100% Matte Tin (Sn)-Plated Family of Products Released with "–E3" suffix

New Vishay Siliconix Matte Tin-Plated Packages Meet Requirements for Both Lead-Based and Lead-Free Solders

Highlights:

- 100% Matte Tin (Sn) plating replaces standard Tin/Lead (Sn/Pb) plating on Vishay Siliconix packages, except solder bump terminated packages and Hi Rel (military) products
- Consistent with international lead-free goals, Phase 2 of EU Directive, and the JEITA roadmap
- Reverse-compatible with common Sn/Pb solder systems, forward-compatible with Pb-free systems
- All products targeted to remain MSL Level 1 (JEDEC J-STD-020B)
- Easy to order by adding '-E3' to standard parts numbers.
- Samples available as early as Q3 2003. Mass production begins Q4 2004 on most package types.

Vishay Siliconix is a committed partner to the community and the environment. As part of our continuous improvement program and in recognition of the increasing demand for environmentally friendly products, we are pleased to announce the '**-E3**' family of products with 100% matte tin-plated termination finishes.

Products which previously featured terminations with Tin/Lead (Sn/Pb) plating are now being converted to lead-free terminated leads. This matte tin option will be available on all packages, except for solder bump termination packages and hi-rel products. Devices with the matte-tin termination packages are indicated by an **–E3** suffix. For example, the lead-free version of part number Si4410BDY-T1 would be ordered as Si4410BDY-T1-E3. Devices with tin/lead terminations will be phased out as industry conversion permits or in approximately 12 months.

All **-E3** products will be identified with part number labeling on external and middle levels of packing materials, including boxes, tubes, and reels. Traceability of the part will be maintained as normal.

By adding **-E3** as a suffix to existing part numbers, you can show help to control lead in our environment and assist Vishay Siliconix in our lead finish conversion. Vishay Siliconix will make every accommodation possible to assist you in converting product requirements to the matte tin plate part numbers. We encourage you to contact your Vishay Siliconix representative with sample requirements and production forecasts as soon as possible.

Contact us at mailto:green.siliconix@vishay.com.

Program Details

Compatibility

-E3 products are reverse compatible with present lead-based solder systems/profiles as well as 100% forward compatible with emerging lead-free solder systems.

Timing

The first products will be available as soon as Q3 2003.

Qualification

The **-E3** family of parts are being qualified in accordance with existing Vishay Siliconix procedures. The surface mount products will have an MSL classification in accordance with JEDEC standard J-STD-020B. Qualification results will be available upon request.

All **-E3** products will have been qualified to show forward compatibility with the new reflow profiles specified in J-STD-020B when released. In addition, all products will continue to meet the solderability criteria for current lead-based solder systems per IEC600682-58.

Customer reflow profiles not in accordance with JEDEC STD 020B can be evaluated upon special request.

Device Identification

Part numbers will be modified by adding the **-E3** suffix to indicate the new matte tin-plate finish. The new part number will appear on labeling on external and middle levels of packing materials including boxes, tubes, and reels. As a minimum, part traceability will be maintained through standard date/lot code assignments.

