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**FINAL PRODUCT/PROCESS CHANGE NOTIFICATION**

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**01 Oct 2007**

**SUBJECT: ON Semiconductor Final Product/Process Change Notification #16054**

**TITLE: Qualification of ON Semiconductor Seremban Wafer Fab as Secondary Source for Zener Products**

**PROPOSED FIRST SHIP DATE: 01 Jan 2008**

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

**AFFECTED PRODUCT DIVISION(S): Discrete Products**

**FOR ANY QUESTIONS CONCERNING THIS NOTIFICATION:**

Contact your local ON Semiconductor Sales Office or Jennifer Johnson <[jennifer.johnson@onsemi.com](mailto:jennifer.johnson@onsemi.com)>

**SAMPLES:**

Contact your local ON Semiconductor Sales Office or Rob Jones <[rob.jones@onsemi.com](mailto:rob.jones@onsemi.com)>

**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 your local ON Semiconductor Sales Office.

**DESCRIPTION AND PURPOSE:**

This Final PCN constitutes an addendum to the affected products listed in Final PCN 13717, issued 26-Oct-2004, announcing ON Semiconductor has completed the qualification of Seremban Wafer FAB (aka ISMF) as a secondary source for Zener technology devices. This added capacity will allow ON Semiconductor to better service our customers. ON Semiconductor Seremban Wafer FAB is an internal factory that is ISO-TS16949, ISO-9001 and ISO-14000 certified. Zener technology products, from ON Semiconductor Seremban Wafer FAB, will have equal quality and performance compared to current products. Electrical performance, datasheets and package dimensions will not change.



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**RELIABILITY DATA SUMMARY:**

**Reliability Test Results:**

SOT23: MMBZ5270BLT1 - 91V  
 SMA: 1SMA5940BT3  
 SMC: 1.5SMC91AT3 - 91V

Control and Qual.

Test:	Conditions:	Interval:	Sample Size: (Units x Lots)	Failures:
HTRB	TA=150C, 80% Rated Voltage	1008 hrs	77 x 3 (231)	0
Precondition	MSL1, IR at 235 C/260 C,	96 hrs	308 x 3	
Autoclave	T=121C/100% RH/15 psig	96 hrs	77 x 3 (231)	0
H3TRB-PC	T=85C/85% RH/80% Rated Voltage 100V Max	1008 hrs	77 x 3 (231)	0
IOL-PC	T=25C, Delta TJ = 100 C, Ton/off = 2 min.	15000 cyc	77 x 3 (231)	0
TC-PC	T= -65 C to 150 C	1000 cyc	77 x 3 (231)	0
DPA	Per AECQ101, after TC and H3TRB		4 x 1 (4)	0/4
RSH	Resistance to Solder Heat - 260 C		10 x 3 (30)	0/30
ESD	Human Body Model Machine Model IEC-61000-4-2		6 x 4 (24) 6 x 4 (24) 6 x 4 (24)	Class 3 >16kV >400V Level 4

**ELECTRICAL CHARACTERISTIC SUMMARY:**

Characterization Plan for All Devices:  
 (All data taken at 25C)

MMBZ5270BLT1		IR (V)	VZ (V)	ZZ (Ohm)	ZZ (Ohm)	VF (V)
Control	Parameter:	VR=69V	IT=1.4mA	IT=1.4mA	IZ=250uA	IF=10mA
	Condition:					
	Max Limit:	1.00E-07	95.550	400.000	2300.000	0.900
	Min Limit:		65.450			
	Average:	3.79E-10	90.42	142.53	239.22	0.80
	Std Dev:	2.34E-10	0.69	33.96	86.95	0.00
Qual 1	Max:	7.68E-10	89.72	346.30	669.60	0.80
	Min:	4.472E-10	86.31	80.64	117.60	0.80
	Average:	6.2112E-10	88.53	143.73	396.88	0.80
	Std Dev:	8.39294E-11	0.94	54.01	160.39	0.00
Qual 2	Max:	8.16E-10	94.15	339.50	643.60	0.80
	Min:	1.04E-10	90.22	78.64	118.60	0.80
	Average:	4.10E-10	92.27	155.79	337.98	0.80
	Std Dev:	1.78E-10	0.94	73.35	164.11	0.00
Qual 3	Max:	7.10E-10	89.73	213.00	213.00	0.80
	Min:	5.19E-10	86.69	147.20	116.70	0.80
	Average:	6.24E-10	88.12	150.94	338.81	0.80
	Std Dev:	5.11E-11	0.77	25.43	161.15	0.00



