



Additional Gold/Nickel Plating Facility REV1 Additional Part Numbers (page 5)

DESCRIPTION OF CHANGE: To increase manufacturing capacity, Vishay Siliconix has qualified our subcontractor partner Flip-Chip Millennium in Shanghai, China as an additional source to perform the operation of applying an interface Ni-Au layer for the family of products using a Source clip attach.

Vishay Siliconix manufactures a family of Power MOSFET products that uses a proprietary interconnection technique where a clip attach establishes the physical connection from the top of the silicon chip (Source) to the Source terminations of the package.

To accomplish this interconnection technique, an interface layer (made of gold and nickel) is applied on the Source metallization after the wafer fabrication is completed. The high temperature solder clip attach cannot be made directly onto the silicon chip metallization (made of aluminum); therefore the interface layer is necessary.

CLASSIFICATION OF CHANGE: Capacity expansion

REASON FOR CHANGE: Expansion of Manufacturing Capacity

EXPECTED INFLUENCE ON QUALITY/RELIABILITY/PERFORMANCE: None

PRODUCT CATEGORY: Low Voltage MOSFET

PART NUMBERS/SERIES/FAMILIES AFFECTED: Refer to list of part numbers included with this PCN page 2-5.

VISHAY BRAND(s): Vishay-Siliconix

TIME SCHEDULE: Production on parts receiving Flip-Chip Millennium Gold/Nickel plating will begin October 2014.

SAMPLE AVAILABILITY: Samples of part numbers used in the site qualification are available now upon request. Samples for other part numbers in the Parts List are subject to standard leadtimes. Please contact your regional Vishay Sales office for sample ordering.

QUALIFICATION DATA: Please see page 6 of this PCN for Qualification test results.

This PCN is considered approved, without further notification, unless we receive specific customer concerns before October 9, 2014 or as specified by contract.

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Product Change Notification



Product Group: Vishay Siliconix/July 9, 2014/PCN- SIL-0762014 rev1

PCN SIL-0726014 Parts List

SI4010DY-T1-GE3	SI4654DY-T1-E3-S
SI4122DY-T1-GE3	SI4654DY-T1-GE3
SI4126DY-T1-GE3	SI4686DY-T1-E3
SI4126DY-T1-GE3-S	SI4686DY-T1-E3-S
SI4136DY-T1-GE3	SI4686DY-T1-GE3
SI4154DY-T1-GE3	SI4712DY-T1-GE3
SI4156DY-T1-GE3	SI4838BDY-T1-GE3
SI4158DY-T1-GE3	SI4840BDY-T1-E3
SI4160DY-T1-GE3	SI4840BDY-T1-GE3
SI4160DY-T1-GE3-S	SI4840BDY-T1-GE3-S
SI4162DY-T1-GE3	SI4842BDY-T1-E3
SI4164DY-T1-GE3	SI4842BDY-T1-GE3
SI4166DY-T1-GE3	SI4884BDY-T1-E3
SI4168DY-T1-GE3	SI4884BDY-T1-GE3
SI4172DY-T1-GE3	SI5442DU-T1-GE3
SI4172DY-T1-GE3-S	SI7100DN-T1-E3
SI4174DY-T1-GE3	SI7100DN-T1-GE3
SI4186DY-T1-GE3	SI7101DN-T1-GE3
SI4202DY-T1-GE3	SI7102DN-T1-E3
SI4204DY-T1-GE3	SI7102DN-T1-GE3
SI4286DY-T1-GE3	SI7104DN-T1-E3
SI4288DY-T1-GE3	SI7104DN-T1-GE3
SI4320DY-T1-E3	SI7106DN-T1-E3
SI4320DY-T1-GE3	SI7106DN-T1-GE3
SI4368DY-T1-E3	SI7108DN-T1-E3
SI4368DY-T1-GE3	SI7108DN-T1-GE3
SI4378DY-T1-E3	SI7110DN-T1-E3
SI4378DY-T1-GE3	SI7110DN-T1-GE3
SI4384DY-T1-E3	SI7112DN-T1-E3
SI4384DY-T1-E3-S	SI7112DN-T1-GE3
SI4384DY-T1-GE3	SI7114ADN-T1-GE3
SI4386DY-T1-E3	SI7114DN-T1-E3
SI4386DY-T1-GE3	SI7114DN-T1-E3-S
SI4430BDY-T1-E3	SI7114DN-T1-GE3
SI4430BDY-T1-E3-S	SI7114DN-T1-GE3-S
SI4430BDY-T1-GE3	SI7116DN-T1-E3
SI4448DY-T1-E3	SI7116DN-T1-GE3
SI4448DY-T1-GE3	SI7137DP-T1-GE3
SI4456DY-T1-E3	SI7141DP-T1-GE3
SI4456DY-T1-GE3	SI7145DP-T1-GE3
SI4497DY-T1-GE3	SI7149ADP-T1-GE3
SI4564DY-T1-GE3	SI7153DN-T1-GE3
SI4626ADY-T1-E3	SI7154DP-T1-E3
SI4626ADY-T1-E3-S	SI7157DP-T1-GE3
SI4626ADY-T1-GE3	SI7170DP-T1-GE3
SI4628DY-T1-GE3	SI7192DP-T1-GE3
SI4630DY-T1-E3	SI7194DP-T1-GE3
SI4630DY-T1-GE3	SI7218DN-T1-E3
SI4634DY-T1-E3	SI7218DN-T1-E3-S
SI4634DY-T1-GE3	SI7218DN-T1-GE3
SI4654DY-T1-E3	SI7228DN-T1-GE3

