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FINAL PRODUCT/PROCESS CHANGE NOTIFICATION #16807

Generic Copy

Issue Date: 9-Feb-2012

TITLE: NCP2860 and NCP571 Family Transfer Wafer fab from Aizu to Gresham

PROPOSED FIRST SHIP DATE: 09-May-2012

AFFECTED CHANGE CATEGORY(S): Wafer Fab Change

FOR ANY QUESTIONS CONCERNING THIS NOTIFICATION:
Contact your local ON Semiconductor Sales Office or <alan.garlington@onsemi.com>

SAMPLES: Contact your local ON Semiconductor Sales Office or <bett.lofts@onsemi.com>

ADDITIONAL RELIABILITY DATA: Available
Contact your local ON Semiconductor Sales Office or <tomas.vajter@onsemi.com>

NOTIFICATION TYPE:

Final Product/Process Change Notification (FPCN)

Final change notification sent to customers. FPCNs are issued at least 90 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 <quality@onsemi.com>.

DESCRIPTION AND PURPOSE:

ON Semiconductor is pleased to announce the Wafer Fab qualification for the NCP2860 and NCP571 product families. These device families are currently qualified at ON Semiconductor's Aizu wafer fab facility located in Aizu, Japan and are now qualified at ON Semiconductor's Gresham wafer fabrication facility located in Gresham, Oregon. Upon expiration (or approval) of this Final PCN, devices may be supplied by either wafer fab.

The Gresham wafer fab is compliant to ISO9001:2008, ISO/TS16949:2009, and ISO14001:2004.
The NCP2860 and NCP571 families run on the Aizu ACMOS1 process. The same ACMOS1 process has been transferred to and successfully qualified at the Gresham wafer fab. No device design changes have been made. Device performance is the same for Aizu and Gresham-sourced devices.

The NCP2860 and NCP571 families will continue to be assembled and tested in existing, qualified locations. No changes to packaging will occur as a result of this fab qualification. No change to the device data sheets will be made.

FINAL PRODUCT/PROCESS CHANGE NOTIFICATION #16807

RELIABILITY DATA SUMMARY:
Qualification devices consisted of 3 parts that will generically qualify all the devices which utilize the ACMOS1 wafer technology process. All testing was performed per AECQ-100 requirements.

NCP551SN30T1G

#	Test	Name	Test Conditions	End Point Req's	Test Results	(rej/ ss)	(rej/ ss)
					Read Point	Lot A	Lot B
1	Prep	Sample preparation and initial part testing	Various	---	Initial Electrical	done	done
	ELFR	Early Life Failure Rate	TA = 125°C	c = 0, 25°C & 125°C	**48 hrs**	0/800	
B1	HTOL	High Temp Operating Live Test	TA = 125°C ; Tj=140°C	c = 0, 25°C & 125°C	504hrs.	0/80	0/79
					1008hrs.	0/80	0/79
A1	PC	MSL1 Preconditioning	3 IR @ 260 deg C	c = 0, 25°C		0/262	0/262
A3	PC-UHST	Precon. - Unbias HAST	TA= +130C, RH = 85%, PSIG= 18.8	c = 0, 25°C	**96hrs**	0/84	0/84
A4	PC-TC	Precon. - Temp Cycle	-65/+150 °C, Air to Air	c = 0, 25°C & 125°C	**500cyc**	0/84	0/84
					1000cyc	0/84	0/84
A4	PC-HAST	Precond. - HAST	TA= +130C, RH = 85%, PSIG= 18.8, bias	c = 0, 25°C & 125°C	**96 hrs**	0/84	0/83
	SAT	Scanning Acoustic Tomography	Compare for Delamination before and after PC	Compare to existing data	Results	Done	Done
C1	WBS	Wire Bond Shear			Results	Cpk>1.33	
C2	WBP	Wire Bond Pull Strength, Condition C	>**3gm** Pull Force		Results	Cpk>1.33	Cpk>1.33
E2	ESD	Electro-static Discharge	Human Body Model (HBM)	c = 0, 25°C & 125°C	Results	2kV	
E2	ESD	Electro-static Discharge	Machine Model (MM)	c = 0, 25°C & 125°C	Results	200V	
E3	ESD	Electro-static Discharge	Charge device Model (CDM)	c = 0, 25°C & 125°C	Results	2kV	
E4	LU	Latch-up	Class II	c = 0, 25°C & 125°C	Results	LU+>100mA LU->100mA	
E5	ED	Electrical Distribution	-40°C, 25°C, 85°C, 125°C	NA	Results	Cpk > 1.67	

