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AE/MFI-CH		Serya Baris / Benedict Hiller	2011-08-26	

Appendix to Bosch-AE Instruction MAT-Label

Requirement for Assembly Electronics

based on

Requirements on Marking of Goods and Accompanying Information for Purchased Production Parts

(MAT-Label)

This appendix to the “Bosch-AE Instruction MAT-Label” is based on the specification “Requirements on Marking of Goods and Accompanying Information for Purchased Production Parts (MAT-Label), established in collaboration with Bosch, Siemens, Hella, Continental and Zollner.

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I. Assembly Electronic




This requirement is only for suppliers, which are assembling ASIC's, sensors etc.

1 Definition of the MAT-Label content

The Assembly Electronic MAT-Label consists of two DMC's:

- The MAT-Label DMC as required (see table 1)
- The second DMC, which contains the component Batches of ASIC's and sensors when added to the main part (see table 2)

Label sample:

	Part.No.: 1277625352	
	Part Name: SMD187	
	Quantity: 500	
	1. Batch: *PJ965.3	
	2. Batch:	
	Man. Date: 20070430	Exp. Date: 20991231
	MS-Level: 5	
	Man. Part. No.: SL105C103MAA-S	
	Add. Info: 1028#A6BX78	
	Package-ID: S000123456789	Supplier-ID: 815
	Purchase: 55062387/001	Shipping Note: 412938/001
	Supplier-Name: SAMPLE_CO.	

Legend:

No.	Data Field	Proposals for field description	Definition / Description	Data Identifier	Length	Format N = Numerical, A/N = Alphanumerical, D = day, M = month, Y = year	Example	Machine-Readable Code 2D-Code Data Matrix Bosch	Printed Text Bosch
Label Information									
1.	Label Version		The revision level is a fixed entry and serves the recognition of the label or its version.	12S	4	N ("0002")	0002 (fixed data)	yes	no
2.	Customer Part Number	Part No.	Part number of Bosch (10 digits without separators)	P	10	A/N	1277625352	yes	yes (highlighted)

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No.	Data Field	Proposals for field description	Definition / Description	Data Identifier	Length	Format N = Numerical, A/N = Alphanumerical, D =day, M = month, Y = year	Example	Machine-Readable Code 2D-Code Data Matrix Bosch	Printed Text Bosch
Part Information									
3.	Manufacturer Part Number	Man. Part No.	Internal manufacturer part number.	1P	Max. 35	A/N	SL105C103MAA-S	yes	yes
4.	Ordering Code	Ord. Code	Code for the part which non-ambiguously can be used for ordering it. Compared to the "Manufacturer Part Number", the Ordering Code may contain more information, e.g. Software Version in case of Microcontrollers.	31P	Max. 35	A/N	SL105C103MAA-S	yes	no
5.	Part Description (Part Name)	Part Name	Specified description of the ordered part (or part name).	-	Max. 30	A/N	SMG060D	no	yes (highlighted)
6.	Manufacturer Number		Explicit identification for the manufacturer, e.g. DUNS-Nr. or mutual agreed.	12V	Max. 13	A/N	206479668	yes	no
7.	Manufacturer Location	Man. Loc.	Naming the manufacturing location/locations (to be individually defined between supplier and respective customer).	10V	Max. 20	A/N	CHN-SHENZHEN2	yes	no
8.	Revision Level/Index	Index	Revision status of the part.	2P	Max. 14	A/N	AA	yes	no
9.	Additional Part Information	Add. Info	Date Code (Format YYWW) Delimiter # Trace code (strip-mark) Delimiter # Supplier Lot. No. (Is an internal batch number given to the assembly lot by the supplier) Delimiter # Wafer Number (if required by Bosch)	20P	Max. 30	A/N	1028#A6BX78	yes	no
10.	Date of Manufacturing	Man. Date	Date of manufacturing is related to the last manufacturing process	6D	8	YYYYMMDD	20070430	yes	yes
11.	Expiration Date	Exp. Date	The Expiration Date of the part. Fixed value "20991231" if not specified otherwise	14D	8	20991231	20991231	yes	yes
12.	RoHS		Indicator for RoHS compliance N: no RoHS Y: RoHS 0: not applicable	30P	1	A/N (upper case)	Y	yes	Logo
13.	MS-Level	MSL or MS-Level	Moisture Sensitivity Level according to IPC/JEDEC J-STD-020.	Z	Max. 2	A/N, "N" if not applicable (text)	5	yes	yes
Logistic Information									
14.	Purchase Order Number	Purchase	Order number assigned by customer to identify a purchasing transaction.	K	Max. 18	A/N	55062387/001	yes	yes
15.	Shipping Note Number	Shipping Note	Shipping Note Number of the shipping note and MAT-Label must be the same.	16K	Max. 12	A/N	412938/001	yes	yes
16.	Supplier Name (no real data field!)	Suppl.	The Supplier Name.	-	Max. 30		SAMPLE_CO.	no	yes
17.	Supplier-ID (Vendor Number)		The fixed vendor number (of the customer) for the supplier.	V	Max. 10	A/N	815	yes	yes

