



FINAL PRODUCT/PROCESS CHANGE NOTIFICATION

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16 Oct 2007

SUBJECT: ON Semiconductor Final Product/Process Change Notification # 16049

TITLE: Final Notification for Gold wire changing to Copper wire on SOT-23 commodity parts

PROPOSED FIRST SHIP DATE: 16 Jan 2008

AFFECTED CHANGE CATEGORY: ON Semiconductor assembly – wire bond

AFFECTED PRODUCT DIVISION: Discrete Products

FOR ANY QUESTIONS CONCERNING THIS NOTIFICATION:

Contact your local ON Semiconductor Sales Office or Terry Galloway <terry.galloway@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:

On Semiconductor is notifying customers of its plan to convert to Copper wire on commodity products of Small Signal PNP transistors, Small Signal NPN Transistors, and switching diodes in the SOT-23 package.

The mold compound, die attach, and lead frame materials used in the SOT-23 package will remain the same. Two qualification vehicles, a transistor and a diode, have been selected for each of the device functions and full electrical characterization over temperature has been performed on each qualification vehicle to ensure device functionality and electrical specifications are met.

Devices listed in this final PCN will be converted to Copper wire starting January 01, 2008. After January 01, 2008, customer may receive devices with either Gold or Copper as conversion is implemented in our assembly facility. Conversion of specific devices will take place at the beginning of the specified month and devices containing Copper wire can be identified by the date code.



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Manufacturing Part Number	May have Copper wire after this date	May be Copper wire with this date code or later
MMBT2907ALT1	1/1/08	E
MMBT2907ALT1G	1/1/08	E
MMBT2907ALT3	1/1/08	E
MMBT2907ALT3G	1/1/08	E
BAS16LT1	3/1/08	H
BAS16LT1G	3/1/08	H
BAS16LT3	3/1/08	H
BAS16LT3G	3/1/08	H
BAS19LT1	3/1/08	H
BAS19LT1G	3/1/08	H
BAS19LT3	3/1/08	H
BAS19LT3G	3/1/08	H
BAS20LT1	3/1/08	H
BAS20LT1G	3/1/08	H
BAS21LT1	3/1/08	H
BAS21LT1G	3/1/08	H
BAS21LT3	3/1/08	H
BAS21LT3G	3/1/08	H
BAS21SLT1G	3/1/08	H
BAV70LT1	3/1/08	H
BAV70LT1G	3/1/08	H
BAV70LT3	3/1/08	H
BAV70LT3G	3/1/08	H
BAV74LT1	3/1/08	H
BAV74LT1G	3/1/08	H
BAV74LT3	3/1/08	H
BAV74LT3G	3/1/08	H
BAV99LT1	3/1/08	H
BAV99LT1G	3/1/08	H
BAV99LT3	3/1/08	H
BAV99LT3G	3/1/08	H
BAW56LT1	3/1/08	H
BAW56LT1G	3/1/08	H
BAW56LT3	3/1/08	H
BAW56LT3G	3/1/08	H
BCW30LT1	5/1/08	K
BCW30LT1G	5/1/08	K
BCW32LT1	5/1/08	K
BCW32LT1G	5/1/08	K
BCW33LT1	5/1/08	K
BCW33LT1G	5/1/08	K
BCW33LT3	5/1/08	K
BCW33LT3G	5/1/08	K



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Manufacturing Part Number	May have Copper wire after this date	May be Copper wire with this date code or later
BCW66GLT1	5/1/08	K
BCW66GLT1G	5/1/08	K
BCW70LT1	5/1/08	K
BCW70LT1G	5/1/08	K
BCW72LT1	5/1/08	K
BCW72LT1G	5/1/08	K
BCX17LT1	5/1/08	K
BCX17LT1G	5/1/08	K
BCX18LT1	5/1/08	K
BCX18LT1G	5/1/08	K
BSS64LT1	5/1/08	K
BSS64LT1G	5/1/08	K
MMBT2222ALT1	5/1/08	K
MMBT2222ALT1G	5/1/08	K
MMBT2222ALT3	5/1/08	K
MMBT2222ALT3G	5/1/08	K
MMBT2222LT1	5/1/08	K
MMBT2222LT1G	5/1/08	K
MMBT2222LT3	5/1/08	K
MMBT2222LT3G	5/1/08	K
MMBT4126LT1	5/1/08	K
MMBT4126LT1G	5/1/08	K
MMBT4126LT3G	5/1/08	K
MMBT4401LT1	5/1/08	K
MMBT4401LT1G	5/1/08	K
MMBT4401LT3	5/1/08	K
MMBT4401LT3G	5/1/08	K
MMBT4403LT1	5/1/08	K
MMBT4403LT1G	5/1/08	K
MMBT4403LT3	5/1/08	K
MMBT4403LT3G	5/1/08	K
MMBT5550LT1	5/1/08	K
MMBT5550LT1G	5/1/08	K
MMBT5550LT3G	5/1/08	K
MMBT5551LT1	5/1/08	K
MMBT5551LT1G	5/1/08	K
MMBT5551LT3	5/1/08	K
MMBT5551LT3G	5/1/08	K
MMBTA05LT1	5/1/08	K
MMBTA05LT1G	5/1/08	K
MMBTA05LT3	5/1/08	K



