



FINAL PRODUCT/PROCESS CHANGE NOTIFICATION
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16-SEP-2003

SUBJECT: ON Semiconductor Final Product/Process Change Notification #13120

TITLE: Wafer Fabrication Site Transfer of the 100EL1648, 10EL11 and 10EL31 Product Families to the COM1 Facility

EFFECTIVE DATE: 16-Nov-2003

AFFECTED CHANGE CATEGORY: ON Semiconductor Fab Site

AFFECTED PRODUCT DIVISION: Broadband Products Div

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 100EL1648, 10EL11 and 10EL31 product families. 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 100EL1648, 10EL11 and 10EL31 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.

In the course of reviewing the electrical data, the following changes will be updated on the current data sheets:



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The 100EL1648 title will change to 5V ECL Voltage Controlled Oscillator "Amplifier". The voltage range increased from -5.0V/5.0V to range from -4.2V to -5.5V and 4.2V to 5.5V. Temperature limits on the DC tables increased to -40C from -30C to match AC table parameters. VOH, min/max limits will be set to -880 to -1180 mV across temperature to match other Elite Product Family specifications.

The 10EL31 TPHL/TPLH, propagation delay, min/max limits will be set to 400 Ps to 650 Ps, across temperature.

ESD for the 10EL11 and 10EL31 parts measured at: >500 V HBM, 100 V MM & 2000 V CDM.

There was no change to the actual design or function of the parts.

RELIABILITY DATA SUMMARY:

Test	Conditions	Results
High Temp Op Life (HTOL)	Tj =150DegC for 1008 hours	0/559
High Temp Bake (HTB)	150DegC for 1008 hours 175DegC for 504 hours	0/480 0/480
Preconditioning for MSL-1 (PC)	IR at 260DegC TC/HAST (SOIC8 PLCC28) IR at 260DegC AC (SOIC8) IR at 220DegC AC (PLCC28)	0/1120 0/240 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 500 cycles	0/560
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

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



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Reliability Test Conclusions:

Reliability test data is consistent with passing ON Semiconductor requirements.

ELECTRICAL CHARACTERISTIC SUMMARY: Available on request.

CHANGED PART IDENTIFICATION:

After the PCN expiration date, customers may receive products manufactured with die from either the COM1 or BMC FAB. 100EL1648 product marked after WW31, 2003 contains COM1 die.

10EL11 and 10EL31 product marked after WW40, 2003 may contain COM1 die, but is dependent on the inventory usage of the BMC material.

Customers are encouraged to contact ON Semiconductor to order samples.

AFFECTED DEVICE LIST(WITHOUT SPECIALS):

PART

MC100EL1648D
MC100EL1648DR2
MC100EL1648DT
MC100EL1648DTR2
MC100EL1648M
MC100EL1648MEL
MC10EL11D
MC10EL11DR2
MC10EL11DR2G
MC10EL11DT
MC10EL11DTR2
MC10EL31D
MC10EL31DR2
MC10EL31DR2G
MC10EL31DT
MC10EL31DTR2
MCW10EL11
MCW10EL31