

1 GENERAL AND DEFINITIONS

This procedure defines the identification system for MAS products.

The following abbreviations are used in this document:

ESD	Electrostatic Sensitive Device
EWS	Electrical Wafer Sort
ID	Identification
MBB	Moisture Barrier Bag
T&R	Tape and Reel

2 PRODUCT ORDERING CODE

The product ordering code consists of the following string of identifiers (maximum 13 diglets):

MASnnnnvwptxy, where
MAS is an abbreviation for Micro Analog Systems
nnnn is a product number
v (letter) is a product version
w (letter or digit) is a product specific code
pt (letters) are package type family codes as defined in Table 1
xy are options (delivery form, wafer thickness etc.) as defined in chapter 2.4

If the product version **v** is "T" (typically a version from an MPW run) the product specific code **w** may consist of two characters. In this case the delivery form option is marked with one character only. The part id is of type MASnnnnTwwptx.

2.1 Product Version (v)

A product version denotes an upgrade or a redesign option. The available product versions are A, B, C, D, E, F, G, H, J, K, L, M, N, P, Q, R, S, U, V, W, X, Y and Z.

T is reserved for designs on Multi Project Wafer (MPW) runs.

2.2 Product specific code (w)

Product specific code is a letter or a digit and it is used to separate different design options e.g. different bonding versions, output voltages or other design features.

2.3 Package Type Family (pt)

Table 1

	Package Type / Body Size / Wafer Type	Description / Definition
	BGA	Ball Grid Array
BA	LF-XBGA (JEDEC MO-205)	
	CSP	Chip Scale Package
CA	Redistribution, 200 um bumps, Pb	
CB	Direct, 300 um bumps, Pb	
CC	Redistribution, 200 um bumps, Pb free, RoHS compliant	
CD	Direct, 300 um bumps, Pb free, RoHS compliant	
	SBDIL	Side Brazed Dual-In Line
DA	width 300 mill	
DB	width 600 mill	
	LCCC	Leadless Ceramic Chip Carrier
EA		
	MQFP	Metric Quad Flat Package
FA	10x10 mm	
FB	14x14 mm	
FC	14x20 mm	
	TSOT	Thin Small Outline Transistor Package
GA		
GB	Pb free	
GC	Pb free, RoHS compliant	
	QFN	Quad Flat No Lead Package
HA	6x6x0.9 mm (MLPQ)	
HB	3x3x0.9 mm (MLPM)	
HC	3x2x0.9 mm (MLPM)	
HD	2x1x0.9 mm (MLPM)	
HE	4x3x0.9 mm (MLPD)	
HF	4x4x0.9 mm (MLPQ)	
HG	6x6x0.9 mm (MLPQ) Pb free, RoHS compliant	
HH	3x3x0.9 mm (MLPM) Pb free, RoHS compliant	
HJ	3x2x0.9 mm (MLPM) Pb free, RoHS compliant	
HK	2x1x0.9 mm (MLPM) Pb free, RoHS compliant	
HL	4x3x0.9 mm (MLPD) Pb free, RoHS compliant	
HM	4x4x0.9 mm (MLPQ) Pb free, RoHS compliant	
HN	6x6x0.75 mm (QFN-Q) Pb free, RoHS compliant	
HP	3x3x0.75 mm (QFN-M) Pb free, RoHS compliant	

Table 1, continued

HQ	3x2x0.75 mm (QFN-M) Pb free, RoHS compliant		
HR	2x1x0.75 mm (QFN-M) Pb free, RoHS compliant		
HS	4x3x0.75 mm (QFN-D) Pb free, RoHS compliant		
HT	4x4x0.75 mm (QFN-Q) Pb free, RoHS compliant		
	LQFP & TQFP		Thin & Low Profile Quad Flat Package
JA	(TQFP)Thickness 1.0 mm		
JB	(LQFP)Thickness 1.4 mm		
	SSOP		Shrunked Small Outline Package
KA	Width 150 mill		
KB	Width 209 mill		
KC	Width 300 mill		
KD	Width 400 mill		
KE	Width 209 mill, Pb free, RoHS compliant		
	PDIP		Plastic Dual In-Line Package
NA	Width 300 mill		
NB	Width 400 mill		
NC	Width 600 mill		
ND	Width 600 mill, Pb free, RoHS compliant		
	PLCC		Plastic Leaded Chip Carrier
PA			
	CERDIP		Cerdip Dual In-Line Package
QA			
	CQFP		Ceramic Quad Flat Package
RA			
	SO (SOIC)		Small Outline Package
SA	Width 150 mill		
SB	Width 300 mill		
SC	Width 300 mill, fused		
SD	Width 300 mill, Pb free, RoHS compliant		
SE	Width 150 mill, Pb free, RoHS compliant		
	MSOP		Mini Small Outline Package
SM			
SN	Pb free, RoHS compliant		