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Manufacturing Part Number	May have Copper wire after this date	May be Copper wire with this date code or later
MMBTA05LT3G	5/1/08	K
MMBTA06LT1	5/1/08	K
MMBTA06LT1G	5/1/08	K
MMBTA06LT3	5/1/08	K
MMBTA06LT3G	5/1/08	K
MMBTA55LT1	5/1/08	K
MMBTA55LT1G	5/1/08	K
MMBTA55LT3	5/1/08	K
MMBTA55LT3G	5/1/08	K
MMBTA56LT1G	5/1/08	K
MMBTA56LT3	5/1/08	K
MMBTA56LT3G	5/1/08	K
MMBTA92LT1	5/1/08	K
MMBTA92LT1G	5/1/08	K
MMBTA92LT3	5/1/08	K
MMBTA92LT3G	5/1/08	K
MMBTA93LT1	5/1/08	K
MMBTA93LT1G	5/1/08	K
BC846BLT1	6/1/08	L
BC846BLT1G	6/1/08	L
BC846BLT3	6/1/08	L
BC846BLT3G	6/1/08	L
BC847BLT1	6/1/08	L
BC847BLT1G	6/1/08	L
BC847BLT3	6/1/08	L
BC847BLT3G	6/1/08	L
BC847CLT1	6/1/08	L
BC847CLT1G	6/1/08	L
BC847CLT3	6/1/08	L
BC847CLT3G	6/1/08	L
BC848BLT1	6/1/08	L
BC848BLT1G	6/1/08	L
BC848BLT3	6/1/08	L
BC848BLT3G	6/1/08	L
BC848CLT1	6/1/08	L
BC848CLT1G	6/1/08	L
BC849BLT1	6/1/08	L
BC849BLT1G	6/1/08	L
BC849BLT3	6/1/08	L
BC849BLT3G	6/1/08	L
BC849CLT1	6/1/08	L
BC849CLT1G	6/1/08	L



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Manufacturing Part Number	May have Copper wire after this date	May be Copper wire with this date code or later
BC850BLT1	6/1/08	L
BC850BLT1G	6/1/08	L
BC850CLT1	6/1/08	L
BC850CLT1G	6/1/08	L
BC856BLT1	6/1/08	L
BC856BLT1G	6/1/08	L
BC856BLT3	6/1/08	L
BC856BLT3G	6/1/08	L
BC857BLT1	6/1/08	L
BC857BLT1G	6/1/08	L
BC857BLT3	6/1/08	L
BC857BLT3G	6/1/08	L
BC858BLT1	6/1/08	L
BC858BLT1G	6/1/08	L
BC858BLT3	6/1/08	L
BC858BLT3G	6/1/08	L
BC858CLT1	6/1/08	L
BC858CLT1G	6/1/08	L
BC858CLT3	6/1/08	L
BC858CLT3G	6/1/08	L
BC859BLT1	6/1/08	L
BC859BLT1G	6/1/08	L
BC859BLT3	6/1/08	L
BC859BLT3G	6/1/08	L
BC859CLT1	6/1/08	L
BC859CLT1G	6/1/08	L
MMBD2835LT1	6/1/08	L
MMBD2835LT1G	6/1/08	L
MMBD2836LT1	6/1/08	L
MMBD2836LT1G	6/1/08	L
MMBD2837LT1	6/1/08	L
MMBD2837LT1G	6/1/08	L
MMBD2838LT1	6/1/08	L
MMBD2838LT1G	6/1/08	L
MMBD6050LT1	6/1/08	L
MMBD6050LT1G	6/1/08	L
MMBD6050LT3	6/1/08	L
MMBD6050LT3G	6/1/08	L
MMBD6100LT1	6/1/08	L
MMBD6100LT1G	6/1/08	L
MMBD6100LT3	6/1/08	L
MMBD6100LT3G	6/1/08	L



