NCP1031MNTXG

Package: DFN 4x4x1mm 8 leads

| Test | Name | Specification | Condition | Read Point | Result (rej. / ss) |
|---------|-------------------------------------|--|---|-------------------|---------------------|
| HTOL | High Temp Operating Life | JESD22-A108 | TA = 125°C for 1008 hours | 1008 Hrs | 0/252 |
| HTSL | High Temp Storage Life | JESD22 A103 | TA = 150°C for 1008 hours | 1008 Hrs | 0/252 |
| PC | Preconditioning | J STD 020, JESD22-A113 | MSL 1 @ 260°C | | 0/756 |
| TC-PC | Temperature Cycling + PC | JESD22 A104 | Ta= -65°C to 150°C , air to air | 500 Cycles | 0/252 |
| AC-PC | Autoclave + PC | JESD22 A102 | 121°C, 100%RH, 15psig | 96 Hrs | 0/252 |
| HAST-PC | Highly Accelerated Stress Test + PC | JESD22 A110 | Temp= +130°C, RH=85% p = 18.8 psig, bias | 96 Hrs | 0/252 |
| SAT | Scanning Acoustic Analysis | Compare to existing data | Compare for delamination pre- and post- PC | Pre- and Post-PC | Pass |
| DPA | Destructive Physical Analysis | AEC Q101 | TA = 25°C | Post TC-PC | Pass |
| DPA | Destructive Physical Analysis | AEC Q101 | TA = 25°C | Post HAST-PC | Pass |
| DSS | Die Shear Strength | Mil Std 883 Method 2019 | TA = 25°C | Tested pass units | 0/90 |
| ED | Electrical Distribution | Tri-Temperature, per 48A document of the device. | Tri-Temperature per 48A document of the device. | Tested pass units | 0/30 |

Electrical Characteristic Summary:

Electrical characteristics are not impacted from this change.

List of Affected Standard Parts:

| Part Number | Qualification Vehicle |
|--------------|-----------------------|
| NCP1031MNTXG | NCP1031MNTXG |