



FINAL PRODUCT/PROCESS CHANGE NOTIFICATION

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03 Mar 2009

SUBJECT: ON Semiconductor Final Product/Process Change Notification #16227

TITLE: Copper Wire in SOIC and TSSOP packaged Products

PROPOSED FIRST SHIP DATE: 03 Jun 2009

AFFECTED CHANGE CATEGORY(S): Assembly Process

AFFECTED PRODUCT DIVISION(S): Analog, Digital/Consumer, Signal & Interface

FOR ANY QUESTIONS CONCERNING THIS NOTIFICATION:

Contact your local ON Semiconductor Sales Office or Shannon Riggs <Shannon.Riggs@onsemi.com>

SAMPLES: Contact your local ON Semiconductor Sales Office

ADDITIONAL RELIABILITY DATA: Available

Contact your local ON Semiconductor Sales Office or Matt Kas <Matt.Kas@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 your local ON Semiconductor Sales Office.

DESCRIPTION AND PURPOSE:

A General Announcement (GA#16200) was published on 1-29-09 regarding the ongoing Copper Wirebond conversion program at ON Semiconductor. This is a FPCN to notify customers of its plan to qualify Copper Wire (in place of Gold Wire) on SOIC and TSSOP packages assembled at the Carmona, Philippine assembly location. Reliability Qualification and full electrical characterization over temperature has now been completed on the designated package qualification vehicles.

**Final Product/Process Change Notification #16227****RELIABILITY DATA SUMMARY:**

Test Vehicles used: LM239DR2G and LM224DR2G

Reliability Test Results: LM239DR2DR2G

Test		Conditions	Results
HTOL	High Temp Op Life	Ta = 150C; 1008 Hrs	0/240
HTSL	High Temp Storage Life	Ta = 150c ; 1000 Hrs	0/240
HAST-PC	Highly Accel. Stress Test Preconditioned	Ta = 130C, RH = 85%; 96 Hrs PSIG = 18.8, with bias	0/240
TC – PC	Temperature Cycle Preconditioned	-65C to +150C; 500 Cycle	0/240
AC – PC	AutoClave Preconditioned	Ta = 121C; RH = 100%; 96 Hrs PSIG = 15	0/240

Reliability Test Results: LM224DR2G

Test		Conditions	Results
HTOL	High Temp Op Life	Ta = 150C; 1008 Hrs	0/240
HTSL	High Temp Storage Life	Ta = 150c; 1000 Hrs	0/240
HAST-PC	Highly Accel. Stress Test Preconditioned	Ta = 130C, RH = 85%; 96 Hrs PSIG = 18.8, with bias	0/240
TC – PC	Temperature Cycle Preconditioned	-65C to +150C; 500 Cycle	0/240
AC – PC	AutoClave Preconditioned	Ta = 121C; RH = 100%; 96 Hrs PSIG = 15	0/240

ELECTRICAL CHARACTERISTIC SUMMARY:

Electrical Data is available upon request.

CHANGED PART IDENTIFICATION:

