



PRODUCT/PROCESS CHANGE NOTIFICATION
Generic Copy

27-AUG-2001

SUBJECT: ON Semiconductor Product/Process Change Notification #11507

TITLE: Final Notification for Assembly/Test Site Capacity Addition for Broadband Products in the SOIC-8 Package

EFFECTIVE DATE: 27-Oct-2001

AFFECTED CHANGE CATEGORY:

On Semiconductor Assembly Site
On Semiconductor Test Site

AFFECTED PRODUCT DIVISION: Broadband Products

ADDITIONAL RELIABILITY DATA: Available

Contact your local ON Semiconductor Sales Office or Keith Stapley <RXNN90@onsemi.com>

SAMPLES: Contact your local ON Semiconductor Sales Office or Nellie Hernandez <RGX650@onsemi.com>

FOR ANY QUESTIONS CONCERNING THIS NOTIFICATION:

Contact Sales Office or Tim Gurnett <RGX650@onsemi.com>

DISCLAIMER:

Initial Product/Process Change Notification (IPCN) -First Notification distributed to customers. Distributed at least 120 days from the effective date of the change.

Final Product/Process Change Notification (FPCN) -Final Notification completing the notification process. Distributed at least 60 days from the effective date of the change. ON Semiconductor will consider this change approved unless specific conditions of acceptance are provided in writing within 30 days of receipt of this notice. To do so, contact your local ON Semiconductor Sales Office.

DESCRIPTION AND PURPOSE:

ON Semiconductor is pleased to announce that it has successfully completed qualification of the ON Semiconductor Philippines Incorporated (OSPI) facility located in Carmona, Philippines to assemble and test selected Broadband products in SOIC-8 packages. Currently, Broadband SOIC-8 packages are assembled and tested at Advanced Semiconductor Engineering (ASE-CL) in ChungLi, Taiwan.

ON Semiconductor's OSPI facility has been producing high quality SOIC, PLCC and TSSOP products for over 8 years. The OSPI facility is certified to QS-9000 and ISO-9001:1994 standards.

There will be no changes in device functionality. Device parameters will continue to meet all Data Book specifications, and reliability will continue to meet or exceed ON Semiconductor standards.



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QUALIFICATION PLAN:

Qualification Plan (All tests apply to all qualification vehicles except where noted. Extrinsic Reliability Testing performed on a sample size of 3 lots with 80 pieces/lot)

| Test | Conditions | Exceptions |
|--------------------------------------|---|------------|
| Preconditioning for MSL-1 (PC) | IR at 235DegC, TC, HAST, AC | |
| High Temp Op Life (HTOL) | TA =150DegC for 504 hours | |
| High Temp Bake (HTB) | 150DegC for 1008 hours/175DegC for 504 hours | |
| PC-HAST | 130DegC/85% RH/18.8 PSIG for 96 Hrs | |
| PC-Autoclave (AC) | 121DegC/100% RH/15 PSIG for 96 Hrs | |
| PC-Temp Cycling (TC) | -65DegC to +150DegC; for 500 cycles | |
| Physical Dimension | Per Case Outline measured by factory | |
| Bond Pull Strength (BPS) Condition C | Per Factory Testing with CpK>= 1.33 | |
| Bond Shear Test (BS) | Per Factory Testing with CpK>= 1.33 | |
| Solderability | Per JEDEC Specification JB102 | |
| Parameter Verification | Electrical Characterization/distribution summary of Critical Parameters | |

Qualification Vehicle Justification

| Technology | Qualification Device | Reason Chosen |
|-------------|----------------------|-----------------------------------|
| MOSAIC1/1.5 | MC100ELT23D | Most Complex Die |
| MOSAIC1/1.5 | MC100ELT20D | Largest Die Size |
| MOSAIC1/1.5 | MC100ELT24D | Largest Die Size |
| MOSAIC3 | MC100EL16D | Standard Die Size, Highest Volume |

RELIABILITY DATA SUMMARY:

Reliability Test Results:

| Test | Conditions | *Results (# Fail/ Total Sample Size) |
|-------------------------------------|--|--|
| Preconditioning for MSL-1 (PC) | IR at 235DegC,TC,HAST,AC | 0/154, 0/154, 0/154, 0/231, All Passed |
| High Temp Op Life (HTOL) | TA =150DegC for 504 hrs | 0/77, All Passed |
| High Temp Bake (HTB) | 150DegC for 1008 hrs/ 175DegC for 504 hrs | 0/77, 0/76, 0/69, 0/77, All Passed |
| PC-HAST | 130DegC/85% RH/ 18.8 PSIG for 96 Hrs | 0/77, 0/76, 0/76, 0/77, All Passed |
| PC- Autoclave (AC) | 121DegC/100% RH/15 PSIG for 96 Hrs | 0/77, All Passed |
| PC- Temp Cycling (TC) | -65DegC to +150DegC; for 500 cycles | 0/77, All Passed |
| Physical Dimension | Per Case Outline measured by factory | 0/30, All Passed CpK> 1.33 |
| Bond Pull Strength(BPS) Condition C | Per Factory Testing with CpK>= 1.33 | 0/30, All Passed CpK> 1.33 |
| Bond Shear Test (BS) | Per Factory Testing with CpK>= 1.33 | 0/30, All Passed CpK> 1.33 |

