



INITIAL PRODUCT/PROCESS CHANGE NOTIFICATION
Generic Copy

25-APR-2003

SUBJECT: ON Semiconductor Initial Product/Process Change Notification #12874

TITLE: Initial Notification for MOSAIC3 Product Transfer to COM 1

EFFECTIVE DATE: 25-Aug-2003

AFFECTED CHANGE CATEGORY:
ON Semiconductor Fab Site
Wafer Process

AFFECTED PRODUCT DIVISION: Broadband Products Div

ADDITIONAL RELIABILITY DATA: Available
Contact your local ON Semiconductor Sales Representative
or Keith Stapley <RXNN90@onsemi.com>

SAMPLES: Contact your local ON Semiconductor Sales Representative

FOR ANY QUESTIONS CONCERNING THIS NOTIFICATION:
Contact Sales Representative or Tim Gurnett <R13617@onsemi.com>

NOTIFICATION TYPE:

Initial Product/Process Change Notification (IPCEN)

First change notification sent to customers. IPCNs are issued at least 120 days prior to implementation of the change. An IPCEN is advance notification about an upcoming change and contains general information regarding the change details and devices affected. It also contains the preliminary reliability qualification plan.

The completed qualification and characterization data will be included in the Final Product/Process Change Notification (FPCN).

This IPCEN notification will be followed by a Final Product/Process Change Notification (FPCN) at least 60 days prior to implementation of the change.

DESCRIPTION AND PURPOSE:

ON Semiconductor will be transferring MOSAIC 3 products to their internal factory, COM 1 located on the ON Semiconductor site in Phoenix Arizona. COM1 is an ISO9001 certified facility and currently manufactures the MOSAIC 5 product family. The MOSAIC 3 technology will be upgraded with the state of the art processes and equipment available in COM1. This process will be identified as MOSAIC 35 and will use standard unit process modules established in COM1. The consolidation of MOSAIC technologies will provide for improved process consistency and enhanced manufacturing controls.



Initial Product/Process Change Notification #12874

ON Semiconductor will make every effort to match historical parametric performance and does not anticipate device specifications will change.

Parts transferring to COM1 from Motorola's defunct Bipolar Manufacturing Center facility in Mesa, Arizona are listed below.

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 Shifts Analysis (CPA)	Datalog units and examine VOH and VOL before 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 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



Initial Product/Process Change Notification #12874

AFFECTED DEVICE LIST (WITHOUT SPECIALS):

