ON Semiconductor

FINAL PRODUCT/PROCESS CHANGE NOTIFICATION
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07-FEB-2003

SUBJECT: ON Semiconductor Final Product/Process Change Notification #12737

TITLE: Final Notification for IPCN#11369 - Wafer Capacity Addition for MOSAIC 3 Technology - Group 2

EFFECTIVE DATE: 08-Apr-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 Office or Keith Stapley <RXNN90@onsemi.com>

SAMPLES: Contact your local ON Semiconductor Sales Office

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

DISCLAIMER:
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
ON Semiconductor is pleased to announce the Qualification and Process Certification of the SONY wafer fabrication facility located in San Antonio, Texas to manufacture MOSAIC3 Bipolar technology products. MOSAIC3 products were previously fabricated in the Motorola Bipolar Manufacturing Center (BMC) in Mesa, Arizona.

This is the Final PCN for the listed devices. During the next several quarters, additional devices will be released, after completion of qualification. The effective date of this change will be 60 days from the issuance of this PCN for the devices listed. A Final PCN update notification will be announced for each group of parts as samples and electrical characterization data become available.

Device parameters will continue to meet all Data Book specifications, and reliability will continue to meet or exceed ON Semiconductor standards.

In the course of reviewing the electrical data for the Group 2 released parts, test methodology improvements indicate prior limits for differentially configured propagation delays on the MC100LVE222FA were imprecisely set. A more accurate set of Minimum limits will be corrected on the next revision of the datasheet to reflect these changes.
(-40 C Min = 940 Ps, +25 C Min = 980 Ps and +85 C Min = 1020 Ps)

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

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RELIABILITY DATA SUMMARY:
RELIABILITY WILL CONTINUE TO MEET OR EXCEED ON SEMICONDUCTOR STANDARDS.

Test	Conditions	Results
High Temp Op Life (HTOL)	Tj =150C for 504 hours	0/570
High Temp Bake (HTB)	150C for 1008 hours	0/560
	175C for 504 hours	0/560
Preconditioning for	IR at 235C, TC, HAST, AC(SOIC8)	0/720
MSL-1(PC)	IR at 220C, TC, HAST, AC(PLCC28)	0/918
PC-HAST	130C/85% RH/18.8 PSIG for 96 Hrs	0/520
PC-Autoclave (AC)	121C/100% RH/15 PSIG for 96 hours	0/560
PC-Temp Cycling (TC)	-65C to +150C; for 500 cycles	0/558
Bond Pull Strength (BPS)	Per Factory Testing with CpK>= 1.33	PASS
Bond Shear Test (BS)	Per Factory Testing with CpK>= 1.33	PASS
ESD per JEDEC Standard	Human Body Model(HBM)	MEETS OR
	Machine Model (MM)	EXCEEDS
	Charge Device Model(CDM)	CRITERIA
Destructive	Analysis done after PC-Temp Cycling	COMPLETE, NO
Physical Analysis(DPA)		RELIABILITY
		ISSUES
Intrinsic Reliability	Compare to BMC results for Stress	MEETS OR
(IR)	migration, Electromigration & Hot	EXCEEDS
	Carrier Injection	CRITERIA
Critical Parameter	Datalog units and examine VOH and	MEETS OR
Shifts Analysis (CPA)	VOL before and after test on all	EXCEEDS
	HTOL and Temp cycled units	CRITERIA
Skew Analysis (SA)	Examine 5 units from each group	MEETS OR
	For tskew before and after HTOL	EXCEEDS
	and Temp Cycle tests	CRITERIA
Construction	Compare to BMC results	MEETS OR
Analysis (CA)		EXCEEDS
		CRITERIA
Parameter	Electrical Characterization/distribution	AVAIL
Verification	summary of Critical Parameters	

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

ELECTRICAL CHARACTERISTIC SUMMARY:
DEVICE PARAMETERS WILL CONTINUE TO MEET ALL DATA SHEET SPECIFICATIONS.
Characterization data available upon request.

CHANGED PART IDENTIFICATION:
ww04 of 2003 for the MC100LVE222FA/FAR2.
ww09 of 2003 for the MC100LVEL11D/DR2/DT/DTR2.

AFFECTED DEVICE LIST(WITHOUT SPECIALS):

PART
MC100LVE222FA, MC100LVE222FAR2, MC100LVEL11D, MC100LVEL11DR2
MC100LVEL11DT, MC100LVEL11DTR2, MCW100LVEL11