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**FINAL PRODUCT/PROCESS CHANGE NOTIFICATION #16522**Generic Copy

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Issue Date: 24-Sep-2010

**TITLE:** Final Notification for Transfer of the Bipolar Power Epi Base, Bipolar Power Base Technologies, TVS (Transient Voltage Suppressor) Arrays and Ultrafast Rectifier from ON Semiconductor ZR Fab in Phoenix (USA) to ON Semiconductor ISMF Fab in Seremban (Malaysia)

**PROPOSED FIRST SHIP DATE:** 24-Dec-2010

**AFFECTED CHANGE CATEGORY(S):** ON Semiconductor Fab Site

**FOR ANY QUESTIONS CONCERNING THIS NOTIFICATION:**

Contact your local ON Semiconductor Sales Office or following Contact Product Engineers:

**FPCN Contact person by Affected Technology:**

<b>Bipolar Power Epi Base</b>	Farrah Awang	<a href="mailto:farrah.omar@onsemi.com">farrah.omar@onsemi.com</a>
<b>Bipolar Power Base Technology</b>	Farrah Awang	<a href="mailto:farrah.omar@onsemi.com">farrah.omar@onsemi.com</a>
<b>Ultrafast Rectifier Technology</b>	Raja Roziah	<a href="mailto:Raja.Raziah.Rahmat@onsemi.com">Raja.Raziah.Rahmat@onsemi.com</a>
<b>TVS Array</b>	Huey Shan Wong	<a href="mailto:hueyshwan.wong@onsemi.com">hueyshwan.wong@onsemi.com</a>

**SAMPLES:** Contact your local ON Semiconductor Sales Office or contacts listed above.

**ADDITIONAL RELIABILITY DATA:** Available

Contact your local ON Semiconductor Sales Office or Laura Rivers <[laura.rivers@onsemi.com](mailto:laura.rivers@onsemi.com)>

**NOTIFICATION TYPE:**

Final Product/Process Change Notification (FPCN)

Final change notification sent to customers. FPCNs are issued at least 90 days prior to implementation of the change.

ON Semiconductor will consider this change approved unless specific conditions of acceptance are provided in writing within 30 days of receipt of this notice. To do so, contact <[quality@onsemi.com](mailto:quality@onsemi.com)>.

**DESCRIPTION AND PURPOSE:**

ON Semiconductor is notifying customers of its plan to transfer Bipolar Power Epi Base and Bipolar Power Base Technologies and Ultrafast Rectifier from ON Semiconductor ZR Fab in Phoenix (USA) to ON Semiconductor ISMF Fab in Seremban (Malaysia).

The ISMF facility is an ON Semiconductor owned wafer fab that has been producing products for ON Semiconductor since 1998. Several existing technologies within ON Semiconductor's product families are currently sourced from ISMF, including Zener Diodes, Small Signal Diodes, Small Signal Bipolar Transistor, and USB array filter products. ON Semiconductor Seremban Wafer FAB is an internal factory that is TS16949, ISO-9001 and ISO-14000 certified.



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Qualification tests are designed to show that the reliability of transferred devices will continue to meet or exceed ON Semiconductor standards.

Products listed in this final PCN should be transferred to ON Semiconductor ISMF Fab in Seremban (Malaysia) starting 13th December 2010. After 13th December 2010, customer may receive products from either facility.

**QUALIFICATION PLAN:**

Reliability testing was performed on qualification vehicles chosen based on die size, voltage rating, and run rates.

**RELIABILITY DATA SUMMARY FOR BIPOLAR POWER EPI BASE:**

Package: Dpak  
Qual Vehicles:  
MJD42CG

Test:	Conditions:	Interval:	Results
HTRB	TA=150C,80% Rated Voltage	1008 hrs	0/80
Autoclave+PC	Ta=121C RH=100% ~15 psig	96 hrs	0/80
H3TRB+PC	Ta=85C RH=85%	1008 hrs	0/80
	bias=80% rated V or100V Max		
IOL+PC	Ta=25C, Delta TJ = 100 C, Ton/off = 2 min.	15000 cyc	0/80
TC+PC	Ta= -65 C to 150 C	1000 cyc	0/80
RSH	Ta=260C, 10 sec dwell		0/30
DPA	post TC		0/2
DPA	post H3TRB		0/2

