



FINAL PRODUCT/PROCESS CHANGE NOTIFICATION
Generic Copy

25-MAR-2003

SUBJECT: ON Semiconductor Final Product/Process Change Notification #12774

TITLE: Final Notification for IPCN# 11335, Wafer Capacity Addition for MOSAIC5 Technology-Group 3

EFFECTIVE DATE: 25-May-2003

AFFECTED CHANGE CATEGORY: ON Semiconductor Fab Site & Wafer Process

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 Representative

FOR ANY QUESTIONS CONCERNING THIS NOTIFICATION:

Contact Sales Office or Clarence Rebello <FFBWPN@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 Representative.

DESCRIPTION AND PURPOSE:

This is the Final Notification for the third group of devices referenced in IPCN 11335, which can be downloaded at www.onsemi.com. ON Semiconductor is pleased to announce the Qualification and Process Certification of the COM1 wafer fabrication facility located in Phoenix, Arizona to manufacture MOSAIC5 Bipolar technology products. During the characterization of the parts, typographical errors were found in the previously released data sheets. Data sheets will be corrected to match Low Voltage Family specification as provided by Design. There were no changes in actual electrical performance.

MC10EP139:

Trr Lower Limit at 85 deg C changed to 165 ps

MC10EP195:

Tr and Tf (Cascade) Limits at 25 deg C changed to 110-200 ps

Tr and Tf (Cascade) Limits at 85 deg C changed to 130-220 ps

Tr and Tf (Q, QB) Limits at -40 deg C and 25 deg C changed to 85-135 ps

Tr and Tf (Q, QB) Limits at 85 deg C changed to 95-155 ps

MC100LVEP210:

Vol Upper Limit at at - 40, 25 and 85 deg C changed to - 1600 mV



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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 =150DegC for 504 hours	0/479
High Temp Bake (HTB)	150DegC for 1008 hours 175DegC for 504 hours	0/480 0/480
Preconditioning for MSL-1 (PC)	IR at 235DegC, TC, HAST, AC (Only for EP16 device)	0/957
Preconditioning for MSL-2 (PC)	IR at 235DegC, TC, THB, AC (Only for EP111 device)	0/720
PC-HAST	130DegC/85% RH/18.8 PSIG for 96 Hrs (Only for EP16 device)	0/240
PC-THB	85DegC/85% RH/18.8 PSIG for 1008 Hrs (Only for EP111 device)	0/240
PC-Autoclave (AC)	121DegC/100% RH/15 PSIG for 96 hours	0/480
PC-Temp Cycling (TC)	-65DegC to +150DegC; for 500 cycles	0/635
Bond Pull Strength (BPS)	Per Factory Testing with CpK>= 1.33	MEETS OR EXCEEDS CRITERIA
Bond Shear Test (BS)	Per Factory Testing with CpK>= 1.33	MEETS OR EXCEEDS CRITERIA
ESD per JEDEC Standard	Human Body Model (HBM) Machine Model (MM) Charge Device Model (CDM)	MEETS OR EXCEEDS CRITERIA
Destructive Physical Analysis (DPA)	Analysis done after PC-Temp Cycling	MEETS OR EXCEEDS CRITERIA
Intrinsic Reliability (IR)	Compare to MOS6 results for Stress migration, Electromigration & Hot Carrier Injection	MEETS OR EXCEEDS CRITERIA
Critical Parameter Shifts Analysis (CPA)	Datalog units and examine VOH and VOL before and after test on all HTOL and Temp cycled units	MEETS OR EXCEEDS CRITERIA
Skew Analysis (SA)	Examine 5 units from each group for skew before and after HTOL and Temp Cycle tests	MEETS OR EXCEEDS CRITERIA



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<u>Test</u>	<u>Conditions</u>	<u>Results</u>
Construction Analysis (CA)	Compare to MOS6 results	MEETS OR EXCEEDS CRITERIA
Parameter Verification	Electrical Characterization/distribution summary of Critical Parameters	AVAIL

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

ELECTRICAL CHARACTERISTIC SUMMARY:
 Electrical Characterization data is available upon request.
 Electrical performance has not changed.

CHANGED PART IDENTIFICATION:
 Product marked after WW19, 2003 may contain COM1 die.
 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 MOS6 FAB.

AFFECTED DEVICE LIST(WITHOUT SPECIALS):

- PART**
 MC100EP140D
 MC100EP140DR2
 MC100EPT20D
 MC100EPT20DR2
 MC100EPT20DT
 MC100EPT20DTR2
 MC100LVEP11D
 MC100LVEP11DR2
 MC100LVEP11DT
 MC100LVEP11DTR2
 MC100LVEP210FA
 MC100LVEP210FAR2
 MC10EP139DT
 MC10EP139DTR2
 MC10EP195FA
 MC10EP195FAR2
 MCW100EP140
 MCW100LVEP210