



PRODUCT BULLETIN # 16561

Generic Copy

Issue Date: 06-Jan-2011

TITLE: SOIC-7/8, 14, 16 Lead Conversion from MSL3 to MSL1

PROPOSED FIRST SHIP DATE: 06-Jan-2011

AFFECTED CHANGE CATEGORY(S): Assembly Process Moisture Sensitivity Level (MSL)

FOR ANY QUESTIONS CONCERNING THIS NOTIFICATION:

Contact your local ON Semiconductor sales office or <Scott.Brow@onsemi.com>

NOTIFICATION TYPE:

ON Semiconductor considers this change approved unless specific conditions of acceptance are provided in writing. To do so, contact <quality@onsemi.com>.

DESCRIPTION AND PURPOSE:

Through continuous process improvement of our SOIC assembly line, ON Semiconductor would like to announce that it will be changing the Moisture Sensitivity Level for those products listed in this Bulletin from MSL3 to MSL1. This means that the product listed in this product bulletin will no longer be shipped in dry packing materials. There has been no change in the BOM material set to achieve this higher MSL rating, only improvements to the assembly process.

RELIABILITY DATA SUMMARY:

Reliability was performed to confirm the improvement with the results summarized here.

Device	NCP1200D100R2G	Wafer Fab Site	MOS7A	Japan
Case Outline #	751U Halide free	Assembly Site	ON Semi OSPI	Philippines
Package	SOIC 8	Final Test Site	ON Semi OSPI	Philippines
Mold Compound	G600	Reliability Lab	ON Semi	Arizona
Die Attach	CRM1076WB	Max Voltage	500 V	
Technology	VHVIC	Rel Tracking #	P07336/7988	
Die Size	66 x 78 mils	Flag Size	90 x 90 mils	

Device	NCP1396DR2G	Wafer Fab Site	MOS7A	Japan
Case Outline #	751AM Halide free	Assembly Site	ON Semi OSPI	Philippines
Package	SOIC 16	Final Test Site	ON Semi OSPI	Philippines
Mold Compound	G600	Reliability Lab	ON Semi	Arizona
Die Attach	CRM1076WB	Max Voltage	600 V	
Technology	VHVIC	Rel Tracking #	P07361/7362	
Die Size	79 x 81 mils	Flag Size	90 x 130 mils	

Device	NCP1271D65R2G	Wafer Fab Site	MOS7A	Japan
Case Outline #	751U Halide free	Assembly Site	ON Semi OSPI	Philippines
Package	SOIC 7	Final Test Site	ON Semi OSPI	Philippines
Mold Compound	G600	Reliability Lab	ON Semi	Arizona
Die Attach	CRM1076WB	Max Voltage	500 V	
Technology	VHVIC	Rel Tracking #	P07364	
Die Size	54 x 56 mils	Flag Size	90 x 90 mils	



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#	Test	Name	Test Conditions	End Point	Test Result	Lot A MSL1	Lot B MSL3 Control
1	Prep	Sample preparation and initial part testing	various	---	Initial Electrical	done	done
4	HTOL	High Temp Operating Life	TA = 125C, 200 V bias	c = 0, Room	504 hrs	0/80	0/80
					1008 hrs	0/80	0/80
5	HTSL	High Temperature Storage life	TA=150C	c = 0, Room	504 hrs	0/80	0/80
					1008 hrs	0/80	0/80
6	PC	MSL1 Preconditioning	3 IR @ 260 deg C	c = 0, Room	Post MSL	done	done
7	TC-PC	Precond. Temp Cycle	-65/+150 C	c = 0, Room	500 cyc	0/80	0/80
					1000 cyc	0/80	0/80
8	HAST-PC	Precond. Autoclave	TA= +130C, RH = 85%, PSIG= 18.8, bias	c = 0, Room	96 hrs	0/80	0/80
9	UHAST-PC	Precond. UHAST	TA= +130C, RH = 85%, PSIG= 18.8, no bias	c = 0, Room	96 hrs	0/80	0/80
10	SAT-PC	Precond. SAT	Post MSL 3, 260C	c = 0, Room	-	pass	pass

Table 1: NCP1200DR2G MSL1, 260C Soic Reliability Evaluation Results Qualification Points in BOLD



