General Pb (Lead) Free Lead Finish/Plating Strategy

In order to provide maximum flexibility and convenience for our customers, ON Semiconductor is modifying its strategy to support the Pb Free global initiatives from the previous General Announcement # 12770.

Pb Free Plating Strategy - ON Semiconductor is committed to offer all devices that are currently plated with Pb containing lead finishes with non Pb containing lead finishes by 2004. This process is well underway. For those customers that choose not to convert to a Pb Free offering according to our conversion plan, ON will continue to offer the current Pb containing devices for the foreseeable future. We are committed to meeting the needs of all of our customers as our industry transitions to Pb Free over the next couple of years.

Availability of Pb Free Plated Product - ON Semiconductor is qualifying the Pb Free version of all devices on a package by package basis according to the schedule listed below. Availability is based on completion of the package qualification. Please contact your ON Semiconductor Sales Representative if this schedule does not meet your conversion needs or if you want to order Pb Free samples.

Moisture Sensitivity Level (MSL) - Surface Mount Packages are qualified to 260 degrees C, which is a higher temperature profile than the JEDEC standard J-STD-020B. The majority of the MSL ratings will remain unchanged from the current MSL 1 classification. If there is a change in the MSL rating of a package, the customer will be notified and appropriate packing precautions will be taken before any product is shipped by ON Semiconductor.

Product Identification - Devices offered without a Pb containing lead finish will be concatenated with a "G" suffix to denote Pb Free lead finish and qualified compatibility with Pb Free board mount assembly processing. Existing packages that are currently offered solely with a Pb Free finish will not change part numbers. However, to maximize customer awareness of Pb Free products and to provide a consistent Pb Free part number scheme, a G-suffix part number will also be created and made available. This is intended to clearly identify parts that are Pb Free and qualified for compatibility with Pb Free board mount assembly processing. The MPN (Manufacturer Part Number) bar code label on the reel, tube or rail, and the intermediate boxes will have the statement “PB FREE PLTG” printed on those labels. Pb Free products may also be identified by unique product marking. ON Semiconductor is currently working on a method to mark Pb Free products. When a customer converts from Pb containing to Pb Free devices the customer will be able to retain their current CPN (Customer Part Number).

Phase 1			
Anticipated Availability Date: July 1st 2003			
Samples and Reliability, Available Now			
Case 77	ChipFET	SC-59	SC-70
SC-74	SC-75	SC-82AB	SC-88
SC-88A	SMA	SMB	SMC
SOD-123	SOD-323	SOT-23-L	SOT-23
TSOP-5	TSOP-6	PSOP-2	SC-89
SOT-553	SOT-563		

Phase 2			
Anticipated Availability Date: Sept., 2003			
CDIP	D2PAK	DPAK	QFN
SC-70-5	SON	SOT-223	SOT-23 5 Pin
SC-88 Epoxy	Micro 8	Micro 10	PowerMite
SOT-23 Epoxy	US8	PLCC	SO-8
TSSOP 8	TO-218	TO-247	TO-3
Axial Lead Button			

Phase 3			
Anticipated Availability Date: Dec., 2003			
D2PAK 3Ld	D2PAK 5Ld	D2PAK 7Ld	Bumped Die/FlipChip
PQFN	QSOP	SOIC	SOIC Wide
SO-16	SOT-143	SOT-23 6 Pin	CLCC
TSSOP 24/28/48	LQFP	BGA	FCBGA
PDIP	PowerFlex	SOT-89	SSOP
SSOP Wide	TO-220	TO-220 FullPAK	TO-264
Surge Special	TO-92	TQFP	MicroBump

Qualification Plan:

The qualification requirements for Pb-Free external lead finish differ for surface-mount device (SMD) or through-hole devices (THD).

For the THDs the primary qualification requirement is to demonstrate forward compatibility with new Pb-Free solder pastes (based on SnCuAg). The tests to be performed typically include:

Solderability with SnCuAg solder
Resistance to Solder Heat

For the SMDs reclassification of the moisture sensitivity level (MSL) at a peak reflow temperature of 260 deg. C is required in addition to solderability validation. The MSL reclassification is performed on the largest die size that is used in the package. The tests to be performed typically include:

Preconditioned Highly Accelerated Stress Testing (PC-HAST) – 96 hours minimum
Preconditioned Autoclave (PC-AC) – 96 hours minimum
Preconditioned Temperature Cycling (PC-TC) – 500 cycles minimum
(Preconditioning is performed at the target MSL for 260 deg. C)

Solderability with SnCuAg solder
Resistance to Solder Heat (RSH – Solder Immersion)

Points of Contact:

Your Local ON Semiconductor Sales Representative

ON Semiconductor Technical Information Center 1-800-282-9855 (US & Canada) or via web at http://www.onsemi.com/tech-support

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