PART

MC100E016FN, MC100E016FNR2, MC100E101FN, MC100E101FNR2
 MC100E104FN, MC100E104FNR2, MC100E107FN, MC100E107FNR2
 MC100E111FN, MC100E111FNR2, MC100E112FN, MC100E112FNR2
 MC100E116FN, MC100E116FNR2, MC100E122FN, MC100E122FNR2
 MC100E131FN, MC100E131FNR2, MC100E136FN, MC100E136FNR2
 MC100E137FN, MC100E137FNR2, MC100E141FN, MC100E141FNR2
 MC100E142FN, MC100E142FNR2, MC100E143FN, MC100E143FNR2
 MC100E150FN, MC100E150FNR2, MC100E151FN, MC100E151FNR2
 MC100E154FN, MC100E154FNR2, MC100E155FN, MC100E155FNR2
 MC100E156FN, MC100E156FNR2, MC100E157FN, MC100E157FNR2
 MC100E158FN, MC100E158FNR2, MC100E160FN, MC100E160FNR2
 MC100E163FN, MC100E163FNR2, MC100E164FN, MC100E164FNR2
 MC100E166FN, MC100E166FNR2, MC100E167FN, MC100E167FNR2
 MC100E171FN, MC100E171FNR2, MC100E175FN, MC100E175FNR2
 MC100E195FN, MC100E195FNR2, MC100E196FN, MC100E196FNR2
 MC100E210FN, MC100E210FNR2, MC100E211FN, MC100E211FNR2
 MC100E241FN, MC100E241FNR2, MC100E404FN, MC100E404FNR2
 MC100E416FN, MC100E416FNR2, MC100E431FN, MC100E431FNR2
 MC100E445FN, MC100E445FNR2, MC100E446FN, MC100E446FNR2
 MC100E451FN, MC100E451FNR2, MC100E452FN, MC100E452FNR2
 MC100E457FN, MC100E457FNR2, MC100EL01D, MC100EL01DR2
 MC100EL01DT, MC100EL01DTR2, MC100EL04D, MC100EL04DR2
 MC100EL04DT, MC100EL04DTR2, MC100EL05D, MC100EL05DR2
 MC100EL05DT, MC100EL05DTR2, MC100EL07D, MC100EL07DR2
 MC100EL07DT, MC100EL07DTR2, MC100EL11D, MC100EL11DR2
 MC100EL11DT, MC100EL11DTR2, MC100EL12D, MC100EL12DR2
 MC100EL12DT, MC100EL12DTR2, MC100EL13DW, MC100EL13DWR2
 MC100EL15D, MC100EL15DR2, MC100EL1648D, MC100EL1648DR2
 MC100EL1648DT, MC100EL1648DTR2, MC100EL1648M, MC100EL1648MEL
 MC100EL16D, MC100EL16DR2, MC100EL16DT, MC100EL16DTR2
 MC100EL17DW, MC100EL17DWR2, MC100EL31D, MC100EL31DR2
 MC100EL31DT, MC100EL31DTR2, MC100EL32D, MC100EL32DR2
 MC100EL32DT, MC100EL32DTR2, MC100EL33D, MC100EL33DR2
 MC100EL33DT, MC100EL33DTR2, MC100EL34D, MC100EL34DR2
 MC100EL35D, MC100EL35DR2, MC100EL35DT, MC100EL35DTR2
 MC100EL39DW, MC100EL39DWR2, MC100EL51D, MC100EL51DR2
 MC100EL51DT, MC100EL51DTR2, MC100EL52D, MC100EL52DR2
 MC100EL52DT, MC100EL52DTR2, MC100EL56DW, MC100EL56DWR2
 MC100EL57D, MC100EL57DR2, MC100EL58D, MC100EL58DR2
 MC100EL58DT, MC100EL58DTR2, MC100EL59DW, MC100EL90DW
 MC100EL90DWR2, MC100EL91DW, MC100EL91DWR2, MC100LVE111FN
 MC100LVE111FNR2, MC100LVE164FA, MC100LVE164FAR2, MC100LVE210FN
 MC100LVE210FNR2, MC100LVEL01D, MC100LVEL01DR2, MC100LVEL01DT
 MC100LVEL01DTR2, MC100LVEL05D, MC100LVEL05DR2, MC100LVEL05DT
 MC100LVEL05DTR2, MC100LVEL12D, MC100LVEL12DR2, MC100LVEL12DT
 MC100LVEL12DTR2, MC100LVEL13DW, MC100LVEL13DWR2, MC100LVEL16D
 MC100LVEL16DR2, MC100LVEL16DT, MC100LVEL16DTR2, MC100LVEL17DW
 MC100LVEL17DWR2, MC100LVEL31D, MC100LVEL31DR2, MC100LVEL31DT
 MC100LVEL31DTR2, MC100LVEL33D, MC100LVEL33DR2, MC100LVEL33DT
 MC100LVEL33DTR2, MC100LVEL37DW, MC100LVEL37DWR2, MC100LVEL39DW
 MC100LVEL39DWR2, MC100LVEL40DW, MC100LVEL40DWR2, MC100LVEL51D
 MC100LVEL51DR2, MC100LVEL51DT, MC100LVEL51DTR2, MC100LVEL56DW
 MC100LVEL56DWR2, MC100LVEL58D, MC100LVEL58DR2, MC100LVEL58DT

