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FINAL PRODUCT/PROCESS CHANGE NOTIFICATION
Generic Copy

16-JAN-2004

SUBJECT: ON Semiconductor Final Product/Process Change Notification #13292

TITLE: Wafer Fabrication Site Transfer for Selected Product Families to the COM1 Facility

EFFECTIVE DATE: 16-Mar-2004

AFFECTED CHANGE CATEGORY:
ON Semiconductor Fab Site
Wafer Process

AFFECTED PRODUCT DIVISION: ECL Products

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:

Final Product/Process Change Notification (FPCN)

Final change notification sent to customers. FPCNs are issued at least 60 days prior to implementation 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:
This is the Final PCN to notify customers that the changes described in Initial PCN# 12874, located at www.onsemi.com, have been completed for the selected product families listed below.

ON Semiconductor is pleased to announce the Qualification and Process Certification of MOSAIC 35 process in their internal factory COM 1, located on the ON Semiconductor site in Phoenix, AZ, to manufacture MOSAIC 3 Bipolar Technology products. COM1 is an ISO9001 certified facility and currently manufactures the MOSAIC 5 product family. MOSAIC 3 products were previously fabricated in the Motorola Bipolar Manufacturing Center (BMC) in Mesa, Arizona.
This is the Final PCN only for the selected product families. Additional notifications will be issued separately for subsequent products when they have completed all qualification testing.
Device parameters will continue to meet all Data Book specifications, except where noted below.
Reliability will continue to meet or exceed ON Semiconductor standards.

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In the course of reviewing the electrical data for the parts released in group 6, test methodology improvements indicate prior limits for propagation delays were imprecisely set. A more accurate set of Minimum and Maximum limits will be corrected on the next revision of the datasheet to reflect these changes.

100LVEL39 and 100EL39:
TPHL/TPLH for CLK to Q, Diff and SE, min/max limits will be reset across temp.

Old limits were: -40C = 760 to 960, +25C = 800 to 1000, +85C = 850 to 1050 Ps.

New limits are: -40C = 850 to 1150, +25C = 900 to 1200, +85C = 950 to 1250 Ps.

There were no changes to the actual design, electrical performance or function of the parts.

RELIABILITY DATA SUMMARY:
Reliability Test Results:
Below is a summary of the interim reliability results for the MC10EL16D.
A more detailed reliability report is available upon request.

Test	Conditions	Results
High Temp Op Life (HTOL)	Tj =150DegC for 2016 hours	0/558
High Temp Bake (HTB)	150DegC for 1008 hours	0/480
	175DegC for 504 hours	0/480
Preconditioning for MSL-1 (PC)	IR at 260DegC TC/HAST (SOIC8 PLCC28)	0/1120
	IR at 260DegC AC (SOIC8)	0/240
	IR at 220DegC AC (PLCC28)	0/320
PC-HAST	130DegC/85% RH/18.8 PSIG for 96 hours	0/556
PC-Autoclave (AC)	121DegC/100% RH/15 PSIG for 96 hours	0/560
PC-Temp Cycling (TC)	-65DegC to +150DegC; for 1000 cycles	0/479
	-65DegC to +150DegC; for 500 cycles	0/80
ESD per JEDEC Standard	Human Body Model(HBM) Machine Model (MM) Charge Device Model(CDM)	MATCHES CONTROL LOT
Destructive Physical Analysis (DPA)	Analysis done after PC-Temp Cycling	PASS
Intrinsic Reliability (IR)	Compare to BMC results for Stress migration, Electromigration & Hot Carrier Injection	MEETS OR EXCEEDS CRITERIA
Construction Analysis (CA)	Compare to BMC results	MEETS OR EXCEEDS CRITERIA
Parameter Verification	Electrical Characterization/distribution summary of Critical Parameters	AVAIL

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Qualification Vehicle Justification

Technology	Qualification Device	Reason Chosen
MOSAIC3	MC10EL16D	Smallest array, high volume, 8ld SOIC
	MC100E195FN	Medium array, AC test critical, 28ld PLCC
	MC10E016FN	Complex medium array, highest current, 28ld PLCC

Reliability Test Conclusions:
Reliability test data is consistent with passing ON Semiconductor requirements.

ELECTRICAL CHARACTERISTIC SUMMARY: Characterization data available upon request.

CHANGED PART IDENTIFICATION:
Product marked after WW11, 2004 may contain COM1 die, but is dependent on the inventory usage of the current material. Customers are encouraged to contact ON Semiconductor to order samples. After the PCN expiration date, customers may receive products manufactured with die from either the COM1 or BMC FAB. For the 100EL29, LVEL29, 10EL57, 12080 and LVELT22, product marked after WW04, 2004 will contain COM1 die.

AFFECTED DEVICE LIST(WITHOUT SPECIALS):

PART
MC100EL07D
MC100EL07DG
MC100EL07DR2
MC100EL07DR2G
MC100EL07DT
MC100EL07DTR2
MC100EL11D
MC100EL11DG
MC100EL11DR2
MC100EL11DR2G
MC100EL11DT
MC100EL11DTR2
MC100EL15D
MC100EL15DR2
MC100EL29DW
MC100EL29DWR2
MC100EL39DW
MC100EL39DWR2
MC100EL57D
MC100EL57DR2
MC100EL57DR2G
MC100EL58D
MC100EL58DG
MC100EL58DR2
MC100EL58DR2G
MC100EL58DT
MC100EL58DTR2
MC100LVEL29DW
MC100LVEL29DWR2
MC100LVEL39DW
MC100LVEL39DWR2
MC100LVELT22D

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MC100LVELT22DR2
MC100LVELT22DT
MC100LVELT22DTR2
MC10EL07D
MC10EL07DR2
MC10EL07DR2G
MC10EL07DT
MC10EL07DTR2
MC10EL15D
MC10EL15DR2
MC10EL57D
MC10EL57DG
MC10EL57DR2
MC10EL58D
MC10EL58DR2
MC10EL58DT
MC10EL58DTR2
MC12080D
MC12080DR2
MCW100EL11
MCW100LVEL29
MCW10EL07
MCW10EL15
MCW12080