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| | | |
|------------------------|--|---|
| Solderability | Per JEDEC Specification JB102 | 0/15, 0/15, 0/15, 0/45, All passed |
| Parameter Verification | Electrical Characterization/ distribution summary of Critical Parameters | All Passed Data available upon request |

*When necessary, results are listed in order of MC100ELT23D, MC100ELT20D, MC100ELT24D, MC100EL16D. Total sample size may vary due to sample prep.

Qualification Vehicle Justification

| Technology | Qualification Device | Reason Chosen |
|-------------------|-----------------------------|-----------------------------------|
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| MOSAIC1/1.5 | MC100ELT20D | Largest Die Size |
| MOSAIC1/1.5 | MC100ELT24D | Largest Die Size |
| MOSAIC3 | MC100EL16D | Standard Die Size, Highest Volume |

Reliability Test Conclusions:

Reliability Test data is consistent with passing ON Semiconductor requirements. A copy of the full Reliability Report is available upon request.

ELECTRICAL CHARACTERISTIC SUMMARY: Characterization data available upon request.

CHANGED PART IDENTIFICATION:

Beginning in Q4 '01, customers may receive products manufactured from either the ASE-CL or OSPI site. Parts manufactured in OSPI will be marked with a "P" in their trace code (example: PLZN). Parts manufactured in ASE-CL will be marked with a "X" in their trace code (example: XLZN)

Customers are encouraged to contact ON Semiconductor to determine sample availability and to communicate sample requests.

ADDITIONAL INFORMATION:

Sample contact(s) at ON Semiconductor :

Contact the (TIC) Technical Information Center at 1-800-282-9855 regarding sample availability.

Name: Nellie Hernandez
 Email: n.hernandez@onsemi.com
 Phone: 602-244-7104
 Country: USA

AFFECTED DEVICE LIST (WITHOUT SPECIALS):**PART**

MC100EL01D
 MC100EL01DR2
 MC100EL04D
 MC100EL04DR2
 MC100EL05D
 MC100EL05DR2
 MC100EL07D
 MC100EL07DR2
 MC100EL11D
 MC100EL11DR2
 MC100EL12D
 MC100EL12DR2



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MC100EL1648D
MC100EL1648DR2
MC100EL16D
MC100EL16DR2
MC100EL31D
MC100EL31DR2
MC100EL32D
MC100EL32DR2
MC100EL33D
MC100EL33DR2
MC100EL35D
MC100EL35DR2
MC100EL51D
MC100EL51DR2
MC100EL52D
MC100EL52DR2
MC100EL58D
MC100EL58DR2
MC100ELT20D
MC100ELT20DR2
MC100ELT21D
MC100ELT21DR2
MC100ELT22D
MC100ELT22DR2
MC100ELT23D
MC100ELT23DR2
MC100ELT24D
MC100ELT24DR2
MC100ELT25D
MC100ELT25DR2
MC100ELT28D
MC100ELT28DR2
MC100LVEL01D
MC100LVEL01DR2
MC100LVEL05D
MC100LVEL05DR2
MC100LVEL11D
MC100LVEL11DR2
MC100LVEL12D
MC100LVEL12DR2
MC100LVEL16D
MC100LVEL16DR2
MC100LVEL31D
MC100LVEL31DR2
MC100LVEL32D
MC100LVEL32DR2
MC100LVEL33D
MC100LVEL33DR2
MC100LVEL51D
MC100LVEL51DR2
MC100LVEL58D
MC100LVEL58DR2
MC100LVELT22D
MC100LVELT22DR2
MC10EL01D
MC10EL01DR2



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MC10EL04D
MC10EL04DR2
MC10EL05D
MC10EL05DR2
MC10EL07D
MC10EL07DR2
MC10EL11D
MC10EL11DR2
MC10EL12D
MC10EL12DR2
MC10EL16D
MC10EL16DR2
MC10EL31D
MC10EL31DR2
MC10EL32D
MC10EL32DR2
MC10EL33D
MC10EL33DR2
MC10EL35D
MC10EL35DR2
MC10EL51D
MC10EL51DR2
MC10EL52D
MC10EL52DR2
MC10EL58D
MC10EL58DR2
MC10EL89D
MC10EL89DR2
MC10ELT20D
MC10ELT20DR2
MC10ELT21D
MC10ELT21DR2
MC10ELT22D
MC10ELT22DR2
MC10ELT24D
MC10ELT24DR2
MC10ELT25D
MC10ELT25DR2
MC10ELT28D
MC10ELT28DR2