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Manufacturing Part Number	May have Copper wire after this date	May be Copper wire with this date code or later
MMBD7000LT1	6/1/08	L
MMBD7000LT1G	6/1/08	L
MMBD7000LT3	6/1/08	L
MMBD7000LT3G	6/1/08	L
MMBD914LT1	6/1/08	L
MMBD914LT1G	6/1/08	L
MMBD914LT3	6/1/08	L
MMBD914LT3G	6/1/08	L
BC807-25LT1	8/1/08	P
BC807-25LT1G	8/1/08	P
BC807-25LT3	8/1/08	P
BC807-25LT3G	8/1/08	P
BC807-40LT1	8/1/08	P
BC807-40LT1G	8/1/08	P
BC807-40LT3	8/1/08	P
BC807-40LT3G	8/1/08	P
BC808-25LT1	8/1/08	P
BC808-25LT1G	8/1/08	P
BC808-40LT1	8/1/08	P
BC808-40LT1G	8/1/08	P
BC817-25LT1	8/1/08	P
BC817-25LT1G	8/1/08	P
BC817-25LT3	8/1/08	P
BC817-25LT3G	8/1/08	P
BC817-40LT1	8/1/08	P
BC817-40LT1G	8/1/08	P
BC817-40LT3	8/1/08	P
BC817-40LT3G	8/1/08	P
MMBT3904LT1	9/1/08	U
MMBT3904LT1G	9/1/08	U
MMBT3904LT3	9/1/08	U
MMBT3904LT3G	9/1/08	U
MMBT3906LT1	9/1/08	U
MMBT3906LT1G	9/1/08	U
MMBT3906LT3	9/1/08	U
MMBT3906LT3G	9/1/08	U



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QUALIFICATION PLAN:

Reliability testing was performed on qualification vehicles chosen based on die size, voltage rating, and run rates.

RELIABILITY RESULTS:

BCX19LT1G:

MSL Preconditioning	JEDEC MSL 1 @ 260C		0/1992
HTSL	Ta = 150C, 1008 hrs		0/504
Autoclave + PC	Ta=121C, RH=100%, psig~14.7	96 hrs	0/504
Temp Cycle + PC	Ta= -65/150C 1000 cycles		0/504
H3TRB + PC	Ta= 85C, RH=85%, 80% bias	1008 hrs	0/504
IOL +PC	Ta=25C, delta Tj = 100C max		
	Ton=Toff= 2min	15000 cycles	0/504

BAS21LT1G

MSL Preconditioning	JEDEC MSL 1 @ 260C		0/960
HTRB	Ta=150C, 1008 hrs , 80% bias	1008 hrs	0/320
IOL +PC	Ta=25C, delta Tj = 100C max		
	Ton=Toff= 2min	15000 cycles	0/320
Temp Cycle + PC	Ta= -65/150C 1000 cycles		0/319
Autoclave + PC	Ta=121C, RH=100%, psig~14.7	96 hrs	0/320
H3TRB + PC	Ta= 85C, RH=85%, 80% bias	1008 hrs	0/320
HTSL	Ta = 150C, 1008 hrs		0/320

ELECTRICAL CHARACTERIZATION PLAN:

Datasheet specifications and product electrical performance will remain unchanged

Characterization of each qual vehicle device will be performed to the following requirements:

- 1) Three temperature characterization on 30 units from 3 lots
- 2) ESD performance (HBM, MM) on 15 units from 1 lot

ELECTRICAL CHARACTERIZATION RESULTS:

Available upon request

CHANGED PART IDENTIFICATION:

Date codes for changes will be listed in the FPCN. Phase 1 change "E", phase 2 change "H", phase 3 change "K", phase 4 change "L", phase 5 change "P", and phase 6 change "U" or greater.



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AFFECTED DEVICE LIST:

PART

- BAS16LT1
- BAS16LT1G
- BAS16LT3
- BAS16LT3G
- BAS19LT1
- BAS19LT1G
- BAS19LT3
- BAS19LT3G
- BAS20LT1
- BAS20LT1G
- BAS21LT1
- BAS21LT1G
- BAS21LT3
- BAS21LT3G
- BAS21SLT1G
- BAV70LT1
- BAV70LT1G
- BAV70LT3
- BAV70LT3G
- BAV74LT1
- BAV74LT1G
- BAV74LT3
- BAV74LT3G
- BAV99LT1
- BAV99LT1G
- BAV99LT3
- BAV99LT3G
- BAW56LT1
- BAW56LT1G
- BAW56LT3
- BAW56LT3G
- BC807-25LT1
- BC807-25LT1G
- BC807-25LT3
- BC807-25LT3G
- BC807-40LT1
- BC807-40LT1G
- BC807-40LT3
- BC807-40LT3G
- BC808-25LT1
- BC808-25LT1G
- BC808-40LT1
- BC808-40LT1G
- BC817-25LT1
- BC817-25LT1G
- BC817-25LT3
- BC817-25LT3G