Table 1, continued

	SOT		Small Outline Transistor Package
ST			
SU	Pb free, RoHS compliant		
	Wafer		Wafer, EWS- Tested
TA	Thickness 525 μm		
TB	Thickness 480 μm		
TC	Thickness 400 μm		
TD	Thickness 375 μm		
TE	Thickness 270 μm		
TF	Thickness 254 μm		
TG	Thickness 215 μm		
TH	Thickness 330 μm		
TJ	Thickness 350 μm		
TK	Thickness 450 μm		
TL	Thickness 145 μm		
TX	Other thickness		
	TSSOP		Thin Shrink Small Outline Package
UA	Width 4.4 mm		
UB	Width 6.1 mm		
UC	Width 4.4 mm, Pb free, RoHS compliant		
UD	Width 6.1 mm, Pb free, RoHS compliant		

2.4 Options (xy)

Option marking consists of two diglets. Options are product specific i.e. the same option string xy may have different meaning in two different parts. However, below there is a set of predefined options having the same meaning for all the parts.

Option	Meaning
00	Tested wafer
01	Sawn wafer, Gustav Wirtz ring 6", tape NITTO SWT-20 non UV-tape, tape not expanded
02	Sawn wafer, Gustav Wirtz ring 6", tape NITTO SWT-20 non UV-tape, tape is expanded for delivery
03	Sawn wafer, metal frame 8", tape NITTO 2091J UV-tape, tape cannot be expanded

04	Sawn wafer, metal frame 8", tape NITTO UE-111AJ UV-tape, tape can be expanded
05	Dice in waffle pack
06	T&R products
07	MBB packed products, excluding T&R products
08	Delivery in tube, tray or canister (without MBB packing or T&R)
09	Reserved

2.5 Examples

The following examples show, how a product ordering code is made up:

- MAS1234A1TC00 - 1234 is the product number
- A is the product version
- 1 is a MAS1234A specific code, the meaning has been specified in data sheet or device specification
- TC stands for an EWS tested wafer, thickness 400 um
- 00 stands for the delivery form "tested wafer"
- MAS9124A2CA12 - 9124 is the product number
- A is the product version
- 2 is a MAS9124A specific code, the meaning has been specified in data sheet (output voltage 2.8 V)
- CA stands for CSP package
- 12 is a MAS9124A specific code, the meaning has been specified in data sheet
- MAS1234T39ST6 - 1234 is the product number
- T is the product version (from MPW)
- 39 is a MAS1234 specific code, the meaning has been specified in a version history
- ST stands for SOT package
- 6 is a MAS1234T39 specific code, the meaning has been specified in process specification

3 PRODUCT MARKING INSTRUCTION

The following general marking instructions shall be followed; detailed instructions are given in product specific assembly specifications.

Marking of packaged products consists of the following:

- MAS logo (can be excluded if there is no space for it)
- MAS product identification code (excluding MAS abbreviation and package coding and also other diglets if there is no space for full product code), for example:

MAS1025AC (for the part MAS1025ACSAxx)
24AA (for the part MAS9124AACAx)

- ES to denote Engineering Samples (optional)
- Customer's product code (optional)
- Customer's product name (optional)
- ESD logo (can be excluded if there is no space for it)
- Date code of form yww or yyww, where y = the last digit of the year, yy = the last two digits of the year, ww= week number
- Lot number of form xxxxx.x or xxxxx.x.x

As much of marking information as possible should appear as top marking. Due to space limitations bottom marking may also be required and can then include the following:

- Lot number xxxxx.x or xxxxx.x.x
- MAS product identification code or part of it