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SI7232DN-T1-GE3	SI7848BDP-T1-GE3
SI7234DP-T1-GE3	SI7858BDP-T1-GE3
SI7236DP-T1-E3	SI7866ADP-T1-E3
SI7236DP-T1-GE3	SI7866ADP-T1-E3-S
SI7272DP-T1-GE3	SI7866ADP-T1-GE3
SI7288DP-T1-GE3	SI7866ADP-T1-GE3-S
SI7328DN-T1-E3	SI7868ADP-T1-E3
SI7328DN-T1-GE3	SI7868ADP-T1-GE3
SI7336ADP-T1-E3	SI7880ADP-T1-E3
SI7336ADP-T1-E3-S	SI7880ADP-T1-GE3
SI7336ADP-T1-GE3	SI7892BDP-T1-E3
SI7356ADP-T1-E3	SI7892BDP-T1-GE3
SI7356ADP-T1-GE3	SI7938DP-T1-GE3
SI7380ADP-T1-E3	SI7994DP-T1-GE3
SI7380ADP-T1-GE3	SI7997DP-T1-GE3
SI7382DP-T1-E3	SI7998DP-T1-GE3
SI7382DP-T1-GE3	SIA437DJ-T1-GE3
SI7384DP-T1-E3	SIA439EDJ-T1-GE3
SI7384DP-T1-GE3	SIA453EDJ-T1-GE3
SI7386DP-T1-E3	SIA467EDJ-T1-GE3
SI7386DP-T1-E3-S	SIJ420DP-T1-GE3
SI7386DP-T1-GE3	SIJ458DP-T1-GE3
SI7386DP-T1-GE3-S	SIR158DP-T1-GE3
SI7615ADN-T1-GE3	SIR164DP-T1-GE3
SI7615BDNT-T1-GE3	SIR166DP-T1-GE3
SI7623DN-T1-GE3	SIR168DP-T1-GE3
SI7625DN-T1-GE3	SIR172DP-T1-GE3
SI7629DN-T1-GE3	SIR330DP-T1-GE3
SI7629DN-T1-GE3-S	SIR401DP-T1-GE3
SI7634BDP-T1-E3	SIR402DP-T1-GE3
SI7634BDP-T1-GE3	SIR404DP-T1-GE3
SI7655ADN-T1-GE3	SIR406DP-T1-GE3
SI7655DN-T1-GE3	SIR406DP-T1-GE3-S
SI7658ADP-T1-GE3	SIR408DP-T1-GE3
SI7668ADP-T1-E3	SIR410DP-T1-GE3
SI7668ADP-T1-GE3	SIR412DP-T1-GE3
SI7686DP-T1-E3	SIR414DP-T1-GE3
SI7686DP-T1-GE3	SIR416DP-T1-GE3
SI7718DN-T1-GE3	SIR418DP-T1-GE3
SI7726DN-T1-GE3	SIR422DP-T1-GE3
SI7742DP-T1-GE3	SIR424DP-T1-GE3
SI7748DP-T1-GE3	SIR426DP-T1-GE3
SI7758DP-T1-GE3	SIR436DP-T1-GE3
SI7772DP-T1-GE3	SIR438DP-T1-GE3
SI7774DP-T1-GE3	SIR440DP-T1-GE3
SI7784DP-T1-GE3	SIR460DP-T1-GE3
SI7788DP-T1-GE3	SIR462DP-T1-GE3
SI7790DP-T1-GE3	SIR464DP-T1-GE3
SI7792DP-T1-GE3	SIR466DP-T1-GE3
SI7794DP-T1-GE3	SIR468DP-T1-GE3
SI7848BDP-T1-E3	SIR470DP-T1-GE3