Part Number Date Code with codes greater than WW 22, 2009



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AFFECTED DEVICE LIST

PART

CD8447DR2	LM2902DTB	LM324ADR2G
CD8447DR2G	LM2902DTBG	LM324ADTB
FLM2904D	LM2902DTBR2	LM324ADTBG
FLM2904DG	LM2902DTBR2G	LM324ADTBR2
FLM2931AD-5.0	LM2902DTBR2GH	LM324ADTBR2G
FLM2931AD-5.0G	LM2902VD	LM324D
FLM2931AD-5.0R2	LM2902VDG	LM324DG
FLM2931AD-5.0R2G	LM2902VDR2	LM324DR2
FMC33202D	LM2902VDR2G	LM324DR2G
FMC33202DG	LM2902VDTB	LM324DR2GH
FMC33202DR2	LM2902VDTBG	LM324DTB
FMC33202DR2G	LM2902VDTBR2	LM324DTBG
FSC2903DR2	LM2902VDTBR2G	LM324DTBR2
FSC2904DR2	LM2903D	LM324DTBR2G
LM224D	LM2903DG	LM324DTBR2GH
LM224DG	LM2903DR2	LM339D
LM224DR2	LM2903DR2G	LM339DG
LM224DR2G	LM2903VD	LM339DR2
LM224DTB	LM2903VDG	LM339DR2G
LM224DTBG	LM2903VDR2	LM339DR2GH
LM224DTBR2	LM2903VDR2G	LM339DTBR2
LM224DTBR2G	LM2904D	LM339DTBR2G
LM239D	LM2904DG	LM358ADR2G
LM239DG	LM2904DR2	LM358ADR2GH
LM239DR2	LM2904DR2G	LM358D
LM239DR2G	LM2904DR2GH	LM358DG
LM239DTBR2	LM2904VD	LM358DR2
LM239DTBR2G	LM2904VDG	LM358DR2G
LM2574DW-ADJ	LM2904VDR2	LM358DR2GH
LM2574DW-ADJR2G	LM2904VDR2G	LM393D
LM258D	LM2931ACDG	LM393DG
LM258DG	LM2931ACDR2	LM393DR2
LM258DR2	LM2931ACDR2G	LM393DR2G
LM258DR2G	LM2931AD-5.0R2G	LM393DR2GH
LM2901D	LM2931CDR2	MC1403BDG
LM2901DG	LM2931CDR2G	MC1403BDR2G
LM2901DR2	LM2931D-5.0G	MC1403DG
LM2901DR2G	LM2931D-5.0R2G	MC1403DR2G
LM2901DTBR2	LM293D	MC1413BD
LM2901DTBR2G	LM293DG	MC1413BDG
LM2901VD	LM293DR2	MC1413BDR2
LM2901VDG	LM293DR2G	MC1413BDR2G
LM2901VDR2	LM317LBDG	MC1413D
LM2901VDR2G	LM317LBDR2	MC1413DG
LM2901VDTBR2	LM317LBDR2G	MC1413DR2
LM2901VDTBR2G	LM317LDG	MC1413DR2G
LM2902D	LM317LDR2	MC1488D
LM2902DG	LM317LDR2G	MC1488DG
LM2902DR2	LM324AD	MC1488DR2
LM2902DR2G	LM324ADG	MC1488DR2G
LM2902DR2GH	LM324ADR2	MC26LS30D



