ON Semiconductor

FINAL PRODUCT/PROCESS CHANGE NOTIFICATION
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18-FEB-2003

SUBJECT: ON Semiconductor Final Product/Process Change Notification #12740

TITLE: Qualification of Additional VHVIC Devices at the Aizu, Japan Facility.

EFFECTIVE DATE: 19-Apr-2003

AFFECTED CHANGE CATEGORY:
ON SEMICONDUCTOR FAB SITE
WAFER PROCESS
DIE SHRINK
DESIGN CHANGE

AFFECTED PRODUCT DIVISION: Analog Products

ADDITIONAL RELIABILITY DATA: Available
Contact your local ON Semiconductor Sales Office or Rick Luevanos <R32737@onsemi.com>

SAMPLES: Contact your local ON Semiconductor Sales Office or
Jack Cartwright <RWL070@onsemi.com>

FOR ANY QUESTIONS CONCERNING THIS NOTIFICATION:
Contact Sales Office or Jack Cartwright <RWL070@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:
This is the final PCN (Product Change Notification) to notify customers of the qualification of additional VHVIC devices on the 6-inch wafer production line at ON's facility in Aizu, Japan. Evaluation of the devices in their intended applications reveals no change in functionality. However, ON Semiconductor recommends that our valued customers evaluate 6 inch material in their specific applications. Samples will be provided upon request.

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RELIABILITY DATA SUMMARY:
The following devices have successfully passed the qualification tests below on 6inch process :

DEVICE: NCP1053P136

TEST	CONDITIONS	SS	Results
HTOL	125DegC, 1000Hrs	240	0 failures
HTBB	125DegC, 600V bias on HV pin , 1000Hrs	240	2 failures*
TC	-65DegC to 150DegC, 500 cycles	240	0 failures
HAST	130DegC, 85%RH,bias, 96Hrs	240	0 failures
UHAST	130DegC, 85%RH, 96Hrs	240	0 failures
AC	121DegC, 100%RH, 15 psig, 96Hrs	240	0 failure

* FA found a random low level fab etch defect : 8D done and corrective action in place . 8D available upon request. The second unit was destroyed during analysis before a root cause could be identified.

ELECTRICAL CHARACTERISTIC SUMMARY:
ON Semiconductor has chosen to standardize OFF-State Leakage Current and Peak Startup Current specifications and conditions as part of this PCN. Below are the specification changes for each device.

NCP1000, NCP1001, NCP1002

ELECTRICAL CHARACTERISTICS

Power Switch Circuit	Symbol	Min	Typ	Max	Unit	
Power Switch Circuit &	Ids(off)				uA	
Startup Circuit Off-State Leakage Current						
Tj=25C (Vds=700V)		-	0.25	1		Current Spec
Tj=-40 to 125C (Vds=700V)		-	-	100		Current Spec
Tj=25C (Vds=650V)		-	0.25	1		Revised Spec
Tj=-40 to 125C (Vds=650V)		-	-	50		Revised Spec

MC33363A

ELECTRICAL CHARACTERISTICS

Power Switch (pin 16)	Symbol	Min	Typ	Max	Unit	
Drain-Source Off-State	Id (off)				uA	
Leakage Current						
(Tj = 25C to 125C, Vds = 700V)		-	0.2	100		Current Spec
(Tj = -25C, Vds = 650V)		-	0.2	100		Current Spec
Tj=25C (Vds=650V)		-	0.25	1		Revised Spec
Tj=-40 to 125C (Vds=650V)		-	-	50		Revised Spec

Startup Control (pin 1)	Symbol	Min	Typ	Max	Unit	
Peak Startup Current	Istart				mA	
Vcc=0V (Vin=400V)		-	22	-		Current Spec
Vcc=(Vth(on)-0.2V) (Vin=400V)		-	6	-		Current Spec
Vcc=0V (Vin=50V)(Tj= -25C to 100C)		2	5	8		Revised Spec
Vcc=(Vth(on)-0.2V)(Vin=50V) (Tj= -25C to 100C)		2	5	8		Revised Spec

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MC33363B

ELECTRICAL CHARACTERISTICS

Power Switch (pin 16)	**Symbol**	**Min**	**Typ**	**Max**	**Unit**	
Drain-Source Off-State Leakage Current	Id (off)				uA	
(Vds = 650V)		-	0.2	100		Current Spec
Tj=25C (Vds=650V)		-	0.25	1		Revised Spec
Tj=-40 to 125C (Vds=650V)		-	-	50		Revised Spec

Startup Control (pin 1)	**Symbol**	**Min**	**Typ**	**Max**	**Unit**	
Peak Startup Current	Istart				mA	
Vcc=0V (Vin=400V)		-	2	4		Current Spec
Vcc=(Vth(on)-0.2V) (Vin=400V)		-	2	4		Current Spec
Vcc=0V (Vin=50V)(Tj= -25C to 100C)		2	5	8		Revised Spec
Vcc=(Vth(on)-0.2V) (Vin=50V) (Tj= -25C to 100C)		2	5	8		Revised Spec

MC33362

ELECTRICAL CHARACTERISTICS

Startup Control (pin 1)	**Symbol**	**Min**	**Typ**	**Max**	**Unit**	
Peak Startup Current	Istart				mA	
Vcc=0V (Vin=200V)		-	55	-		Current Spec
Vcc=(Vth(on)-0.2V) (Vin=200V)		-	26	-		Current Spec
Vcc=0V (Vin=50V)(Tj= -25C to 100C)		2	5	8		Revised Spec
Vcc=(Vth(on)-0.2V) (Vin=50V) (Tj= -25C to 100C)		2	5	8		Revised Spec

All other electrical parameters remain unchanged.

CHANGED PART IDENTIFICATION:
Parts MC33363ADW, MC33363ADWR2, MC33363AP, MC33362DW, and MC33362DWR2 will have Date Code of 0327 or later.

All other parts will have date code of 0314 or later.

AFFECTED DEVICE LIST (WITHOUT SPECIALS):

PART

MC33362DW, MC33362DWR2, MC33363ADW, MC33363ADWR2, MC33363AP, MC33363BDW, MC33363BDWR2, NCP1000P, NCP1000T, NCP1001P, NCP1001T, NCP1002P, NCP1002T