



INITIAL PRODUCT/PROCESS CHANGE NOTIFICATION
Generic Copy

17-NOV-2001

SUBJECT: ON Semiconductor Initial Product/Process Change Notification #12052

TITLE: Update To IPCN# 11335, Wafer Capacity Addition For MOSAIC5 Technology

EFFECTIVE DATE: 17-Mar-2002

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 Nellie Hernandez <RGX650@onsemi.com>

FOR ANY QUESTIONS CONCERNING THIS NOTIFICATION:
Contact Sales Office or Gary Richards <RPDT80@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.

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.

This PCN is an update to PCN 11335 "Wafer Capacity Addition for MOSAIC5 Technology". The changes are to provide a more accurate implementation date and device list, including the qualification of a more robust, higher performance back-end metal process.

ON Semiconductor is pleased to announce that it will be expanding its wafer capacity by qualifying the COM1 Broadband Technology Center wafer fabrication facility located in Phoenix, Arizona to manufacture MOSAIC5 technologies. Until presently, MOSAIC5 wafer process technology has been fabricated in the Motorola MOS6 facility in Mesa, Arizona. Device parameters will continue to meet all Data Book specifications, and reliability will continue to meet or exceed ON Semiconductor standards.



Initial Product/Process Change Notification #12052

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	
Shifts Analysis (CPA)	and after test on all HTOL and Temp cycled units	
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:

Available upon request when the Final PCN is issued.

CHANGED PART IDENTIFICATION:

Beginning in Q2 '02, customers may receive products manufactured with die from either the COM1 or MOS6 fab. Not all parts will be transferred at once, but instead will be phased into COM1 over a period of several quarters in order to allow customers requiring 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.

RELATED NOTIFICATIONS:

11335 - INITIAL NOTIFICATION FOR WAFER CAPACITY ADDITION FOR MOSAIC5 TECHNOLOGY

**Initial Product/Process Change Notification #12052****AFFECTED DEVICE LIST (WITHOUT SPECIALS)****PART**

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,
MC100EP142FA, MC100EP142FAR2, MC100EP14DT, MC100EP14DTR2,
MC100EP16D, MC100EP16DR2, MC100EP16DT, MC100EP16DTR2,
MC100EP16FD, MC100EP16FDR2, MC100EP16FDT, MC100EP16FDTR2,
MC100EP16TD, MC100EP16TDR2, MC100EP16TDT, MC100EP16TDTR2,
MC100EP16VAD, MC100EP16VADR2, MC100EP16VADT, MC100EP16VADTR2,
MC100EP16VBD, MC100EP16VBDR2, MC100EP16VBDT, MC100EP16VBDTR2,
MC100EP16VCD, MC100EP16VCDR2, MC100EP16VCDT, MC100EP16VCDTR2,
MC100EP16VSD, MC100EP16VSDR2, MC100EP16VSDT, MC100EP16VSDTR2,
MC100EP16VSM, MC100EP16VSMR2, MC100EP16VTD, MC100EP16VTDR2,
MC100EP16VTD, MC100EP16VTDT, MC100EP16VTDR2, MC100EP17DT, MC100EP17DTR2,
MC100EP17DW, MC100EP17DWR2, MC100EP195FA, MC100EP195FAR2,
MC100EP196FA, MC100EP196FAR2, MC100EP210SFA, MC100EP210SFAR2,
MC100EP29DT, MC100EP29DTR2, MC100EP31D, MC100EP31DR2, MC100EP31DT,
MC100EP31DTR2, MC100EP32D, MC100EP32DR2, MC100EP32DT, MC100EP32DTR2,
MC100EP33D, MC100EP33DR2, MC100EP33DT, MC100EP33DTR2, MC100EP35D,
MC100EP35DR2, MC100EP35DT, MC100EP35DTR2, MC100EP40DT,
MC100EP40DTR2, MC100EP445FA, MC100EP445FAR2, MC100EP446FA,
MC100EP446FAR2, MC100EP451FA, MC100EP451FAR2, MC100EP51D,
MC100EP51DR2, MC100EP51DT, MC100EP51DTR2, MC100EP52D,
MC100EP52DR2, MC100EP52DT, MC100EP52DTR2, MC100EP56DT,
MC100EP56DTR2, MC100EP56DW, MC100EP56DWR2, MC100EP57DT,
MC100EP57DTR2, MC100EP58D, MC100EP58DR2, MC100EP58DT,
MC100EP58DTR2, MC100EP90DT, MC100EP90DTR2, MC100EPT20D,
MC100EPT20DR2, MC100EPT20DT, MC100EPT20DTR2, MC100EPT22D,
MC100EPT22DR2, MC100EPT22DT, MC100EPT22DTR2, MC100EPT24D,
MC100EPT24DR2, MC100EPT24DT, MC100EPT24DTR2, MC100EPT25D,
MC100EPT25DR2, MC100EPT25DT, MC100EPT25DTR2, MC100LVEL16VSD,
MC100LVEL16VSDR2, MC100LVEL16VSDT, MC100LVEL16VSDTR, MC100LVEP111FA,
MC100LVEP111FAR2, MC100LVEP11D, MC100LVEP11DR2, MC100LVEP11DT,
MC100LVEP11DTR2, MC100LVEP14DT, MC100LVEP14DTR2, MC100LVEP16D,
MC100LVEP16DR2, MC100LVEP16DT, MC100LVEP16DTR2, MC100LVEP210FA,
MC100LVEP210FAR2, MC100LVEP34D, MC100LVEP34DR2,
MC100LVEP34DT, MC100LVEP34DTR2, MC10EP016FA, MC10EP016FAR2,
MC10EP01D, MC10EP01DR2, MC10EP01DT, MC10EP01DTR2,
MC10EP05D, MC10EP05DR2, MC10EP05DT, MC10EP05DTR2,
MC10EP08D, MC10EP08DR2, MC10EP08DT, MC10EP08DTR2,
MC10EP101FA, MC10EP101FAR2, MC10EP105FA, MC10EP105FAR2,
MC10EP116FA, MC10EP116FAR2, MC10EP11D, MC10EP11DR2,
MC10EP11DT, MC10EP11DTR2, MC10EP131FA, MC10EP131FAR2,
MC10EP139DT, MC10EP139DTR2, MC10EP139DW, MC10EP139DWR2,
MC10EP142FA, MC10EP142FAR2, MC10EP16D, MC10EP16DR2,
MC10EP16DT, MC10EP16DTR2, MC10EP16TD, MC10EP16TDR2,
MC10EP16TDT, MC10EP16TDTR2, MC10EP16VAD, MC10EP16VADR2,
MC10EP16VADT, MC10EP16VADTR2, MC10EP17DT, MC10EP17DTR2,
MC10EP17DW, MC10EP17DWR2, MC10EP195FA, MC10EP195FAR2,