Package: Dpak  
MJD122G

Test:	Conditions:	Interval:	Results
HTRB	TA=150C,80% Rated Voltage	1008 hrs	0/160
Autoclave+PC	Ta=121C RH=100% ~15 psig	96 hrs	0/160
H3TRB+PC	Ta=85C RH=85%	1008 hrs	0/160
	bias=80% rated V or100V Max		
IOL+PC	Ta=25C, Delta TJ = 100 C, Ton/off = 2 min.	15000 cyc	0/160
TC+PC	Ta= -65 C to 150 C	1000 cyc	0/160
RSH	Ta=260C, 10 sec dwell		0/30
DPA	post TC		0/4
DPA	post H3TRB		0/4



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**RELIABILITY DATA SUMMARY FOR BIPOLAR POWER POWER BASE:**

Qual Vehicles:

MJW21194G  
Package: TO247

Test:	Conditions:	Interval:	Results
HTRB	Ta=150C,80% Rated Voltage	504 hrs	0/160
Autoclave+PC	Ta=121C RH=100% ~15 psig	96 hrs	0/160
H3TRB+PC	Ta=85C RH=85% bias=80% rated V or100V Max	504 hrs	0/160
IOL+PC	Ta=25C, Delta TJ = 100 C, Ton/off = 5 min.	3000 cyc	0/160
TC+PC	Ta= -65 C to 150 C	1000 cyc	0/160
RSH	Ta=260C, 10 sec dwell		0/30
DPA	post TC		0/4

MJ21193G  
Package: TO-3

Test:	Conditions:	Interval:	Results
HTRB	TA=150C,80% Rated Voltage	1008 hrs	0/80
IOL+PC	Ta=25C, Delta TJ = 100 C, Ton/off = 2 min.	5000 cyc	0/77
TC+PC	Ta= -65 C to 150 C	1000 cyc	0/77

**RELIABILITY DATA SUMMARY FOR ULTRAFAST RECTIFIER:**

Package: 3A Axial  
Qual Vehicle: MUR4100E Rectifier

Test	Condition	Interval	Results
HTRB	Tj=150C,80% Rated Voltage	168 hrs	0/231
Autoclave	Ta=121C RH=100% ~15 psig	96 hrs	0/231
H3TRB	Ta=85C RH=85% bias=80% rated V or100V Max	1008 hrs	0/231
IOL	Ta=25C, Delta TJ = 100 C, Ton/off = 2 min.	15000 cyc	0/231
TC	Ta= -65 C to 150 C	1000 cyc	0/231
RSH	Ta=260C, 10 sec dwell		0/30

Package: TO220  
MUR8100E Rectifier

Test	Condition	Interval	Results
HTRB	Tj=150C, 80% Rated Voltage	168 hrs	0/80



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**RELIABILITY DATA SUMMARY FOR TVS Array:**

Package: SO-8

Qual Vehicles:

NUP4201DR2G

Test:

	Conditions:	Interval:	Results
HTRB	Ta=150C,80% Rated Voltage	504 hrs	0/231
Autoclave+PC	Ta=121C RH=100% ~15 psig	96 hrs	0/231
HAST+PC	Ta=130C RH=85%	96 hrs	0/231
	bias=80% rated V or100V Max		
TC+PC	Ta= -65 C to 150 C	1000 cyc	0/231
RSH	Ta=260C, 10 sec dwell		0/30
DPA	post TC		0/6
DPA	post HAST		0/6

**ELECTRICAL CHARACTERISTIC SUMMARY:**

Available upon request

**CHANGED PART IDENTIFICATION:**

Affected products from ON Semiconductor with date code 1051 representing WW51, 2010 and greater may be sourced from either the ISMF Fab in Seremban (Malaysia) or the ZR Fab in Phoenix (USA).



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**List of affected General Parts**

<b>Ultrafast Rectifier:</b>		
MURS480ET3G	MUR180EG	MUR880EG
MUR480EG	MUR180ERLG	MUR8100EG
MUR480ERLG	MUR1100EG	MUR8100EH
MUR480ESG	MUR1100ERLG	MURC8100EWP
MUR4100EG	MUR2100EG	SUR84100ERLG
MUR4100ERLG	MUR2100ERLG	