Vishay Siliconix

Table of Availability

Rev A, 6-16-2003/cro

Package	Lead (Pb) Free External Plating Product Status			
	Lead Finish	Sample Availability	Production Availability	How to order
Power MOSFET				
1206-8 ChipFET	100% Sn	August-03	November-03	Add -E3 to part number
D^2PAK (TO-263)	100% Sn	August-03	November-03	Add -E3 to part number
DPAK (TO-252)	100% Sn	August-03	November-03	Add -E3 to part number
PowerPAK 1212-8	100% Sn	August-03	November-03	Add -E3 to part number
PowerPAK SO-8	100% Sn	August-03	November-03	Add -E3 to part number
SC-70 *	100% Sn	October-03	December-03	Add -E3 to part number
SC-75A *	100% Sn	October-03	December-03	Add -E3 to part number
SC-89 *	100% Sn	October-03	December-03	Add -E3 to part number
SOIC	100% Sn	August-03	November-03	Add -E3 to part number
SOT-23	100% Sn	August-03	November-03	Add -E3 to part number
SSOT-23	100% Sn	August-03	November-03	Add -E3 to part number
TO-220	100% Sn	August-03	November-03	Add -E3 to part number
TO-39 *	100% Sn	August-03	November-03	Add -E3 to part number
TO-92 *	100% Sn	August-03	November-03	Add -E3 to part number
TO-92S *	100% Sn	August-03	November-03	Add -E3 to part number
TSOP	100% Sn	August-03	November-03	Add -E3 to part number
TSSOP	100% Sn	August-03	November-03	Add -E3 to part number
*LOPD				
JFET				
Sidebraze DIP	100% Sn	September-03	December-03	Add -E3 to part number
PDIP	100% Sn	September-03	December-03	Add -E3 to part number
SOIC	100% Sn	October-03	December-03	Add -E3 to part number
SOT-23	100% Sn	October-03	December-03	Add -E3 to part number
TO-18	100% Sn	September-03	December-03	Add -E3 to part number
TO-52	100% Sn	September-03	December-03	Add -E3 to part number
TO-71	100% Sn	September-03	December-03	Add -E3 to part number
TO-78	100% Sn	September-03	December-03	Add -E3 to part number
TO-92	100% Sn	September-03	December-03	Add -E3 to part number
Analog Switches and Multiplexers				
Ceramic DIP	100% Sn	December-03	March-04	Add -E3 to part number
Flatpack	100% Sn	December-03	March-04	Add -E3 to part number
CLCC	100% Sn	December-03	March-04	Add -E3 to part number
MSOP	100% Sn	December-03	March-04	Add -E3 to part number
PDIP	100% Sn	December-03	March-04	Add -E3 to part number
PLCC	100% Sn	December-03	March-04	Add -E3 to part number
QFN-16	100% Sn	December-03	March-04	Add -E3 to part number
SC-70	100% Sn	August-03	November-03	Add -E3 to part number
SC-89	100% Sn	December-03	March-04	Add -E3 to part number
Sidebraze DIP	100% Sn	December-03	March-04	Add -E3 to part number
SOIC	100% Sn	December-03	March-04	Add -E3 to part number
SOIC Wide body	100% Sn	December-03	March-04	Add -E3 to part number
TO-100	100% Sn	December-03	March-04	Add -E3 to part number
TSOP	100% Sn	August-03	November-03	Add -E3 to part number
TSSOP	100% Sn	October-03	December-03	Add -E3 to part number
Power IC				
MLP3X3	100% Sn	September-04	December-04	Add -E3 to part number
MSOP	100% Sn	September-04	December-04	Add -E3 to part number
PDIP	100% Sn	September-04	December-04	Add -E3 to part number
PLCC	100% Sn	September-04	December-04	Add -E3 to part number
PowerPAK 1212	100% Sn	September-04	December-04	Add -E3 to part number
PowerPAK TSSOP	100% Sn	September-04	December-04	Add -E3 to part number
QSSOP	100% Sn	September-04	December-04	Add -E3 to part number
SOIC	100% Sn	September-04	December-04	Add -E3 to part number
SOIC Wide body	100% Sn	September-04	December-04	Add -E3 to part number
SOT-23	100% Sn	September-04	December-04	Add -E3 to part number
SSOP	100% Sn	September-04	December-04	Add -E3 to part number
TSOT-23	100% Sn	September-04	December-04	Add -E3 to part number
TSSOP	100% Sn	September-04	December-04	Add -E3 to part number
SQFP-48	100% Sn	September-04	December-04	Add -E3 to part number

Hi Rel**

** Military products are not scheduled for change to lead free at this time in compliance with current military regulations.

NOTE: Vishay-Siliconix will make every effort to accommodate specific lead and lead-free part number requests. Customers are encouraged to contact their local Vishay representative with sample and production requests.