



# Product Change Notification



Product Group: Diodes / March 3<sup>rd</sup>, 2014 / PCN-DD-005-2014 Rev.0

## Additional wafer fab and bill of material consolidation

**DESCRIPTION OF CHANGE:** Vishay Semiconductors announces the qualification of additional Vishay owned Wafer Fab using 5" wafer technology which include changes in diffusion processes and mask process and layout.

Termination finish (process/material) for TO-220 Full Pak and TO-247 will change from hot solder dip (Sn 99.3%, Cu 0.7%) to matte tin plating (Sn 100%). TO-247's heatsink and leads thickness lead frame will change from 79 mils to 50 mils and from 24 mils to 20 mils respectively: package outline dimension will be reviewed accordingly. See annex.

**CLASSIFICATION OF CHANGE:** Wafer/Chip/Pellet Site-Layout/Design/Structure  
Assembly Process/Structure and Lead Free Statement

**REASON FOR CHANGE:** Additional wafer fab capacity and security of supply. Bill of materials consolidation purposes.

**EXPECTED INFLUENCE ON QUALITY/RELIABILITY/PERFORMANCE:** There will be no effect on quality, reliability, or electrical performance.

**PRODUCT CATAGORY:** Standard Diode, Fast Diode and Thyristor

**PART NUMBERS/SERIES/FAMILIES AFFECTED:**

PACKAGE	DIE TECHNOLOGY	PRODUCT	HALOGEN FREE VERSION	ASSEMBLY PROCESS/STRUCTURE AND LEAD FREE STATEMENT
D2-PAK	Fast diode	VS-10ETF02SPBF	VS-10ETF02S-M3	
D2-PAK	Fast diode	VS-10ETF02STRLPBF	VS-10ETF02STRL-M3	
D2-PAK	Fast diode	VS-10ETF02STRRPBF	VS-10ETF02STRR-M3	
D2-PAK	Fast diode	VS-10ETF04SPBF	VS-10ETF04S-M3	
D2-PAK	Fast diode	VS-10ETF04STRLPBF	VS-10ETF04STRL-M3	
D2-PAK	Fast diode	VS-10ETF04STRRPBF	VS-10ETF04STRR-M3	
D2-PAK	Fast diode	VS-10ETF06SPBF	VS-10ETF06S-M3	
D2-PAK	Fast diode	VS-10ETF06STRLPBF	VS-10ETF06STRL-M3	
D2-PAK	Fast diode	VS-10ETF06STRRPBF	VS-10ETF06STRR-M3	
D2-PAK	Fast diode	VS-10ETF10SPBF	VS-10ETF10S-M3	
D2-PAK	Fast diode	VS-10ETF10STRLPBF	VS-10ETF10STRL-M3	
D2-PAK	Fast diode	VS-10ETF10STRRPBF	VS-10ETF10STRR-M3	
D2-PAK	Fast diode	VS-10ETF12SPBF	VS-10ETF12S-M3	
D2-PAK	Fast diode	VS-10ETF12STRLPBF	VS-10ETF12STRL-M3	
D2-PAK	Fast diode	VS-10ETF12STRRPBF	VS-10ETF12STRR-M3	
D2-PAK	Fast diode	VS-20ETF02SPBF	VS-20ETF02S-M3	
D2-PAK	Fast diode	VS-20ETF02STRLPBF	VS-20ETF02STRL-M3	

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ONE OF THE WORLD'S LARGEST MANUFACTURERS OF DISCRETE SEMICONDUCTORS AND PASSIVE COMPONENT

