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**PRODUCT/PROCESS CHANGE NOTIFICATION**  
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**18-APR-2001**

**SUBJECT: Product/Process Change Notification #11369**

**TITLE: Initial Notification for Wafer Capacity Addition for Mosaic3 Technology**

**EFFECTIVE DATE: 15-Aug-2001**

**AFFECTED CHANGE CATEGORY: Subcontractor Fab 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 Local Sales Office  
Contact your local ON Semiconductor Sales Office.  
or Eric Glatfelter <R23606@onsemi.com>

**FOR ANY QUESTIONS CONCERNING THIS NOTIFICATION:**  
Contact Sales Office or Tim Gurnett <R13617@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**

120 Day Process Change Notice for initial notification to be followed with a Final Process Change Notice with supporting data a minimum of 60 days prior to implementation.

ON Semiconductor is pleased to announce that it will be expanding its wafer capacity by qualifying the Sony wafer fabrication facility located in San Antonio, Texas to manufacture MOSAIC3 technologies. Currently, MOSAIC3 wafer process technology is fabricated in the Motorola Bipolar Manufacturing Center (BMC) in Mesa, Arizona. 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 for qualification vehicles. Extrinsic Reliability Testing performed on a sample size of 3 lots with 80 pieces/lot, except for the MC10E016FN, which will be 1 lot.)

<u>Test</u>	<u>Conditions</u>	<u>Exceptions</u>
High Temp Op Life (HTOL)	Tj =150 degC for 504 hours	
High Temp Bake (HTB)	150 degC for 1008 hours/175 degC for 504 hours	
Preconditioning for MSL-1 (PC)	IR at 235 degC, TC, HAST, AC	
PC-HAST	130 degC/85% RH/18.8 PSIG for 96 Hrs	
PC-Autoclave (AC)	121 degC/100% RH/15 PSIG for 96 hours	
PC-Temp Cycling (TC)	-65 degC to +150 degC; for 500 cycles	
Bond Pull Strength (BPS)	Per Factory Testing with CpK>= 1.33	
Bond Shear Test (BS)	Per Factory Testing with CpK>= 1.33	
ESD per JEDEC Standard	Human Body Model(HBM) Machine Model (MM) Charge Device Model(CDM)	
Destructive Physical Analysis (DPA)	Analysis done after PC-Temp Cycling	
Intrinsic Reliability (IR)	Compare to BMC results for Electromigration & Hot Carrier Injection	
Critical Parameter	Datalog units and examine VOH and VOL before and after test on all HTOL and Temp cycled units	
Shifts Analysis (CPA)	Examine 5 units from each group for tskew before and after HTOL and Temp Cycle tests	
Skew Analysis (SA)		
Construction Analysis (CA)	Compare to BMC results	
Parameter Verification	Electrical Characterization/distribution summary of Critical Parameters	
Qualification Vehicle Justification		
Technology	Qualification Device	Reason Chosen
MOSAIC3	MC10EL16D	Smallest array, 8ld SOIC
	MC100E195FN	Medium array, AC test critical, 28ld PLCC
	MC10E016FN	Medium array, highest current, 28ld PLCC

**RELIABILITY DATA SUMMARY:** To be issued with the Final PCN.

**ELECTRICAL CHARACTERISTIC SUMMARY:** To be issued with the Final PCN.

**CHANGED PART IDENTIFICATION:**

Beginning in Q3 '01, customers may receive products manufactured with die from either the Sony or BMC fab. Not all parts will be transferred at once, but instead will be phased into the Sony over a period of several quarters in order to allow customers that require samples to complete the qualification process to their satisfaction. Customers are encouraged to contact ON Semiconductor to determine sample availability and to communicate sample requests.

**Additional contact(s) at ON Semiconductor:**

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



**AFFECTED DEVICE LIST:**

**PART**

MC100E016FN  
MC100E016FNR2  
MC100E101FN  
MC100E101FNR2  
MC100E104FN  
MC100E104FNR2  
MC100E107FN  
MC100E107FNR2  
MC100E112FN  
MC100E112FNR2  
MC100E116FN  
MC100E116FNR2  
MC100E122FN  
MC100E122FNR2  
MC100E131FN  
MC100E131FNR2  
MC100E136FN  
MC100E136FNR2  
MC100E137FN  
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MC100E142FN  
MC100E142FNR2  
MC100E143FN  
MC100E143FNR2  
MC100E150FN  
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MC100EL13DW  
MC100EL13DWR2  
MC100EL14DW  
MC100EL14DWR2



MC100EL15D  
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SC64033FN  
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SCW63801B  
SCW64025