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SIR472DP-T1-GE3	SIS402DN-T1-GE3
SIR474DP-T1-GE3	SIS410DN-T1-GE3
SIR476DP-T1-GE3	SIS414DN-T1-GE3
SIR482DP-T1-GE3	SIS415DNT-T1-GE3
SIR484DP-T1-GE3	SIS424DN-T1-GE3
SIR492DP-T1-GE3	SIS426DN-T1-GE3
SIR494DP-T1-GE3	SIS430DN-T1-GE3
SIR496DP-T1-GE3	SIS434DN-T1-GE3
SIR774DP-T1-GE3	SIS435DNT-T1-GE3
SIR788DP-T1-GE3	SIS443DN-T1-GE3
SIR798DP-T1-GE3	SIS444DN-T1-GE3
SIR800DP-T1-GE3	SIS444DN-T1-GE3-S
SIR802DP-T1-GE3	SIS448DN-T1-GE3
SIR808DP-T1-GE3	SIS452DN-T1-GE3
SIR808DP-T1-GE3-S	SIS454DN-T1-GE3
SIR812DP-T1-GE3	SIS456DN-T1-GE3
SIR818DP-T1-GE3	SIS472DN-T1-GE3
SIR820DP-T1-GE3	SIS476DN-T1-GE3
SIR820DP-T1-GE3-S	SIS496EDNT-T1-GE3
SIR836DP-T1-GE3	SIS612EDNT-T1-GE3
SIR840DP-T1-GE3	SIS778DN-T1-GE3
SIR840DP-T1-GE3-G	SISA04DN-T1-GE3
SIR850DP-T1-GE3	SISA10DN-T1-GE3
SIR850DP-T1-GE3-S	SISA12ADN-T1-GE3
SIR862DP-T1-GE3	SISA14DN-T1-GE3
SIR862DP-T1-GE3-S	SISA18ADN-T1-GE3
SIR864DP-T1-GE3	SISA66DN-T1-GE3
SIR866DP-T1-GE3	SISS23DN-T1-GE3
SIR874DP-T1-GE3	SISS27DN-T1-GE3
SIR890DP-T1-GE3	SIZ300DT-T1-GE3
SIR892DP-T1-GE3	SIZ300DT-T1-GE3-S
SIR892DP-T1-GE3-S	SIZ340DT-T1-GE3
SIRA00DP-T1-GE3	SIZ340DT-T1-GE3
SIRA02DP-T1-GE3	SIZ710DT-T1-GE3
SIRA04DP-T1-GE3	SIZ728DT-T1-GE3
SIRA06DP-T1-GE3	SIZ730DT-T1-GE3
SIRA10DP-T1-GE3	SIZ790DT-T1-GE3
SIRA10DP-T1-GE3-G	SIZ910DT-T1-GE3
SIRA12DP-T1-GE3	SIZ914DT-T1-GE3
SIRA12DP-T1-GE3-G	SIZ914DT-T1-GE3
SIRA14DP-T1-GE3	SIZ916DT-T1-GE3
SIRA14DP-T1-GE3-G	SIZ916DT-T1-GE3
SIRA18DP-T1-GE3	SIZ920DT-T1-GE3
SIRA18DP-T1-GE3-G	SIZ920JT-T1-GE3
SIRA34DP-T1-GE3	V30310-T1-E3
SIRA36DP-T1-GE3	V30329-T1-E3
SIRA66DP-T1-GE3	V30329-T1-GE3
SIS322DNT-T1-GE3	V30398-T1-GE3
SIS330DN-T1-GE3	V30408-T1-GE3
SIS332DN-T1-GE3	V30413-T1-GE3
SIS334DN-T1-GE3	V30421-T1-GE3

