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

**SUBJECT: Product/Process Change Notification #11335**

**TITLE: Initial Notification for Wafer Capacity Addition for MOSAIC5 Technology**

**EFFECTIVE DATE: 08-Aug-2001**

**AFFECTED CHANGE CATEGORY: ON Semiconductor 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 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  
Broadband Technology Center (BTC) wafer fabrication facility located in Phoenix, Arizona to  
manufacture MOSAIC5 technologies. Currently, MOSAIC5 wafer process technology is fabricated in  
MOS6 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:**

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

<u>Test</u>	<u>Conditions</u>	<u>Exceptions</u>
High Temp Op Life (HTOL)	TA =150DegC for 504 hours	
High Temp Bake (HTB)	150DegC for 1008 hours/175DegC for 504 hours	
Preconditioning for MSL-1 (PC)	IR at 235DegC, TC, HAST, AC	Only EP16 device
Preconditioning for MSL-2 (PC)	IR at 235DegC, TC, THB, AC	Only EP111 device
PC-HAST	130DegC/85% RH/18.8 PSIG for 96 Hrs	Only EP16 device
PC-THB	85DegC/85% RH/18.8 PSIG for 1008 Hrs	Only EP111 device
PC-Autoclave (AC)	121DegC/100% RH/15 PSIG for 96 hours	
PC-Temp Cycling (TC)	-65DegC to +150DegC; 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 MOS6 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)	Examine 5 units from each group for tskew before and after HTOL and Temp Cycle tests	
Construction Analysis (CA)	Compare to MOS6 results	
Parameter Verification	Electrical Characterization/distribution summary of Critical Parameters	

**Qualification Vehicle Justification**

<u>Technology</u>	<u>Qualification Device</u>	<u>Reason Chosen</u>
MOSAIC5	MC10EP16DT	Smallest Array Base, TSOP8
	MC100LVEP111FA	Largest Array Base, 32 pin TQFP

**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 BTC or MOS6 fab. Not all parts will be transferred at once, but instead will be phased into the BTC 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 INFORMATION:**

**Additional contact(s) at ON Semiconductor:** Contact the (TIC) Technical Information Center at 1-800-282-9855 regarding sample availability.



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**AFFECTED DEVICE LIST:**

**PART**

- MC100E111FN
- MC100E111FNR2
- MC100EL16D
- MC100EL16DR2
- MC100EL16DT
- MC100EL16DTR2
- MC100EP016FA
- MC100EP016FAR2
- MC100EP01D
- MC100EP01DR2
- MC100EP01DT
- MC100EP01DTR2
- MC100EP05D
- MC100EP05DR2
- MC100EP05DT
- MC100EP05DTR2
- MC100EP08D
- MC100EP08DR2
- MC100EP08DT
- MC100EP08DTR2
- MC100EP101FA
- MC100EP101FAR2
- MC100EP105FA
- MC100EP105FAR2
- MC100EP116FA
- MC100EP116FAR2
- MC100EP11D
- MC100EP11DR2
- MC100EP11DT
- MC100EP11DTR2
- MC100EP131FA
- MC100EP131FAR2
- MC100EP139DT
- MC100EP139DTR2
- MC100EP139DW
- MC100EP139DWR2
- MC100EP140D
- MC100EP140DR2
- MC100EP14DT
- MC100EP14DTR2
- MC100EP16D
- MC100EP16DR2
- MC100EP16DT
- MC100EP16DTR2
- MC100EP16FD
- MC100EP16FDR2
- MC100EP16FDT
- MC100EP16FDTR2
- MC100EP16TD
- MC100EP16TDR2
- MC100EP16TDT
- MC100EP16TDTR2
- MC100EP16VAD



MC100EP16VADR2  
MC100EP16VADT  
MC100EP16VADTR2  
MC100EP16VBD  
MC100EP16VBDR2  
MC100EP16VBDT  
MC100EP16VBDTR2  
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MC100EP16VCDR2  
MC100EP16VCDT  
MC100EP16VCDTR2  
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