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#	Test	Name	Test Conditions	End Point Req's	Test Results	(rej/ ss)	(rej/ ss)
					Read Point	Lot A MSL1	Lot B MSL3 Control
1	Prep	Sample preparation and initial part testing	various	---	Initial Electrical	done	done
3	HTSL	High Temperature Storage life	TA=150C	c = 0, Room	504 hrs	0/80	0/80
					1008 hrs	0/80	0/80
4	HTOL	High Temp Operating Life	TA = 125C, 600 V bias	c = 0, Room	504 hrs	0/80	0/80
					1008 hrs	0/80	0/80
5	PC	MSL1 Preconditioning	3 IR @ 260 deg C	c = 0, Room	Post MSL	done	done
6	TC-PC	Precond. Temp Cycle	-65/+150 C	c = 0, Room	500 cyc	0/80	0/80
					1000 cyc	0/80	0/80
7	HAST-PC	Precond. Autoclave	TA= +130C, RH = 85%, PSIG= 18.8, bias	c = 0, Room	96 hrs	0/80	0/80
8	UHAST-PC	Precond. UHAST	TA= +130C, RH = 85%, PSIG= 18.8, no bias	c = 0, Room	96 hrs	0/80	0/80
10	SAT-PC	Precond. SAT	Post MSL 3, 260C	c = 0, Room	-	pass	pass

Table 2 NCPI396DR2G MSL1, 260C Soic Reliability Evaluation Results Qualification Points in BOLD



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#	Test	Name	Test Conditions	End Point Req's	Test Results	(rej/ ss)	(rej/ ss)
					Read Point	Lot A MSL1	Lot B MSL3 Control
1	Prep	Sample preparation and initial part testing	various	---	Initial Electrical	done	done
2	HTOL	High Temp Operating Life	TA = 125C, 100 V bias	c = 0, Room	504 hrs 1008 hrs	0/80	0/80
4	PC	MSL1 Preconditioning	3 IR @ 260 deg C	c = 0, Room	Post MSL	done	done
5	TC-PC	Precond. Temp Cycle	-65/+150 C	c = 0, Room	500 cyc 1000 cyc	0/80 0/80	0/80 0/80
8	UHASt-PC	Precond. UHASt	TA= +130C, RH = 85%, PSIG= 18.8, no bias	c = 0, Room	96 hrs	0/80	0/80
9	HAST-PC	Precond. HAST	TA= +130C, RH = 85%, PSIG= 18.8, bias	c = 0, Room	96 hrs	0/80	0/80
10	SAT-PC	Precond. SAT	Post MSL 3, 260C	c = 0, Room	-	pass	pass

**Table 3 NCPI271DR2G Soic Reliability Evaluation Results
Qualification Points in BOLD**



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List of affected General Parts:

PART	
MC33260DG	NCP1217D65R2G
MC33260DR2G	NCP1230D100R2G
MC33260DR2GH	NCP1230D100R2GH
MC33364D1G	NCP1230D133R2G
MC33364D1R2G	NCP1230D165R2G
MC33364D2G	NCP1230D65R2G
MC33364D2R2G	NCP1230D65R2GH
MC33364DG	NCP1280DR2G
MC33364DR2G	NCP1308DR2G
MC33368DG	NCP1337DR2G
MC33368DR2G	NCP1338DR2G
NCP1200D100R2G	NCP1351ADR2G
NCP1200D40R2G	NCP1351BDR2G
NCP1200D60R2G	NCP1351BDR2GH
NCP1201D100R2G	NCP1351CDR2G
NCP1201D60R2G	NCP1351DDR2G
NCP1203D100R2G	NCP1377BD1R2G
NCP1203D100R2GH	NCP1377BDR2G
NCP1203D40R2G	NCP1377D1R2G
NCP1203D60R2G	NCP1377DR2G
NCP1205DR2G	NCP1378DR2G
NCP1207ADR2G	NCP1381DR2G
NCP1207BDR2G	NCP1382DR2G
NCP1212DR2G	NCP1395ADR2G
NCP1215ADR2G	NCP1395BDR2G
NCP1215DR2G	NCP1601ADR2G
NCP1216AD100R2G	NCP1601BDR2G
NCP1216AD133R2G	NCP1605ADR2G
NCP1216AD65R2G	NCP1605DR2G
NCP1216D100R2G	NCP1605DR2GH
NCP1216D133R2G	NCP1650DR2G
NCP1217AD100R2G	NCP1651DR2G
NCP1217AD133R2G	NCP1653ADR2G
NCP1217AD65R2G	NCP1653ADR2GH
NCP1217D100R2G	NCP1653DR2G
NCP1217D133R2G	NCP5181DR2G