PACKAGE	DIE TECHNOLOGY	PRODUCT	HALOGEN FREE VERSION	ASSEMBLY PROCESS/STRUCTURE AND LEAD FREE STATEMENT
D2-PAK	Fast diode	VS-20ETF02STRRPBF	VS-20ETF02STRR-M3	
D2-PAK	Fast diode	VS-20ETF04SPBF	VS-20ETF04S-M3	
D2-PAK	Fast diode	VS-20ETF04STRLPBF	VS-20ETF04STRL-M3	
D2-PAK	Fast diode	VS-20ETF04STRRPBF	VS-20ETF04STRR-M3	
D2-PAK	Fast diode	VS-20ETF06SPBF	VS-20ETF06S-M3	
D2-PAK	Fast diode	VS-20ETF06STRLPBF	VS-20ETF06STRL-M3	
D2-PAK	Fast diode	VS-20ETF06STRRPBF	VS-20ETF06STRR-M3	
D2-PAK	Fast diode	VS-20ETF08SPBF	VS-20ETF08S-M3	
D2-PAK	Fast diode	VS-20ETF08STRLPBF	VS-20ETF08STRL-M3	
D2-PAK	Fast diode	VS-20ETF08STRRPBF	VS-20ETF08STRR-M3	
D2-PAK	Fast diode	VS-20ETF10SPBF	VS-20ETF10S-M3	
D2-PAK	Fast diode	VS-20ETF10STRLPBF	VS-20ETF10STRL-M3	
D2-PAK	Fast diode	VS-20ETF10STRRPBF	VS-20ETF10STRR-M3	
D2-PAK	Fast diode	VS-20ETF12SPBF	VS-20ETF12S-M3	
D2-PAK	Fast diode	VS-20ETF12STRLPBF	VS-20ETF12STRL-M3	
D2-PAK	Fast diode	VS-20ETF12STRRPBF	VS-20ETF12STRR-M3	
D2-PAK	Fast diode	VS-80-1339PBF		
D2-PAK	SCR	VS-10TTS08SPBF	VS-10TTS08S-M3	
D2-PAK	SCR	VS-10TTS08STRLPBF	VS-10TTS08STRL-M3	
D2-PAK	SCR	VS-10TTS08STRRPBF	VS-10TTS08STRR-M3	
D2-PAK	SCR	VS-12TTS08SPBF	VS-12TTS08S-M3	
D2-PAK	SCR	VS-12TTS08STRLPBF	VS-12TTS08STRL-M3	
D2-PAK	SCR	VS-12TTS08STRRPBF	VS-12TTS08STRR-M3	
D2-PAK	SCR	VS-16TTS08SPBF	VS-16TTS08S-M3	
D2-PAK	SCR	VS-16TTS08STRLPBF	VS-16TTS08STRL-M3	
D2-PAK	SCR	VS-16TTS08STRRPBF	VS-16TTS08STRR-M3	
D2-PAK	SCR	VS-16TTS12SPBF	VS-16TTS12S-M3	
D2-PAK	SCR	VS-16TTS12STRLPBF	VS-16TTS12STRL-M3	
D2-PAK	SCR	VS-16TTS12STRRPBF	VS-16TTS12STRR-M3	
D2-PAK	SCR	VS-16TTS16SPBF	VS-16TTS16S-M3	
D2-PAK	SCR	VS-16TTS16STRLPBF	VS-16TTS16STRL-M3	
D2-PAK	SCR	VS-16TTS16STRRPBF	VS-16TTS16STRR-M3	
D2-PAK	SCR	VS-25TTS08SPBF	VS-25TTS08S-M3	
D2-PAK	SCR	VS-25TTS08STRLPBF	VS-25TTS08STRL-M3	
D2-PAK	SCR	VS-25TTS08STRRPBF	VS-25TTS08STRR-M3	

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PACKAGE	DIE TECHNOLOGY	PRODUCT	HALOGEN FREE VERSION	ASSEMBLY PROCESS/STRUCTURE AND LEAD FREE STATEMENT
D2-PAK	SCR	VS-25TTS12SPBF	VS-25TTS12S-M3	
D2-PAK	SCR	VS-25TTS12STRLPBF	VS-25TTS12STRL-M3	
D2-PAK	SCR	VS-25TTS12STRRPBF	VS-25TTS12STRR-M3	
D2-PAK	SCR	VS-25TTS16SPBF	VS-25TTS16S-M3	
D2-PAK	SCR	VS-25TTS16STRLPBF	VS-25TTS16STRL-M3	
D2-PAK	SCR	VS-25TTS16STRRPBF	VS-25TTS16STRR-M3	
D2-PAK	SCR		VS-80-1325PBF	
D2-PAK	SCR		VS-80-1326PBF	
D2-PAK	Std. Diode	VS-10ETS08SPBF	VS-10ETS08S-M3	
D2-PAK	Std. Diode	VS-10ETS08STRLPBF	VS-10ETS08STRL-M3	
D2-PAK	Std. Diode	VS-10ETS08STRRPBF	VS-10ETS08STRR-M3	
D2-PAK	Std. Diode	VS-10ETS10SPBF	VS-10ETS10S-M3	
D2-PAK	Std. Diode	VS-10ETS10STRLPBF	VS-10ETS10STRL-M3	
D2-PAK	Std. Diode	VS-10ETS10STRRPBF	VS-10ETS10STRR-M3	
D2-PAK	Std. Diode	VS-10ETS12SPBF	VS-10ETS12S-M3	
D2-PAK	Std. Diode	VS-10ETS12STRLPBF	VS-10ETS12STRL-M3	
D2-PAK	Std. Diode	VS-10ETS12STRRPBF	VS-10ETS12STRR-M3	
D2-PAK	Std. Diode	VS-20ETS08SPBF	VS-20ETS08S-M3	
D2-PAK	Std. Diode	VS-20ETS08STRLPBF	VS-20ETS08STRL-M3	
D2-PAK	Std. Diode	VS-20ETS08STRRPBF	VS-20ETS08STRR-M3	
D2-PAK	Std. Diode	VS-20ETS12SPBF	VS-20ETS12S-M3	
D2-PAK	Std. Diode	VS-20ETS12STRLPBF	VS-20ETS12STRL-M3	
D2-PAK	Std. Diode	VS-20ETS12STRRPBF	VS-20ETS12STRR-M3	
D2-PAK	Std. Diode	VS-25ETS08SPBF	VS-25ETS08S-M3	
D2-PAK	Std. Diode	VS-25ETS08STRLPBF	VS-25ETS08STRL-M3	
D2-PAK	Std. Diode	VS-25ETS08STRRPBF	VS-25ETS08STRR-M3	
D2-PAK	Std. Diode	VS-25ETS10SPBF	VS-25ETS10S-M3	
D2-PAK	Std. Diode	VS-25ETS10STRLPBF	VS-25ETS10STRL-M3	
D2-PAK	Std. Diode	VS-25ETS10STRRPBF	VS-25ETS10STRR-M3	
D2-PAK	Std. Diode	VS-25ETS12SPBF	VS-25ETS12S-M3	
D2-PAK	Std. Diode	VS-25ETS12STRLPBF	VS-25ETS12STRL-M3	
D2-PAK	Std. Diode	VS-25ETS12STRRPBF	VS-25ETS12STRR-M3	
D2-PAK	Std. Diode		VS-80-1315PBF	
D2-PAK	Std. Diode		VS-80-1322PBF	
DPAK(TO-252)	Fast diode	VS-8EWF02SPBF	VS-8EWF02S-M3	

