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**FINAL PRODUCT/PROCESS CHANGE NOTIFICATION**  
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**03-SEP-2004**

**SUBJECT: ON Semiconductor Final Product/Process Change Notification #13637**

**TITLE: Wafer Capacity Addition for MOSAIC5 Technology - Device MC100EP57DT**

**EFFECTIVE DATE: 03-Nov-2004**

**AFFECTED CHANGE CATEGORY: ON Semiconductor Fab Site**

**AFFECTED PRODUCT DIVISION: Analog & ECL Products**

**ADDITIONAL RELIABILITY DATA:** Available

Contact your local ON Semiconductor Sales Office or Don Warring <RRGA60@onsemi.com>

**SAMPLES:** Contact your local ON Semiconductor Sales Office

**FOR ANY QUESTIONS CONCERNING THIS NOTIFICATION:**

Contact Sales Office or Vanessa Bass <R38049@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:**

ON Semiconductor is pleased to announce the continued expansion and qualification of the COM1 wafer fabrication facility located in Phoenix, Arizona to manufacture MOSAIC5 Bipolar technology products. MOSAIC5 products were previously fabricated in the Motorola MOS6 wafer fabrication facility in Mesa, Arizona. This is the Final PCN for the listed device. The effective date of this change will be 60 days from the issuance of this PCN for the device listed.

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


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**RELIABILITY DATA SUMMARY:**

Reliability Will Continue To Meet Or Exceed On Semiconductor Standards.

<b>Test</b>	<b>Conditions</b>	<b>Results</b>
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 tskew before and after HTOL and Temp Cycle tests	MEETS OR EXCEEDS CRITERIA
Construction Analysis (CA)	Compare to MOS6 results	MEETS OR EXCEEDS CRITERIA

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Parameter Verification

Electrical Characterization/distribution  
summary of Critical Parameters

AVAIL

**Qualification Vehicle Justification**

<b><u>Technology</u></b>	<b><u>Qualification Device</u></b>	<b><u>Reason Chosen</u></b>
MOSAIC5	MC10EP16DT	Smallest Array Base, TSOP8
	MC100LVEP111FA	Largest Array Base, 32 pin TQFP

**ELECTRICAL CHARACTERISTIC SUMMARY:**

No AC or DC limit changes (old versus new).

**CHANGED PART IDENTIFICATION:**

Product with a date code of ww44 may be built at COM1.

**AFFECTED DEVICE LIST(WITHOUT SPECIALS):****PART**

MC100EP57DT

MC100EP57DTR2

MC100EP57DTR2G