MC26LS30DG	MC33201VDR2G	MC34025DWR2
MC26LS30DR2	MC33202D	MC34025DWR2G
MC26LS30DR2G	MC33202DG	MC34060ADG
MC33023DW	MC33202DR2	MC34060ADR2G
MC33023DWG	MC33202DR2G	MC34063AD
MC33023DWR2	MC33202DR2GH	MC34063ADG
MC33023DWR2G	MC33202VD	MC34063ADR2
MC33025DW	MC33202VDG	MC34063ADR2G
MC33025DWG	MC33202VDR2	MC34151DG
MC33025DWR2	MC33202VDR2G	MC34151DR2G
MC33025DWR2G	MC33204D	MC34152DG
MC3302D	MC33204DG	MC34152DR2G
MC3302DG	MC33204DR2	MC34160DW
MC3302DR2	MC33204DR2G	MC34160DWG
MC3302DR2G	MC33204DTB	MC34160DWR2
MC3302DTBR2	MC33204DTBG	MC34160DWR2G
MC3302DTBR2G	MC33204DTBR2	MC34163DW
MC33060ADG	MC33204DTBR2G	MC34163DWG
MC33060ADR2	MC33204VD	MC34163DWR2
MC33060ADR2G	MC33204VDG	MC34163DWR2G
MC33063ADG	MC33204VDR2	MC34268D
MC33063ADR2	MC33204VDR2G	MC34268DG
MC33063ADR2G	MC33269D-012G	MC34268DR2
MC33063ADR2GH	MC33269D-3.3G	MC34268DR2G
MC33063AVDG	MC33269D-5.0G	MC44603ADWG
MC33063AVDR2	MC33269DG	MC44603ADWR2G
MC33063AVDR2G	MC33269DR2	MC75172BDW
MC33067DWG	MC33269DR2-012G	MC75172BDWG
MC33151DG	MC33269DR2-3.3G	MC75172BDWR2
MC33151DR2G	MC33269DR2-5.0G	MC75172BDWR2G
MC33151VD	MC33269DR2G	MC75174BDW
MC33151VDR2G	MC33275D-2.5G	MC75174BDWG
MC33152DG	MC33275D-2.5R2	MC75174BDWR2
MC33152DR2G	MC33275D-2.5R2G	MC75174BDWR2G
MC33152VDG	MC33275D-3.0G	MC78L05ABDG
MC33152VDR2G	MC33275D-3.3R2G	MC78L05ABDR2
MC33153DG	MC33275D-5.0G	MC78L05ABDR2G
MC33153DR2G	MC33275D-5.0R2G	MC78L05ACDG
MC33160DWG	MC33341DG	MC78L05ACDR2
MC33160DWR2G	MC33341DR2G	MC78L05ACDR2G
MC33163DWG	MC33375D-2.5G	MC78L05ACDR2GH
MC33163DWR2G	MC33375D-2.5R2	MC78L08ABDG
MC33178D	MC33375D-2.5R2G	MC78L08ABDR2G
MC33178DG	MC33375D-3.0G	MC78L08ACDG
MC33178DR2	MC33375D-3.0R2G	MC78L08ACDR2G
MC33178DR2G	MC33375D-3.3G	MC78L09ABDG
MC33179D	MC33375D-3.3R2G	MC78L09ABDR2G
MC33179DG	MC33375D-5.0G	MC78L09ACDG
MC33179DR2	MC33375D-5.0R2G	MC78L09ACDR2G
MC33179DR2G	MC33567D-1G	MC78L12ABDG
MC33179DTBR2G	MC33567D-1R2G	MC78L12ABDR2
MC33201D	MC33567D-3R2G	MC78L12ABDR2G
MC33201DG	MC33765DTB	MC78L12ACDG
MC33201DR2	MC33765DTBG	MC78L12ACDR2
MC33201DR2G	MC33765DTBR2	MC78L12ACDR2G
MC33201VD	MC33765DTBR2G	MC78L15ABDG
MC33201VDG	MC34025DW	MC78L15ABDR2
MC33201VDR2	MC34025DWG	MC78L15ABDR2G