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<b>PACKAGE</b>	<b>DIE TECHNOLOGY</b>	<b>PRODUCT</b>	<b>HALOGEN FREE VERSION</b>	<b>ASSEMBLY PROCESS/STRUCTURE AND LEAD FREE STATEMENT</b>
DPAK(TO-252)	Fast diode	VS-8EWF02STRLPBF	VS-8EWF02STRL-M3	
DPAK(TO-252)	Fast diode	VS-8EWF02STRPBF	VS-8EWF02STR-M3	
DPAK(TO-252)	Fast diode	VS-8EWF02STRRPBF	VS-8EWF02STRR-M3	
DPAK(TO-252)	Fast diode	VS-8EWF04SPBF	VS-8EWF04S-M3	
DPAK(TO-252)	Fast diode	VS-8EWF04STRLPBF	VS-8EWF04STRL-M3	
DPAK(TO-252)	Fast diode	VS-8EWF04STRRPBF	VS-8EWF04STRR-M3	
DPAK(TO-252)	Fast diode	VS-8EWF06SPBF	VS-8EWF06S-M3	
DPAK(TO-252)	Fast diode	VS-8EWF06STRLPBF	VS-8EWF06STRL-M3	
DPAK(TO-252)	Fast diode	VS-8EWF06STRPBF	VS-8EWF06STR-M3	
DPAK(TO-252)	Fast diode	VS-8EWF06STRRPBF	VS-8EWF06STRR-M3	
DPAK(TO-252)	Fast diode	VS-8EWF10SPBF	VS-8EWF10S-M3	
DPAK(TO-252)	Fast diode	VS-8EWF10STRLPBF	VS-8EWF10STRL-M3	
DPAK(TO-252)	Fast diode	VS-8EWF12SPBF	VS-8EWF12S-M3	
DPAK(TO-252)	Fast diode	VS-8EWF12STRLPBF	VS-8EWF12STRL-M3	
DPAK(TO-252)	Fast diode	VS-8EWF12STRPBF	VS-8EWF12STR-M3	
DPAK(TO-252)	Fast diode	VS-8EWF12STRRPBF	VS-8EWF12STRR-M3	
DPAK(TO-252)	Std. Diode	VS-80-1314PBF		
DPAK(TO-252)	Std. Diode	VS-8EWS08SPBF	VS-8EWS08S-M3	
DPAK(TO-252)	Std. Diode	VS-8EWS08STRLPBF	VS-8EWS08STRL-M3	
DPAK(TO-252)	Std. Diode	VS-8EWS08STRPBF	VS-8EWS08STR-M3	
DPAK(TO-252)	Std. Diode	VS-8EWS08STRRPBF	VS-8EWS08STRR-M3	
DPAK(TO-252)	Std. Diode	VS-8EWS10SPBF	VS-8EWS10S-M3	
DPAK(TO-252)	Std. Diode	VS-8EWS10STRLPBF	VS-8EWS10STRL-M3	
DPAK(TO-252)	Std. Diode	VS-8EWS10STRPBF	VS-8EWS10STR-M3	
DPAK(TO-252)	Std. Diode	VS-8EWS10STRRPBF	VS-8EWS10STRR-M3	
DPAK(TO-252)	Std. Diode	VS-8EWS12SPBF	VS-8EWS12S-M3	
DPAK(TO-252)	Std. Diode	VS-8EWS12STRLPBF	VS-8EWS12STRL-M3	
DPAK(TO-252)	Std. Diode	VS-8EWS12STRPBF	VS-8EWS12STR-M3	
DPAK(TO-252)	Std. Diode	VS-8EWS12STRRPBF	VS-8EWS12STRR-M3	
DPAK(TO-252)	Std. Diode	VS-8EWS16SPBF	VS-8EWS16S-M3	
DPAK(TO-252)	Std. Diode	VS-8EWS16STRLPBF	VS-8EWS16STRL-M3	
DPAK(TO-252)	Std. Diode	VS-8EWS16STRPBF	VS-8EWS16STR-M3	
DPAK(TO-252)	Std. Diode	VS-8EWS16STRRPBF	VS-8EWS16STRR-M3	
Powertab	Fast diode	VS-85EPF12		
TO-220	Fast diode	VS-10ETF02PBF	VS-10ETF02-M3	