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SI4056DY-T1-GE3	SI7390DP-T1-GE3
SI4108DY-T1-GE3	SI7454DDP-T1-GE3
SI4110DY-T1-GE3	SI7456CDP-T1-GE3
SI4190ADY-T1-GE3	SI7456DDP-T1-GE3
SI4190DY-T1-GE3	SI7463ADP-T1-GE3
SI4390DY-T1-E3	SI7613DN-T1-GE3
SI4390DY-T1-GE3	SI7615DN-T1-GE3
SI4404DY-T1-E3	SI7617DN-T1-GE3
SI4404DY-T1-GE3	SI7633DP-T1-GE3
SI4406DY-T1-E3	SI7635DP-T1-GE3
SI4406DY-T1-GE3	SI7858ADP-T1-E3
SI4408DY-T1-E3	SI7858ADP-T1-GE3
SI4425DDY-T1-GE3	SI7860DP-T1-E3
SI4425DDY-T1-GE3-S	SI7860DP-T1-GE3
SI4438DY-T1-E3	SI7862ADP-T1-E3
SI4442DY-T1-E3	SI7882DP-T1-E3
SI4442DY-T1-GE3	SI7882DP-T1-GE3
SI4459ADY-T1-GE3	SIJ478DP-T1-GE3
SI4477DY-T1-GE3	SIJ482DP-T1-GE3
SI4660DY-T1-GE3	SIR432DP-T1-GE3
SI4838DY-T1-E3	SIR640ADP-T1-GE3
SI4838DY-T1-GE3	SIR642DP-T1-GE3
SI4858DY-T1-E3	SIR662DP-T1-GE3
SI4860DY-T1-E3	SIR804DP-T1-GE3
SI4862DY-T1-E3	SIR826ADP-T1-GE3
SI4864DY-T1-E3	SIR826DP-T1-GE3
SI4864DY-T1-GE3	SIR838DP-T1-GE3
SI4866DY-T1-E3	SIR846ADP-T1-GE3
SI4866DY-T1-GE3	SIR846DP-T1-GE3
SI4876DY-T1-E3	SIR870ADP-T1-GE3
SI4888DY-T1-E3	SIR870DP-T1-GE3
SI4892DY-T1-E3	SIR872ADP-T1-GE3
SI4944DY-T1-E3	SIR872DP-T1-GE3
SI5411EDU-T1-GE3	SIR876ADP-T1-GE3
SI5415AEDU-T1-GE3	SIR876DP-T1-GE3
SI5415EDU-T1-GE3	SIR878ADP-T1-GE3
SI7107DN-T1-E3	SIR878DP-T1-GE3
SI7107DN-T1-GE3	SIR880ADP-T1-GE3
SI7120DN-T1-E3	SIR880DP-T1-GE3
SI7120DN-T1-GE3	SIR882ADP-T1-GE3
SI7123DN-T1-GE3	SIR882DP-T1-GE3
SI7129DN-T1-GE3	SIS407DN-T1-GE3
SI7129DN-T1-GE3-S	SIS427EDN-T1-GE3
SI7135DP-T1-GE3	SIS468DN-T1-GE3
SI7136DP-T1-E3	SIS488DN-T1-GE3
SI7139DP-T1-GE3	SIS862DN-T1-GE3
SI7143DP-T1-GE3	SIS890DN-T1-GE3
SI7149DP-T1-GE3	SIS892ADN-T1-GE3
SI7164DP-T1-GE3	SIS892DN-T1-GE3
SI7174DP-T1-GE3	SISA12JN-T1-GE3
SI7178DP-T1-GE3	SISA18JN-T1-GE3
SI7252DP-T1-GE3	V30403-T1-GE3
SI7366DP-T1-E3	V30412-T1-GE3
SI7366DP-T1-GE3	V30419-T1-GE3
SI7390DP-T1-E3	

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Qualification Results for Flip Chip Millenium Gold-Nickel Wafer Plating

The following part numbers were used to generate the following test results

- SIR158DP-T1-GE3
- SI7145DP-T1-GE3
- SI4160DY-T1-GE3

Qualification test	Conditions	# of Lots, # of samples per lot	Time Scale Hours/Cycles	Results: samples tested/# of failures	Comments
Solder Reflow Preconditioning	24 hr 125°C Bake, 168 hr 85/85, 3 cyc @ 260C max				Prior to Test 3 & 5
1. HTGB	Ta = 150°C Vgs = 100% rating of Vgs	3 Lots, 77 samples per lot	168 Hours 500 Hours 1000 Hours	231/0	
2. HTRB	Ta = 150°C Vds = 100% rating of Vds	3 Lots, 77 samples per lot	168 Hours 500 Hours 1000 Hours	231/0	
3. Temperature Cycling	-65°C to +150°C	3 Lots, 77 samples per lot	250 Cycles 500 Cycles 1000 Cycles	231/0	
4. Pressure Pot	+121°C, 15 PSIG	3 Lots, 77 samples per lot	96 Hours	231/0	
5. HAST	+130°C, 85%RH Vgs = 100% rating	3 Lots, 77 samples per lot	100 Hours	231/0	
6. Bond Integrity	150C Bake	5 sample	0 Hours 250 Hours 500 Hours	40 wires 40 wires 40 wires	Visual Inspection

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