**Initial Product/Process Change Notification #12874**

MC100LVEL58DTR2, MC100LVEL59DW, MC100LVEL59DWR2, MC100LVEL90DW
MC100LVEL90DWR2, MC100LVEL91DW, MC100LVEL91DWR2, MC10E016FN
MC10E016FNR2, MC10E101FN, MC10E101FNR2, MC10E104FN
MC10E104FNR2, MC10E107FN, MC10E107FNR2, MC10E111FN
MC10E111FNR2, MC10E111SFN, MC10E111SFNR2, MC10E112FN
MC10E112FNR2, MC10E116FN, MC10E116FNR2, MC10E122FN
MC10E122FNR2, MC10E131FN, MC10E131FNR2, MC10E136FN
MC10E136FNR2, MC10E137FN, MC10E137FNR2, MC10E141FN
MC10E141FNR2, MC10E142FN, MC10E142FNR2, MC10E143FN
MC10E143FNR2, MC10E150FN, MC10E150FNR2, MC10E151FN
MC10E151FNR2, MC10E154FN, MC10E154FNR2, MC10E155FN
MC10E155FNR2, MC10E156FN, MC10E156FNR2, MC10E157FN
MC10E157FNR2, MC10E158FN, MC10E158FNR2, MC10E160FN
MC10E160FNR2, MC10E163FN, MC10E163FNR2, MC10E164FN
MC10E164FNR2, MC10E1651FN, MC10E1651FNR2, MC10E1651L
MC10E1652FN, MC10E1652FNR2, MC10E1652L, MC10E166FN
MC10E166FNR2, MC10E167FN, MC10E167FNR2, MC10E171FN
MC10E171FNR2, MC10E175FN, MC10E175FNR2, MC10E195FN
MC10E195FNR2, MC10E196FN, MC10E196FNR2, MC10E197FN
MC10E197FNR2, MC10E211FN, MC10E211FNR2, MC10E404FN
MC10E404FNR2, MC10E411FN, MC10E411FNR2, MC10E416FN
MC10E416FNR2, MC10E431FN, MC10E431FNR2, MC10E445FN
MC10E445FNR2, MC10E446FN, MC10E446FNR2, MC10E451FN
MC10E451FNR2, MC10E452FN, MC10E452FNR2, MC10E457FN
MC10E457FNR2, MC10EL01D, MC10EL01DR2, MC10EL01DT
MC10EL01DTR2, MC10EL04D, MC10EL04DR2, MC10EL04DT
MC10EL04DTR2, MC10EL05D, MC10EL05DR2, MC10EL05DT
MC10EL05DTR2, MC10EL07D, MC10EL07DR2, MC10EL07DT
MC10EL07DTR2, MC10EL11D, MC10EL11DR2, MC10EL11DT
MC10EL11DTR2, MC10EL12D, MC10EL12DR2, MC10EL12DT
MC10EL12DTR2, MC10EL15D, MC10EL15DR2, MC10EL16D
MC10EL16DR2, MC10EL16DT, MC10EL16DTR2, MC10EL31D
MC10EL31DR2, MC10EL31DT, MC10EL31DTR2, MC10EL32D
MC10EL32DR2, MC10EL32DT, MC10EL32DTR2, MC10EL33D
MC10EL33DR2, MC10EL33DT, MC10EL33DTR2, MC10EL34D
MC10EL34DR2, MC10EL35D, MC10EL35DR2, MC10EL35DT
MC10EL35DTR2, MC10EL51D, MC10EL51DR2, MC10EL51DT
MC10EL51DTR2, MC10EL52D, MC10EL52DR2, MC10EL52DT
MC10EL52DTR2, MC10EL57D, MC10EL57DR2, MC10EL58D
MC10EL58DR2, MC10EL58DT, MC10EL58DTR2, MC10EL89D
MC10EL89DR2, MC10EL89DT, MC10EL89DTR2, MC10SX1130D
MC10SX1130DR2, MC10SX1189D, MC10SX1189DR2, MC12026AD
MC12026ADR2, MC12080D, MC12080DR2, MCH12140D, MCH12140DR2,
MCK12140D, MCK12140DR2, MCW100E016, MCW100E101, MCW100E104,
MCW100E111, MCW100E116, MCW100E131, MCW100E136, MCW100E137,
MCW100E141, MCW100E142, MCW100E164, MCW100E166, MCW100E195,
MCW100E431, MCW100E452, MCW100EL01, MCW100EL04, MCW100EL11,
MCW100EL16, MCW100EL34, MCW100EL51, MCW100EL56, MCW100EL58,
MCW100LVEL01, MCW100LVEL16, MCW100LVEL17, MCW100LVEL40,
MCW100LVEL56, MCW10E016, MCW10E101, MCW10E116, MCW10E131,
MCW10E141, MCW10E142, MCW10E151, MCW10E1651, MCW10E431,
MCW10E451, MCW10E452, MCW10EL01, MCW10EL04, MCW10EL05,
MCW10EL07, MCW10EL11, MCW10EL15, MCW10EL16, MCW10EL31,
MCW10EL58, MCW12026A, MCW12080, MCWH12140, MCWK12140,
SC64011FN, SC64029FN, SC64029FNR2, SC64031FN, SC64033FN, SCW63800,
SCW63801B