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PACKAGE	DIE TECHNOLOGY	PRODUCT	HALOGEN FREE VERSION	ASSEMBLY PROCESS/STRUCTURE AND LEAD FREE STATEMENT
TO-220	Fast diode	VS-10ETF04PBF	VS-10ETF04-M3	
TO-220	Fast diode	VS-10ETF06PBF	VS-10ETF06-M3	
TO-220	Fast diode	VS-10ETF10PBF	VS-10ETF10-M3	
TO-220	Fast diode	VS-10ETF12PBF	VS-10ETF12-M3	
TO-220	Fast Diode	VS-20ETF02PBF	VS-20ETF02-M3	
TO-220	Fast diode	VS-20ETF04PBF	VS-20ETF04-M3	
TO-220	Fast diode	VS-20ETF06PBF	VS-20ETF06-M3	
TO-220	Fast diode	VS-20ETF08PBF	VS-20ETF08-M3	
TO-220	Fast diode	VS-20ETF10PBF	VS-20ETF10-M3	
TO-220	Fast diode	VS-20ETF12PBF	VS-20ETF12-M3	
TO-220	Fast Diode	VS-80-1309PBF		
TO-220	SCR	VS-10TTS08PBF	VS-10TTS08-M3	
TO-220	SCR	VS-12TTS08PBF	VS-12TTS08-M3	
TO-220	SCR	VS-16TTS08PBF	VS-16TTS08-M3	
TO-220	SCR	VS-16TTS12PBF	VS-16TTS12-M3	
TO-220	SCR	VS-25TTS08PBF	VS-25TTS08-M3	
TO-220	SCR	VS-25TTS12PBF	VS-25TTS12-M3	
TO-220	SCR	VS-40TTS12PBF	VS-40TTS12-M3	
TO-220	SCR	VS-80-1336PBF		
TO-220	Std. Diode	VS-10ETS08PBF	VS-10ETS08-M3	
TO-220	Std. Diode	VS-10ETS12PBF	VS-10ETS12-M3	
TO-220	Std. Diode	VS-20ATS08PBF	VS-20ATS08-M3	
TO-220	Std. Diode	VS-20ATS12PBF	VS-20ATS12-M3	
TO-220	Std. Diode	VS-20ETS08PBF	VS-20ETS08-M3	
TO-220	Std. Diode	VS-20ETS16PBF	VS-20ETS16-M3	
TO-220 FULL PAK	Fast diode	VS-10ETF02FPPBF	VS-10ETF02FP-M3	Bare copper L/F + new plating line
TO-220 FULL PAK	Fast diode	VS-10ETF04FPPBF	VS-10ETF04FP-M3	Bare copper L/F + new plating line
TO-220 FULL PAK	Fast diode	VS-10ETF06FPPBF	VS-10ETF06FP-M3	Bare copper L/F + new plating line
TO-220 FULL PAK	Fast diode	VS-10ETF10FPPBF	VS-10ETF10FP-M3	Bare copper L/F + new plating line
TO-220 FULL PAK	Fast diode	VS-10ETF12FPPBF	VS-10ETF12FP-M3	Bare copper L/F + new plating line
TO-220 FULL PAK	Fast diode	VS-20ETF02FPPBF	VS-20ETF02FP-M3	Bare copper L/F + new plating line
TO-220 FULL PAK	Fast diode	VS-20ETF04FPPBF	VS-20ETF04FP-M3	Bare copper L/F + new plating line
TO-220 FULL PAK	Fast diode	VS-20ETF06FPPBF	VS-20ETF06FP-M3	Bare copper L/F + new plating line
TO-220 FULL PAK	Fast diode	VS-20ETF10FPPBF	VS-20ETF10FP-M3	Bare copper L/F + new plating line
TO-220 FULL PAK	Fast diode	VS-20ETF12FPPBF	VS-20ETF12FP-M3	Bare copper L/F + new plating line