<b>Bipolar Power Epi Base Technology:</b>		
2N3055AG	BD810G	MJF31CG
2N3055G	BDV64BG	MJF32CG
2N3442G	BDV65BG	MJF6388G
2N3771G	BDW42G	MJH6284G
2N3772G	BDW46G	MJH6287G
2N3773G	BDW47G	NJV2N6045G
2N4918G	BDX34BG	NJV2N6107G
2N4919G	BDX34CG	NJV2N6109G
2N4920G	BDX54BG	NJVMJ11028G
2N4921G	BDX54CG	NJVMJB42CT4G
2N4922G	MJ11012G	NJVMJD112T4G
2N4923G	MJ11015G	NJVMJD117T4G
2N5190G	MJ11016G	NJVMJD122T4G
2N5191G	MJ11028G	NJVMJD128T4G
2N5192G	MJ11030G	NJVMJD148T4G
2N5194G	MJ11032G	NJVMJD2955T4G
2N5195G	MJ11033G	NJVMJD31CT4G
2N5302G	MJ14002G	NJVMJD32CT4G
2N5684G	MJ15001G	NJVMJD41CT4G
2N5686G	MJ15015G	NJVMJD42CRLG
2N5883G	MJ15016G	NJVMJD42CT4G
2N5884G	MJ2955G	NJVTIP122G
2N5885G	MJ4502G	NJVTIP31CG
2N5886G	MJ802G	NJVTIP32BG
2N6034G	MJB41CG	NJVTIP32CG
2N6035G	MJB41CT4G	NJVTIP36CG
2N6036G	MJB42CT4G	NJVTIP41CG
2N6038G	MJC11015WP	NJVTIP42CG
2N6039G	MJC11016WP	SJD112T4G
2N6040G	MJD112-1G	SJD127T4
2N6042G	MJD112G	SJD127T4G
2N6043G	MJD112RLG	SJD32CT4
2N6045G	MJD112T4G	SJD32CT4G
2N6052G	MJD117-1G	TIP100G
2N6107G	MJD117G	TIP101G
2N6109G	MJD117RLG	TIP102G
2N6111G	MJD117T4G	TIP106G
2N6284G	MJD122G	TIP107G
2N6286G	MJD122T4G	TIP110G



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<b>Bipolar Power Epi Base Technology:</b>		
2N6287G	MJD127G	TIP111G
2N6288G	MJD127T4	TIP112G
2N6292G	MJD127T4G	TIP115G
2N6487G	MJD128T4G	TIP116G
2N6488G	MJD148T4	TIP117G
2N6490G	MJD148T4G	TIP120G
2N6491G	MJD2955-1G	TIP121G
2N6667G	MJD2955G	TIP122G
BD179G	MJD2955T4G	TIP125G
BD180G	MJD3055G	TIP126G
BD234G	MJD3055T4G	TIP127G
BD237G	MJD31C1G	TIP140G
BD241CG	MJD31CG	TIP141G
BD242BG	MJD31CRLG	TIP142G
BD242CG	MJD31CT4G	TIP147G
BD243CG	MJD31T4G	TIP2955G
BD244BG	MJD32CG	TIP29AG
BD244CG	MJD32CRLG	TIP29BG
BD435G	MJD32CT4	TIP29CG
BD436TG	MJD32CT4G	TIP3055G
BD437G	MJD32RLG	TIP30CG
BD437TG	MJD32T4G	TIP31AG
BD438G	MJD41CRLG	TIP31BG
BD439G	MJD41CT4G	TIP31CG
BD440G	MJD42C1G	TIP31G
BD441G	MJD42CG	TIP32AG
BD442G	MJD42CRLG	TIP32BG
BD675AG	MJD42CT4G	TIP32CG
BD675G	MJD6039T4G	TIP32G
BD676AG	MJE2955TG	TIP33CG
BD676G	MJE3055TG	TIP35AG
BD677AG	MJE371G	TIP35CG
BD677G	MJE4353G	TIP36AG
BD678AG	MJE700G	TIP36CG
BD678G	MJE702G	TIP41AG
BD679AG	MJE703G	TIP41BG
BD679G	MJE800G	TIP41CG
BD680AG	MJE802G	TIP42AG
BD680G	MJE803G	TIP42BG
BD681G	MJF122G	TIP42CG
BD682G	MJF127G	TIP42G
BD682TG	MJF2955G	
BD809G	MJF3055G	



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<b>Bipolar Power Base Technology:</b>		
MJ11021G	MJC11021WP	MJL21195G
MJ11022G	MJC11022WP	MJL21196G
MJ15003G	MJC15003WP	MJL3281AG
MJ15004G	MJC15004WP	MJW21193G
MJ15022G	MJE4343G	MJW21194G
MJ15023G	MJH11017G	MJW21195G
MJ15024G	MJH11019G	MJW21196G
MJ15025G	MJH11020G	MJW3281AG
MJ21193G	MJH11021G	NJL3281DG
MJ21194G	MJH11022G	NJW21193G
MJ21195G	MJL21193G	NJW21194G
MJ21196G	MJL21194G	NJW3281G

<b>TVS Array:</b>		
LC03-6R2G	SL05T1G	SRDA05-4R2G
NUP4106DR2G	SL15T1G	SL12T1G
NUP4201DR2G	SL24T1G	SRDA3.3-4DR2G