Table 1: Reliability Evaluation Results for Device NCP551SN30T1G
Qualification Points in BOLD

ON Semiconductor

FINAL PRODUCT/PROCESS CHANGE NOTIFICATION #16807

NCS2002NS1T1G

#	Test	Name	Test Conditions	End Point Req's	Test Results	(rej/ ss)	(rej/ ss)
					Read Point	Lot A	Lot 2
1	Prep	Sample preparation and initial part testing	various	---	Initial Electrical	done	done
2	HTOL	High Temp Op Life	TA = 145°C for 504 hours	c = 0, Room,125C	**504 Hrs**	0/80	0/80
					1008 Hrs	0/80	0/80
3	PC	MSL1 Preconditioning	3 IR @ 260 deg C	c = 0, Room			
4	TC-PC	Precond. Temp Cycle	-65/+150 C	c = 0, Room, 125C	**500 cyc**	0/84	0/84
					1000 cyc	0/84	0/84
5	HAST-PC	Precond. HAST	TA= +130C, RH = 85%, PSIG= 18.8, bias	c = 0, Room,125C	**96 hrs**	0/84	0/84
6	AC-PC	Precond. Autoclave	121°C/100% RH/15psig	c = 0, Room	**96 hrs**	0/84	0/84
7	SAT	Scanning Acoustic Tomography	Compare for Delamination before and after PC	Compare to existing data	Results	0/10	0/10
8	ELFR	Early Life Failure Rate	Tj = 125°C for **48 hrs**	c=0,Room, 125C	**48Hrs**	0/800	NA

NCP2860DM277R2G

#	Test	Name	Test Conditions	End Point Req's	Test Results	(rej/ ss)	(rej/ ss)	(rej/ ss)	(rej/ ss)
					Read Point	Lot A	Lot B	Lot C	Lot D
1	Prep	Sample preparation and initial part testing	Various	---	Initial Electrical	done	done	done	done
B1	HTOL	High Temp Operating Live Test	TA = 125°C ; Tj=132°C	c = 0, 25°C	504hrs.	0/84	0/84	0/84	0/84
					1008hrs.	0/84	0/84	0/84	0/84
A1	PC	MSL1 Preconditioning	3 IR @ 260 deg C	c = 0, 25°C		0/178	0/178	0/178	0/178
A3	PC-UHST	Precon. - Unbias HAST	TA= +130C, RH = 85%, PSIG= 18.8	c = 0, 25°C	**96hrs**	0/84	0/84	0/84	0/84
A4	PC-TC	Precon. - Temp Cycle	-65/+150 °C, Air to Air	c = 0, 25°C	**500cyc**	0/84	0/84	0/84	0/84
					1000cyc	0/84	0/84	0/84	0/84
	SAT	Scanning Acoustic Tomography	Compare for Delamination before and after PC	Compare to existing data	Results	done	done	done	done
E2	ESD	Electro-static Discharge	Human Body Model (HBM)	c = 0, 25°C	Results	4kV	4kV	4kV	
E2	ESD	Electro-static Discharge	Machine Model (MM)	c = 0, 25°C	Results	200V	200V	200V	
E3	ESD	Electro-static Discharge	Charge device Model (CDM)	c = 0, 25°C	Results	2kV	2kV	2kV	
E4	LU	Latch-up	Class II	c = 0, 25°C & 85°C	Results	LU+>100mA LU->100mA	LU+>100mA LU->100mA	LU+>100mA LU->100mA	
E5	ED	Electrical Distribution	-40°C, -25°C, 25°C, 85°C, 125°C	NA	Results	Cpk>1.67	Cpk>1.67	Cpk>1.67	

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ELECTRICAL CHARACTERISTIC SUMMARY:

No change to the device data sheets is being made. All parametric performance and limits remain the same

CHANGED PART IDENTIFICATION:

No change to current part marking will occur. Marking traceability codes will be able to identify wafer fab die source.

List of affected General Parts:

NCP2860DM277R2G
NCP2860DMADJR2G
NCP571MN08TBG
NCP571MN09TBG
NCP571MN10TBG
NCP571MN12TBG
NCP571SN08T1G
NCP571SN09T1G
NCP571SN10T1G
NCP571SN12T1G
NCV571MN08TBG
NCV571MN09TBG
NCV571MN10TBG
NCV571MN12TBG
NCV571SN08T1G
NCV571SN09T1G
NCV571SN10T1G
NCV571SN12T1G