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TO-220 FULL PAK	Fast diode	VS-80-1338PBF		Bare copper L/F + new plating line
TO-220 FULL PAK	SCR	VS-16TTS08FPPBF	VS-16TTS08FP-M3	Bare copper L/F + new plating line
TO-220 FULL PAK	SCR	VS-16TTS12FPPBF	VS-16TTS12FP-M3	Bare copper L/F + new plating line
TO-220 FULL PAK	SCR	VS-25TTS08FPPBF	VS-25TTS08FP-M3	Bare copper L/F + new plating line
TO-220 FULL PAK	SCR	VS-25TTS12FPPBF	VS-25TTS12FP-M3	Bare copper L/F + new plating line
TO-220 FULL PAK	SCR	VS-94-3163PBF		Bare copper L/F + new plating line
TO-220 FULL PAK	Std. Diode	VS-10ETS08FPPBF	VS-10ETS08FP-M3	Bare copper L/F + new plating line
TO-220 FULL PAK	Std. Diode	VS-10ETS12FPPBF	VS-10ETS12FP-M3	Bare copper L/F + new plating line
TO-220 FULL PAK	Std. Diode	VS-20ETS08FPPBF	VS-20ETS08FP-M3	Bare copper L/F + new plating line
TO-220 FULL PAK	Std. Diode	VS-20ETS12FPPBF	VS-20ETS12FP-M3	Bare copper L/F + new plating line
TO-247AC	Fast diode	VS-30APF02PBF	VS-30APF02-M3	50mil L/F + Bare copper L/F + Plating line
TO-247AC	Fast diode	VS-30APF04PBF	VS-30APF04-M3	50mil L/F + Bare copper L/F + Plating line
TO-247AC	Fast diode	VS-30APF06PBF	VS-30APF06-M3	50mil L/F + Bare copper L/F + Plating line
TO-247AC	Fast diode	VS-30APF10PBF	VS-30APF10-M3	50mil L/F + Bare copper L/F + Plating line
TO-247AC	Fast diode	VS-30APF12PBF	VS-30APF12-M3	50mil L/F + Bare copper L/F + Plating line
TO-247AC	Fast diode	VS-60APF02PBF	VS-60APF02-M3	50mil L/F + Bare copper L/F + Plating line
TO-247AC	Fast diode	VS-60APF04PBF	VS-60APF04-M3	50mil L/F + Bare copper L/F + Plating line
TO-247AC	Fast diode	VS-60APF06PBF	VS-60APF06-M3	50mil L/F + Bare copper L/F + Plating line
TO-247AC	Fast diode	VS-60APF10PBF	VS-60APF10-M3	50mil L/F + Bare copper L/F + Plating line
TO-247AC	Fast diode	VS-60APF12PBF	VS-60APF12-M3	50mil L/F + Bare copper L/F + Plating line
TO-247AC	Fast diode	VS-80APF02PBF	VS-80APF02-M3	50mil L/F + Bare copper L/F + Plating line
TO-247AC	Fast diode	VS-80APF04PBF	VS-80APF04-M3	50mil L/F + Bare copper L/F + Plating line
TO-247AC	Fast diode	VS-80APF06PBF	VS-80APF06-M3	50mil L/F + Bare copper L/F + Plating line
TO-247AC	Fast diode	VS-80APF10PBF	VS-80APF10-M3	50mil L/F + Bare copper L/F + Plating line
TO-247AC	Fast diode	VS-80APF12PBF	VS-80APF12-M3	50mil L/F + Bare copper L/F + Plating line
TO-247AC	SCR	VS-30TPS08PBF	VS-30TPS08-M3	50mil L/F + Bare copper L/F + Plating line
TO-247AC	SCR	VS-30TPS12PBF	VS-30TPS12-M3	50mil L/F + Bare copper L/F + Plating line
TO-247AC	SCR	VS-30TPS16PBF	VS-30TPS16-M3	50mil L/F + Bare copper L/F + Plating line
TO-247AC	SCR	VS-40TPS08APBF	VS-40TPS08A-M3	50mil L/F + Bare copper L/F + Plating line
TO-247AC	SCR	VS-40TPS08PBF	VS-40TPS08-M3	50mil L/F + Bare copper L/F + Plating line
TO-247AC	SCR	VS-40TPS12APBF	VS-40TPS12A-M3	50mil L/F + Bare copper L/F + Plating line
TO-247AC	SCR	VS-40TPS12PBF	VS-40TPS12-M3	50mil L/F + Bare copper L/F + Plating line
TO-247AC	SCR	VS-40TPS16PBF	VS-40TPS16-M3	50mil L/F + Bare copper L/F + Plating line
TO-247AC	Std. Diode	VS-80APS08PBF	VS-80APS08-M3	50mil L/F + Bare copper L/F + Plating line
TO-247AC	Std. Diode	VS-80APS12PBF	VS-80APS12-M3	50mil L/F + Bare copper L/F + Plating line