MC78L15ACDG	NCV2931D-5.0R2	SA575DTB
MC78L15ACDR2	NCV2931D-5.0R2G	SA575DTBG
MC78L15ACDR2G	NCV3063DR2G	SA575DTBR2
MC79L05ABDG	NCV3063DR2G	SA575DTBR2G
MC79L05ABDR2	NCV3064DR2G	SC224DR2
MC79L05ABDR2G	NCV3065DR2G	SC224DR2G
MC79L05ACDG	NCV3066DR2G	SC224DTBR2
MC79L05ACDR2	NCV3163PWG	SC224DTBR2G
MC79L05ACDR2G	NCV3163PWR2G	SC239DR2
MC79L12ABDG	NCV317LBDG	SC239DR2G
MC79L12ABDR2G	NCV317LBDR2	SC239DTBR2
MC79L12ACDG	NCV317LBDR2G	SC239DTBR2G
MC79L12ACDR2G	NCV33063AVDR2G	SC258DR2
MC79L15ABDG	NCV33152DR2	SC258DR2G
MC79L15ABDR2G	NCV33152DR2G	SC2901DR2
MC79L15ACDG	NCV33163DWR2G	SC2901DR2G
MC79L15ACDR2G	NCV33163DWR2G	SC2901DTBR2
NCP112D	NCV33202VDR2	SC2901DTBR2G
NCP112DG	NCV33202VDR2G	SC2901VDR2
NCP112DR2G	NCV33204DR2	SC2901VDR2G
NCP3063BDR2G	NCV33204DR2G	SC2901VDTBR2
NCP3063DR2G	NCV33204DTBR2	SC2901VDTBR2G
NCP3064BDR2G	NCV33204DTBR2G	SC2902D
NCP3064DR2G	NCV494BDR2G	SC2902DG
NCP3065DR2G	NCV78L05ABDR2	SC2902DR2
NCP3066DR2G	NCV78L05ABDR2G	SC2902DR2G
NCP3163BPWG	NCV78L08ABDR2	SC2902DTBR2
NCP3163BPWR2G	NCV78L08ABDR2G	SC2902DTBR2G
NCP3163PWG	NCV78L12ABDG	SC2902VDR2
NCP3163PWR2G	NCV78L12ABDR2	SC2902VDR2G
NCP3334DADJG	NCV78L12ABDR2G	SC2902VDTBR2
NCP3334DADJR2G	NCV78L15ABDR2G	SC2902VDTBR2G
NCP4300ADG	NE521D	SC2903D
NCP4300ADR2	NE521DG	SC2903DG
NCP4300ADR2G	NE521DR2	SC2903DR2
NCP4326DR2G	NE521DR2G	SC2903DR2G
NCP4330DR2G	NE5230DG	SC2903VDR2
NCP4672DR2G	NE5230DR2	SC2903VDR2G
NCV1413BDR2	NE5230DR2G	SC2904DR2
NCV1413BDR2G	NE5532AD8	SC2904DR2G
NCV2574DW-ADJR2	NE5532AD8G	SC2904VDR2
NCV2574DW-ADJR2G	NE5532AD8R2	SC2904VDR2G
NCV2901DR2	NE5532AD8R2G	SC324ADR2
NCV2901DR2G	NE5532D	SC324ADR2G
NCV2901DTBR2G	NE5532D8	SC324DR2
NCV2902DR2	NE5532D8G	SC324DR2G
NCV2902DR2G	NE5532D8R2	SC3302DR2
NCV2902DTBR2G	NE5532D8R2G	SC3302DR2G
NCV2903DR2	NE5532DG	SC33165ADWR2
NCV2903DR2G	NE5532DR2	SC33165ADWR2G
NCV2904DR2	NE5532DR2G	SC33178DR2
NCV2904DR2G	SA5230D	SC33178DR2G
NCV2931ACDR2	SA5230DG	SC33179DR2
NCV2931ACDR2G	SA5230DR2	SC33179DR2G
NCV2931AD-5.0R2	SA5230DR2G	SC339DR2
NCV2931AD-5.0R2G	SA575D	SC339DR2G
NCV2931CDR2	SA575DG	SC358DR2
NCV2931CDR2G	SA575DR2G	SC358DR2G



SC393DR2
SC393DR2G
SC74808DR2
SC78L12ABDR2
SC79181DR2
SC79192DWR2
SC901013DR2
SC901013DR2G
SCY99011DR2
SCY99011DR2G
SCY99011DR2GH
SCY99064DR2G
SCY99066DR2G
SCY996903AVDR2
SCY996923DR2
SCY996923DR2G
SE5230D
SE5230DG
SE5230DR2
SE5230DR2G
SE5532AD8
SE5532AD8G
SE5532AD8R2
SE5532AD8R2G
SG3525ADWG
SG3525ADWR2G
TL494BDG
TL494BDR2G
TL494CDG
TL594CDG
TL594CDR2G
TL594CDTB
TL594CDTBG
TL594CDTBR2
TL594CDTBR2G
TY30533R2
TY30533R2G
TY30577DR2
TY30577DR2G
ULN2003ADR2G
ULQ2003ADR2G