ON Semiconductor

FINAL PRODUCT/PROCESS CHANGE NOTIFICATION
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09-DEC-2003

SUBJECT: ON Semiconductor Final Product/Process Change Notification #13257

TITLE: Final Notification for IPCN# 11335, Wafer Capacity for MOSAIC5 Technology-MC100EP05

EFFECTIVE DATE: 09-Feb-2004

AFFECTED CHANGE CATEGORY: ON Semiconductor Fab Site

AFFECTED PRODUCT DIVISION: ECL 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 Office or
Eric Glatfelter <R23606@onsemi.com>

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 MC100EP05 device related to IPCN 11335. ON Semiconductor is pleased to announce the Qualification and Process Certification of the COM1 wafer fabrication facility located in Phoenix, Arizona to manufacture the MC100EP05 MOSAIC5 Bipolar technology product. MOSAIC5 products were previously fabricated in the Motorola MOS6 wafer fabrication facility in Mesa, Arizona. There are no changes to the Data Sheet.

RELIABILITY DATA SUMMARY:

RELIABILITY WILL CONTINUE TO MEET OR EXCEED ON SEMICONDUCTOR STANDARDS.

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Test	Conditions	Results
High Temp Op Life (HTOL)	Tj =150C for 504 hours	0/479
High Temp Bake (HTB)	150C for 1008 hours 175C for 504 hours	0/480 0/480
Preconditioning for MSL-1 (PC)	IR at 235C, TC, HAST, AC (Only for EP16 device)	0/957
Preconditioning for MSL-2 (PC)	IR at 235C, TC, THB, AC (Only for EP111 device)	0/720
PC-HAST	130C/85% RH/18.8 PSIG for 96 Hrs (Only for EP16 device)	0/240
PC-THB	85C/85% RH/18.8 PSIG for 1008 Hrs (Only for EP111 device)	0/240
PC-Autoclave (AC)	121C/100% RH/15 PSIG for 96 hours	0/480
PC-Temp Cycling (TC)	-65C to +150C; 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
Parameter Verification	Electrical Characterization/distribution summary of Critical Parameters	AVAIL

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Qualification Vehicle Justification

Technology	Qualification Device	Reason Chosen
MOSAIC5	MC10EP16DT	Smallest Array Base, TSSOP8
	MC100LVEP111FA	Largest Array Base, 32 pin TQFP

ELECTRICAL CHARACTERISTIC SUMMARY:
Available upon request. Electrical Performance has not changed.

CHANGED PART IDENTIFICATION:
Product marked after WW06, 2004 may contain COM1 die.

AFFECTED DEVICE LIST(WITHOUT SPECIALS):

PART
MC100EP05D
MC100EP05DR2
MC100EP05DT
MC100EP05DTR2