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TO-247AC	Std. Diode	VS-80APS16PBF	VS-80APS16-M3	50mil L/F + Bare copper L/F + Plating line
TO-247AC Modified	Fast diode	VS-30EPF02PBF	VS-30EPF02-M3	50mil L/F + Bare copper L/F + Plating line
TO-247AC Modified	Fast diode	VS-30EPF04PBF	VS-30EPF04-M3	50mil L/F + Bare copper L/F + Plating line
TO-247AC Modified	Fast diode	VS-30EPF06PBF	VS-30EPF06-M3	50mil L/F + Bare copper L/F + Plating line
TO-247AC Modified	Fast diode	VS-30EPF10PBF	VS-30EPF10-M3	50mil L/F + Bare copper L/F + Plating line
TO-247AC Modified	Fast diode	VS-30EPF12PBF	VS-30EPF12-M3	50mil L/F + Bare copper L/F + Plating line
TO-247AC Modified	Fast diode	VS-40EPF02PBF	VS-40EPF02-M3	50mil L/F + Bare copper L/F + Plating line
TO-247AC Modified	Fast diode	VS-40EPF04PBF	VS-40EPF04-M3	50mil L/F + Bare copper L/F + Plating line
TO-247AC Modified	Fast diode	VS-40EPF06PBF	VS-40EPF06-M3	50mil L/F + Bare copper L/F + Plating line
TO-247AC Modified	Fast diode	VS-40EPF10PBF	VS-40EPF10-M3	50mil L/F + Bare copper L/F + Plating line
TO-247AC Modified	Fast diode	VS-40EPF12PBF	VS-40EPF12-M3	50mil L/F + Bare copper L/F + Plating line
TO-247AC Modified	Fast diode	VS-60EPF02PBF	VS-60EPF02-M3	50mil L/F + Bare copper L/F + Plating line
TO-247AC Modified	Fast diode	VS-60EPF04PBF	VS-60EPF04-M3	50mil L/F + Bare copper L/F + Plating line
TO-247AC Modified	Fast diode	VS-60EPF06PBF	VS-60EPF06-M3	50mil L/F + Bare copper L/F + Plating line
TO-247AC Modified	Fast diode	VS-60EPF10PBF	VS-60EPF10-M3	50mil L/F + Bare copper L/F + Plating line
TO-247AC Modified	Fast diode	VS-60EPF12PBF	VS-60EPF12-M3	50mil L/F + Bare copper L/F + Plating line
TO-247AC Modified	Std. Diode	VS-40EPS08PBF	VS-40EPS08-M3	50mil L/F + Bare copper L/F + Plating line
TO-247AC Modified	Std. Diode	VS-40EPS12PBF	VS-40EPS12-M3	50mil L/F + Bare copper L/F + Plating line
TO-247AC Modified	Std. Diode	VS-40EPS16PBF	VS-40EPS16-M3	50mil L/F + Bare copper L/F + Plating line
TO-247AC Modified	Std. Diode	VS-60EPS08PBF	VS-60EPS08-M3	50mil L/F + Bare copper L/F + Plating line
TO-247AC Modified	Std. Diode	VS-60EPS12PBF	VS-60EPS12-M3	50mil L/F + Bare copper L/F + Plating line
TO-247AC Modified	Std. Diode	VS-60EPS16PBF	VS-60EPS16-M3	50mil L/F + Bare copper L/F + Plating line
TO-247AC Modified	Std. Diode	VS-80-1320PBF		50mil L/F + Bare copper L/F + Plating line
TO-247AC Modified	Std. Diode	VS-80-1335PBF		50mil L/F + Bare copper L/F + Plating line

*Additional part numbers released in DPAK, TO-220, TO-220 Full Pak, TO-247, and D<sup>2</sup>PAK packages after the effective date of this PCN will be covered by this announcement.*

**VISHAY BRAND(s):** Vishay Semiconductors

**TIME SCHEDULE:** After 2<sup>nd</sup> June, 2014 Vishay may start to implement the above changes on new production

**SAMPLE AVAILABILITY:** On customer request

**PRODUCT IDENTIFICATION:** N/A

**QUALIFICATION DATA:** Qualification data is presented on page 11 of this PCN

Vishay Intertechnology, Inc.

Corporate Headquarters 63 Lincoln Highway, Malvern, PA 19355-2143 U.S.A. Phone (610) 644-1300 Fax (610) 296-0657 [www.vishay.com](http://www.vishay.com)

ONE OF THE WORLD'S LARGEST MANUFACTURERS OF DISCRETE SEMICONDUCTORS AND PASSIVE COMPONENT

**This PCN is considered approved, without further notification, unless we receive specific customer concerns before 5<sup>th</sup> May, 2014 or as specified by contract.**

**ISSUED BY:**

Fabio Modaro, Vishay Diodes Product Marketing  
e-mail: [Fabio.Modaro@vishay.com](mailto:Fabio.Modaro@vishay.com)