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- BC817-40LT1
- BC817-40LT1G
- BC817-40LT3
- BC817-40LT3G
- BC846BLT1
- BC846BLT1G
- BC846BLT3
- BC846BLT3G
- BC847BLT1
- BC847BLT1G
- BC847BLT3
- BC847BLT3G
- BC847CLT1
- BC847CLT1G
- BC847CLT3
- BC847CLT3G
- BC848BLT1
- BC848BLT1G
- BC848BLT3
- BC848BLT3G
- BC848CLT1
- BC848CLT1G
- BC849BLT1
- BC849BLT1G
- BC849BLT3
- BC849BLT3G
- BC849CLT1
- BC849CLT1G
- BC850BLT1
- BC850BLT1G
- BC850CLT1
- BC850CLT1G
- BC856BLT1
- BC856BLT1G
- BC856BLT3
- BC856BLT3G
- BC857BLT1
- BC857BLT1G
- BC857BLT3
- BC857BLT3G
- BC858BLT1
- BC858BLT1G
- BC858BLT3
- BC858BLT3G
- BC858CLT1
- BC858CLT1G
- BC858CLT3
- BC858CLT3G
- BC859BLT1



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- BC859BLT1G
- BC859BLT3
- BC859BLT3G
- BC859CLT1
- BC859CLT1G
- BCW30LT1
- BCW30LT1G
- BCW32LT1
- BCW32LT1G
- BCW33LT1
- BCW33LT1G
- BCW33LT3
- BCW33LT3G
- BCW66GLT1
- BCW66GLT1G
- BCW70LT1
- BCW70LT1G
- BCW72LT1
- BCW72LT1G
- BCX17LT1
- BCX17LT1G
- BCX18LT1
- BCX18LT1G
- BSS64LT1
- BSS64LT1G
- MMBD2835LT1
- MMBD2835LT1G
- MMBD2836LT1
- MMBD2836LT1G
- MMBD2837LT1
- MMBD2837LT1G
- MMBD2838LT1
- MMBD2838LT1G
- MMBD6050LT1
- MMBD6050LT1G
- MMBD6050LT3
- MMBD6050LT3G
- MMBD6100LT1
- MMBD6100LT1G
- MMBD6100LT3
- MMBD6100LT3G
- MMBD7000LT1
- MMBD7000LT1G
- MMBD7000LT3
- MMBD7000LT3G
- MMBD914LT1
- MMBD914LT1G
- MMBD914LT3
- MMBD914LT3G



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MMBT2222ALT1
MMBT2222ALT1G
MMBT2222ALT3
MMBT2222ALT3G
MMBT2222LT1
MMBT2222LT1G
MMBT2222LT3
MMBT2222LT3G
MMBT2907ALT1
MMBT2907ALT1G
MMBT2907ALT3
MMBT2907ALT3G
MMBT3904LT1
MMBT3904LT1G
MMBT3904LT3
MMBT3904LT3G
MMBT3906LT1
MMBT3906LT1G
MMBT3906LT3
MMBT3906LT3G
MMBT4126LT1
MMBT4126LT1G
MMBT4126LT3G
MMBT4401LT1
MMBT4401LT1G
MMBT4401LT3
MMBT4401LT3G
MMBT4403LT1
MMBT4403LT1G
MMBT4403LT3
MMBT4403LT3G
MMBT5550LT1
MMBT5550LT1G
MMBT5550LT3G
MMBT5551LT1
MMBT5551LT1G
MMBT5551LT3
MMBT5551LT3G
MMBTA05LT1
MMBTA05LT1G
MMBTA05LT3
MMBTA05LT3G
MMBTA06LT1
MMBTA06LT1G
MMBTA06LT3
MMBTA06LT3G
MMBTA55LT1
MMBTA55LT1G
MMBTA55LT3



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MMBTA55LT3G
MMBTA56LT1G
MMBTA56LT3
MMBTA56LT3G
MMBTA92LT1
MMBTA92LT1G
MMBTA92LT3
MMBTA92LT3G
MMBTA93LT1
MMBTA93LT1G