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18.	Package-ID		The explicit, unique number per single package. It has to be unique per supplier (vendor number) and package. It is always related to the smallest package unit. If possible, chronologically related to the production process (e.g. reel-ID).	3S	13	A/N	S000123456789 (first Byte reserved for specifying single)	yes	yes
19.	Quantity		Quantity of the smallest package unit.	Q	Max.18	12ISO3 to be aligned to the right, see example	500NAR000 (in DMC) (printed: 500)	yes	yes (highlighted)
Traceability Information									
20.	Batch-Counter		Batch ID identifies the number of batches	20T	1	N	1 (fixed value)	yes	no
21.	Batch-No. #1	1. Batch No.	With this number the supplier has to be able to retroactively provide information about the batch (e.g. volume, production, delivery). The batch identification should be based on same manufacturing conditions. If a manufacturing condition changes batch number should be changed too. Prefix "*" An Asterisk is used to indicate that a second DMC with component Batch-information is appended	1T	Max. 17	A/N	*PJ965.3	yes	yes (highlighted)
22.	Batch-No. #2	2. Batch No.	Batch number for the second batch – if applicable.	2T	Max. 17	A/N		yes	yes
Other									
23.	Supplier Data		Marking on device as defined and lines separated by "#"	1Z	Max. 30	A/N	SMD187#300126 #PE402.5#090_ AA	yes	no
24.	Not used								
25.	Not used								

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1.1 Component Batch DMC

In case of component Batches of the ASIC's and the sensors.

String sample:

prefix @

↓

@V815@3S000123456789@31T%LPJ346.2%W09@32T%L0550835.1%W21,22,23@33T%L160.2%Q000615%TCA@34T%L161.1%Q0002345%TCA@@

↑

suffix @@

@= separator

Table 2

No.	Data Field	Proposals for field description	Definition / Description	Data Identifier	Length	Format N = Numerical, A/N = Alphanumerical, D =day, M = month, Y = year	Example	Machine-Readable Code 2D-Code Data Matrix Bosch	Printed Text Bosch
Logistic Information									
26	Supplier-ID		Supplier-ID of MAT-Label DMC	V	Max. 10	A/N	815	yes	no
27	Package-ID		Package-ID of MAT-Label DMC	3S	13	A/N	S000123456789	yes	no
Traceability Information									
28	Comp. Lot-No#1		Component Lot number for the first batch (Lot-ID, Wafer-ID, Quantity, Lot type) – if applicable.	31T	Max. 46	A/N	%LPJ346.2%W09	yes	no
29	Comp. Lot-No#2		Component Lot number for the second batch (Lot-ID, Wafer-ID, Quantity, Lot type) – if applicable.	32T	Max. 46	A/N	%L0550835.1%W21,22,23	yes	no
30	Comp. Lot-No#3		Component Lot number for the third batch (Lot-ID, Wafer-ID, Quantity, Lot type) – if applicable.	33T	Max. 46	A/N	%L160.2%Q000615%TCA	yes	no
31	Comp. Lot-No#4		Component Lot number for the fourth batch (Lot-ID, Wafer-ID, Quantity, Lot type) – if applicable.	34T	Max. 46	A/N	%L161.1%Q0002345%TCA	yes	no
32	Comp. Lot-No#5		Component Lot number for the fifth batch (Lot-ID, Wafer-ID, Quantity, Lot type) – if applicable.	35T	Max. 46	A/N	%L162.3%Q0001111%TCA	yes	no
33	Comp. Lot-No#6		Component Lot number for the sixth batch (Lot-ID, Wafer-ID, Quantity, Lot type) – if applicable.	36T	Max. 46	A/N	%L163.1%Q0001630%TCA	yes	no
34	Comp. Lot-No#7		Component Lot number for the seventh batch (Lot-ID, Wafer-ID, Quantity, Lot type) – if applicable.	37T	Max. 46	A/N	%L109046.1%Q0017098%TCE	yes	no
35	Comp. Lot-No#8		Component Lot number for the eighth batch (Lot-ID, Wafer-ID, Quantity, Lot type) – if applicable.	38T	Max. 46	A/N	%L109046.2%Q0017098%TCE	yes	no

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36	Comp. Lot-No#9		Component Lot number for the ninth batch (Lot-ID, Wafer-ID, Quantity, Lot type) – if applicable	39T	Max. 46	A/N	%L109048.2%Q0000567%TCE	yes	no
37	Comp. Lot-No#10		Component Lot number for the tenth batch (Lot-ID, Wafer-ID, Quantity, Lot type) – if applicable	40T	Max. 46	A/N	%L109049.4%Q0034567%TCE	yes	no

1.2 Definition of the Component Lot String

Maximum four strings with the identifier:

- Identifier **%L** Lot-ID (max. 12 digits) Format: **%L**AAAAAAAAAA.NN
- Optional: Identifier **%W** Wafer number (max. 17 digits) Format: **%W**NN,NN,NN,NN,NN,NN
- Optional: Identifier **%Q** Quantity (7 digits) Format: **%Q**NNNNNNN
- Optional: Identifier **%T** Lot type (2 digits) Format: **%T**AA
 - With SL → Sensor
 - AL → ASIC
 - CA → Cap
 - CE → Ceramic
 - AD → Adhesive
 - GE → Gel