**For further information, please contact your regional Vishay office.**

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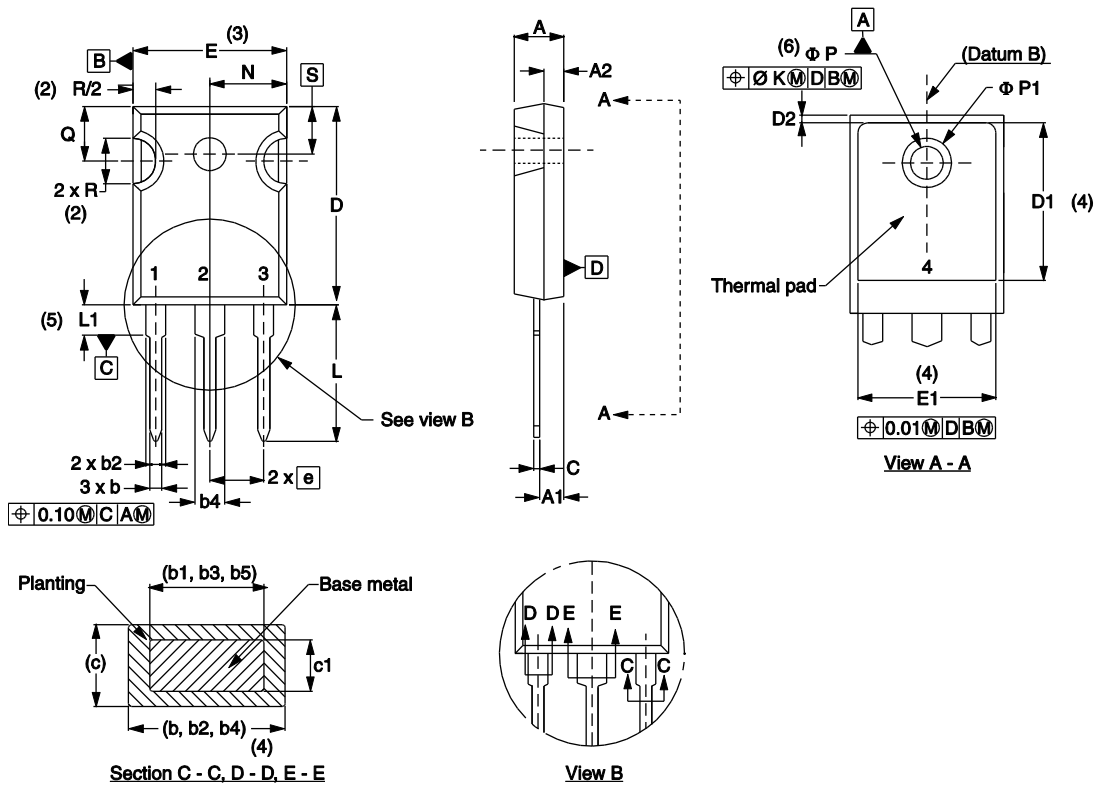
**ONE OF THE WORLD'S LARGEST MANUFACTURERS OF DISCRETE SEMICONDUCTORS AND PASSIVE COMPONENT**



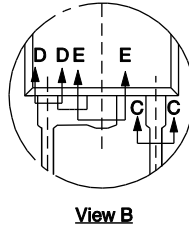
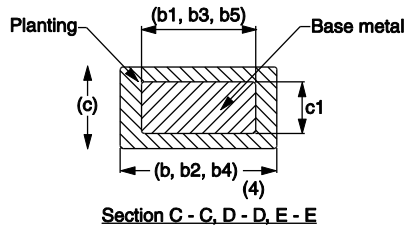
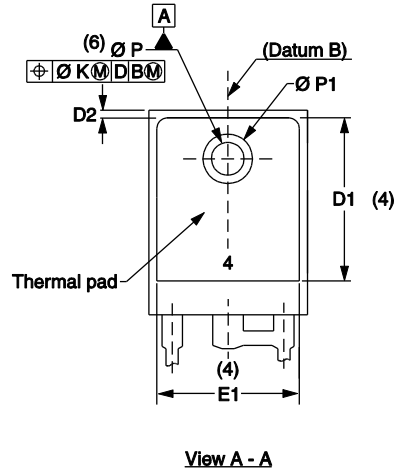
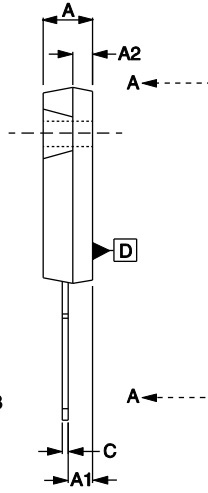
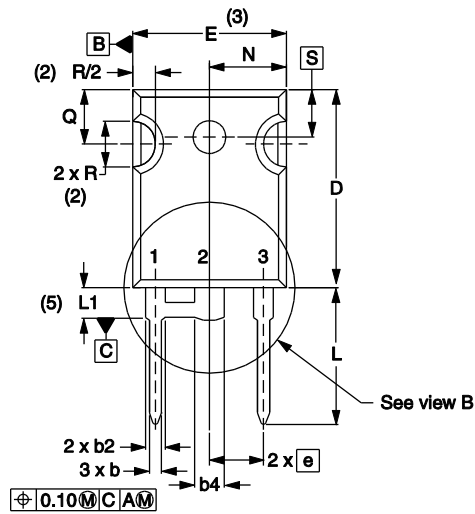
## TO-247 Package Outline Dimension