**Initial Product/Process Change Notification #12052**

MC10EP196FA, MC10EP196FAR2, MC10EP29DT, MC10EP29DTR2,
MC10EP31D, MC10EP31DR2, MC10EP31DT, MC10EP31DTR2,
MC10EP32D, MC10EP32DR2, MC10EP32DT, MC10EP32DTR2,
MC10EP33D, MC10EP33DR2, MC10EP33DT, MC10EP33DTR2,
MC10EP35D, MC10EP35DR2, MC10EP35DT, MC10EP35DTR2,
MC10EP445FA, MC10EP445FAR2, MC10EP446FA, MC10EP446FAR2,
MC10EP451FA, MC10EP451FAR2, MC10EP51D, MC10EP51DR2,
MC10EP51DT, MC10EP51DTR2, MC10EP52D, MC10EP52DR2, MC10EP52DT,
MC10EP52DTR2, MC10EP56DT, MC10EP56DTR2, MC10EP57DT, MC10EP57DTR2,
MC10EP58D, MC10EP58DR2, MC10EP58DT, MC10EP58DTR2, MC10EP89D,
MC10EP89DR2, MC10EP89DT, MC10EP89DTR2, MC10EP90DT,
MC10EP90DTR2, MC10EPT20D, MC10EPT20DR2, MC10EPT20DT,
MC10EPT20DTR2, MC10LVEP11D, MC10LVEP11DR2, MC10LVEP11DT,
MC10LVEP11DTR2, MC10LVEP16D, MC10LVEP16DR2, MC10LVEP16DT,
MC10LVEP16DTR2, MC10SX1190DT, MC10SX1190DTR2, MCW100EP139,
MCW100EP140, MCW100EP142, MCW100EP16, MCW100EP16F,
MCW100EP16T, MCW100EP16VA, MCW100EP16VB, MCW100EP16VC,
MCW100EP16VS, MCW100EP16VT, MCW100EP196, MCW100EP210S,
MCW100EP31, MCW100EP40, MCW100EP445, MCW100EP446,
MCW100EP451, MCW100EPT22, MCW100EPT24, MCW100LVEP111,
MCW100LVEP14, MCW100LVEP210, MCW100LVEP34, MCW10EP01,
MCW10EP016, MCW10EP05, MCW10EP08, MCW10EP101,
MCW10EP105, MCW10EP11, MCW10EP116, MCW10EP142,
MCW10EP16, MCW10EP16T, MCW10EP16VA, MCW10EP196,
MCW10EP31, MCW10EP32, MCW10EP33, MCW10EP445,
MCW10EP446, MCW10EP451, MCW10EP56, MCW10EP57, MCW10EP89