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1SMA5940BT3

Control	Parameter:	IR (V)	VZ (V)	ZZ (Ohm)	ZZ (Ohm)	VF (V)
	Condition:	VR=32.7V	IT=8.7mA	IT=8.7mA	IZ=250uA	IF=200mA
	Max Limit:	5.00E-07	45.20	53.00	950.00	1.50
	Min Limit:		40.80			
	Max:	9.72E-10	43.46	37.40	588.00	0.87
	Min:	5.30E-11	41.47	15.93	91.00	0.87
	Average:	5.26E-10	42.61	24.65	300.48	0.87
	Std Dev:	3.91E-10	0.61	5.01	161.78	0.00
Qual 1	Max:	3.79E-10	43.44	29.28	930.80	0.87
	Min:	5.60E-11	42.64	4.55	95.44	0.87
	Average:	1.44E-10	43.11	13.30	293.27	0.87
	Std Dev:	8.73E-11	0.20	5.36	218.89	0.00
Qual 2	Max:	3.71E-10	44.87	29.72	632.40	0.86
	Min:	5.80E-11	43.31	11.39	128.20	0.85
	Average:	1.66E-10	44.12	18.70	352.76	0.85
	Std Dev:	8.37E-11	0.40	4.71	122.28	0.00
Qual 3	Max:	4.39E-10	43.50	29.05	904.80	0.87
	Min:	2.10E-11	42.30	9.91	95.80	0.86
	Average:	1.54E-10	43.08	16.17	359.67	0.86
	Std Dev:	1.27E-10	0.31	3.95	237.09	0.00

1.5SMC91AT3

Control	Symbol	IR (A)	VZ (V)	VC (10x1000) (V)
	Condition:	VR=77.8V	IT=1mA	IPP=12A
	Max Limit:	5.00E-06	95.500	125
	Min Limit:		86.500	
	Max:	1.40E-08	92.23	101.90
	Min:	1.03E-08	88.45	97.30
	Average:	1.21E-08	90.59	99.72
	Std Dev:	1.00E-09	1.16	1.44
Qual 1	Max:	3.47E-08	92.80	102.90
	Min:	6.99E-09	89.82	99.80
	Average:	1.05E-08	91.70	101.21
	Std Dev:	5.29E-09	0.83	1.09
Qual 2	Max:	2.54E-08	90.29	100.00
	Min:	6.27E-09	88.09	96.50
	Average:	9.23E-09	88.97	98.26
	Std Dev:	3.99E-09	0.53	1.18
Qual 3	Max:	1.23E-08	92.70	102.10
	Min:	5.57E-09	90.27	99.90
	Average:	7.24E-09	91.88	100.96
	Std Dev:	1.81E-09	0.61	0.69

**CHANGED PART IDENTIFICATION:**

Products with date code 0752 (or 752 or C) [WW52, 2007] and forward may contain silicon from ON SEMI Seremban wafer fab.



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**AFFECTED DEVICE LIST**

1N5347BG  
1N5347BRL  
1N5347BRLG  
1N5925BRL  
1N5925BRLG  
1SMA5925BT3  
1SMA5925BT3G  
1SMB5925BT3  
1SMB5925BT3G  
BZX84B16LT1G  
BZX84B18LT1  
BZX84B18LT1G  
BZX84B18LT3  
BZX84C10ET3  
BZX84C10LT1  
BZX84C10LT1G  
BZX84C10LT3  
BZX84C11ET1G  
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BZX84C24ET1  
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MM5Z36VT1



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MMSZ5258BT1G  
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SL05T1  
SL05T1G  
SL15T1  
SL15T1G  
SL24T1  
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