	From [mm (inches)]		To [mm(inches)]	
	min	Max	min	Max
A2	1.50 (0.059)	2.49 (0.098)	1.17 (0.046)	1.37 (0.054)
b3	1.65 (0.065)	2.37 (0.094)	1.65 (0.065)	2.34 (0.092)
c	0.38 (0.015)	0.86 (0.034)	0.38 (0.015)	0.89 (0.035)
c1	0.38 (0.015)	0.76 (0.030)	0.38 (0.015)	0.84 (0.033)
D2	0.51 (0.020)	1.3 (0.051)	0.51 (0.020)	1.35 (0.053)
E1	13.72 (0.540)	-	13.46 (0.53)	
ΦK	2.54 (0.100)		0.254 (0.010)	
ΦP1	-	6.98 (0.275)	-	7.39 (0.291)

## TO-247 AC



**TO-247 Modified**



**New Fab  
1200V BONDABLE THYRISTORS**

<b>STRESS</b>	<b>CONDITIONS</b>	<b>TEST POINTS</b>	<b>SAMPLES</b>	<b>RESULTS</b>
HTRB	Tjmax @80% rated voltage 1000hrs	0 168 500 1000	240	0/240
TC	-55°C/150°C 1000 cycles	0 250 500 1000	240	0/240
UHASt	130°C 85%RH 96hrs	0 48 96	240	0/240
H3TRB	85°C 85%HR @100V 1000hrs	0 168 500 1000	240	0/240
IOL	DT=100°C 8500 cycles	0 3000 6000	154	0/154
IOL	DT=100°C 6000 cycles	0 3000 6000	86	0/86

**1600V BONDABLE THYRISTORS**

<b>STRESS</b>	<b>CONDITIONS</b>	<b>TEST POINTS</b>	<b>SAMPLES</b>	<b>RESULTS</b>
HTRB	Tjmax @80% rated voltage 1000hrs	0 168 500 1000	95	0/95
TC	-55°C/150°C 1000 cycles	0 250 500 1000	18	0/18
UHASt	130°C 85%RH 96hrs	0 48 96	77	0/77
H3TRB	85°C 85%HR @100V 1000hrs	0 168 500 1000	95	0/95
IOL	DT=100°C 6000 cycles	0 3000 6000	95	0/95

### BONDABLE MOAT DIODES UP TO 1200V

STRESS	CONDITIONS	TEST POINTS	SAMPLES	RESULTS
HTRB	Tjmax @80% rated voltage 1000hrs	0 168 500 1000	308	0/308
TC	-55°C/150°C 1000 cycles	0 250 500 1000	308	0/308
UHASt	130°C 85%RH 96hrs	0 48 96	308	0/308
H3TRB	85°C 85%HR @100V 1000hrs	0 168 500 1000	308	0/308
IOL	DT=100°C 8500 cycles	0 3000 6000	154	0/154
IOL	DT=100°C 6000 cycles	0 3000 6000	154	0/154

### PLATING PROCESS CHANGE MANUFACTURING LINES

STRESS	CONDITIONS	TEST POINTS	SAMPLES	RESULTS
TC	-55°C/150°C 1000 cycles	0 250 500 1000	231	0/231
H3TRB	85°C 85%HR @80% rated voltage 1000hrs	0 168 500 1000	154	0/154
Solderability	As per JESD22 B-102	NA	30	0/30

## TO-220 FULL PAK AND TO-247 BARE COPPER LEAD FRAME QUALIFICATION

### TO-220 Full Pak

STRESS	CONDITIONS	TEST POINTS	SAMPLES	RESULTS
TC	-55°C/150°C 1000 cycles	0 250 500 1000	77	0/77
H3TRB	85°C 85%HR @100V 1000hrs	0 168 500 1000	77	0/77
IOL	DT=100°C 8572 cycles	0 4300 8572	77	0/77
Solderability	As per J-STD-002	NA	20	0/20

### TO-247

STRESS	CONDITIONS	TEST POINTS	SAMPLES	RESULTS
TC	-55°C/150°C 1000 cycles	0 250 500 1000	77	0/77
H3TRB	85°C 85%HR @100V 1000hrs	0 168 500 1000	77	0/77
IOL	DT=100°C 6000 cycles	0 3000 6000	77	0/77
Solderability	As per J-STD-002	NA	20	0/20