



FINAL PRODUCT/PROCESS CHANGE NOTIFICATION
Generic Copy

18-FEB-2003

SUBJECT: ON Semiconductor Final Product/Process Change Notification #12751

TITLE: Qualification of Additional VHVIC Devices (NCP105X SER) 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:

The following specification changes are being implemented for clarification and standardization purposes.

NCP1050, NCP1051, NCP1052, NCP1053, NCP1054, NCP1055

ELECTRICAL CHARACTERISTICS

Power Switch Circuit	Symbol	Min	Typ	Max	Unit
Power Switch Circuit & Startup Circuit Off-State Leakage Current	Ids(off)				uA
Tj=25C (Vds=700V)		-	25	40	Current Spec
Tj=125C (Vds=700V)		-	15	80	Current Spec
Tj=25C (Vds=650V)		-	25	40	Revised Spec
Tj=125C (Vds=650V)		-	15	80	Revised Spec

Startup Control

Startup / Vcc Regulation Peak(Vcc Increasing)	Vcc (on)	8.20	8.60	9.00	V	Current Spec Revised Spec
Minimum Operating / Vcc Valley Voltage After Turn-On	Vcc (off)	7.20	7.60	8.00	V	Current Spec Revised Spec
Undervoltage Lockout Threshold Voltage,Vcc Decreasing	Vcc(reset)	4.20	4.60	5.00	V	Current Spec Revised Spec
Startup Circuit Output Current (Vcc=0V, Tj=25C) (Vd=40V)	Istart	5.4	6.2	7.0	mA	Current Spec
		5.4	6.3	7.2		Revised Spec
Startup Circuit Output Current (Vcc=Vcc(on)-0.2V, Tj=25C) (Vd=40V)	Istart	4.6	5.4	6.2	mA	Current Spec
		4.6	5.6	6.6		Revised Spec
Startup Circuit Output Current (Vcc=Vcc(on)-0.2V, Tj=-40 to 125C) (Vd=40V)	Istart	3.5	-	7.0	mA	Current Spec
		3.5	-	7.5		Revised Spec



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Control Input

Control Window Input Voltage	Vlow	1.15	1.30	1.45	V	Current Spec
Lower (Isink=25uA)		1.10	1.35	1.60		Revised Spec

Total Device

Power Supply Current	Icc1	0.45	0.56	0.65	mA	Current Spec
After UVLO Turn-On						
Power Switch Circuit Enabled		0.40	0.55	0.65		Revised Spec
(NCP1050,NCP1051, NCP1052)						
(C suffix Device)						

All other electrical parameters remain unchanged.

CHANGED PART IDENTIFICATION:

Parts will have Date Code of 0314 or later.

AFFECTED DEVICE LIST (WITHOUT SPECIALS):

PART

- NCP1050P136
- NCP1050P44
- NCP1051P100
- NCP1051P136
- NCP1051P44
- NCP1052P100
- NCP1052P136
- NCP1052P44
- NCP1053P100
- NCP1053P136
- NCP1053P44
- NCP1054P100
- NCP1054P136
- NCP1054P44
- NCP1055P100
- NCP1055P136
- NCP1055P44