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**PRODUCT/PROCESS CHANGE NOTIFICATION**  
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**06-AUG-2001**

**SUBJECT: ON Semiconductor Product/Process Change Notification #11621**

**TITLE: Qualify Additional Subcontractor Site Of SMA And SMB Rectifiers**

**EFFECTIVE DATE: 05-Oct-2001**

**AFFECTED CHANGE CATEGORY: Subcontractor Assembly/Fab/Test Site**

**AFFECTED PRODUCT DIVISION: Bipolar Discretes Products**

**ADDITIONAL RELIABILITY DATA:** Available

Contact your local ON Semiconductor Sales Office or Carolyn Antillon <RM8160@onsemi.com >

**SAMPLES:** Contact your local ON Semiconductor Sales Office or Mike Schager <RMF150@onsemi.com>

**FOR ANY QUESTIONS CONCERNING THIS NOTIFICATION:**

Contact Sales Office or Chris Holly <RV1140@onsemi.com>

**DISCLAIMER:**

Initial Product/Process Change Notification (IPCEN) - First Notification distributed to customers. Distributed at least 120 days from the effective date of the change.

Final Product/Process Change Notification (FPCEN) - Final Notification completing the notification process. Distributed at least 60 days from the effective date 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:**

ON Semiconductor currently produces some SMA and SMB General Purpose Rectifiers and Schottky Rectifiers at a subcontractor. In order to provide additional capacity, ON Semiconductor is qualifying our subcontractor's other facility in Seefull, China, where a similar production line already exists. In order to expedite this additional capacity to service our customers, we will start shipping product from the new site after 60 days from the PCN release date.

**QUALIFICATION PLAN:**

(Per AEC-Q101 guidelines):

<b>Test</b>	<b>Conditions</b>
HTRB	Vr=800V, Ta=150degC, 1000 hrs.
Temp Cycle	Air to Air, -55 to +150C, 1000 cycles
Autoclave	Ta=121C, RH= 100%, PSIg=15, 96 hrs.
H3TRB	Vr=800V, Ta=85C, RH= 85%, 1000 hrs.
IOL	Ta=25C, If = 0.8A, 2 minutes on/off, 15000 cycles
D.P.A.	Post H3TRB and Temp Cycle
Physical Dimension	Per Case Outline Drawing
Res. To Solder Heat	270 C, Td=10s



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**RELIABILITY DATA SUMMARY:**

Reliability Test Results:

Device: MRA4007T3 (Highest voltage surface mount device)

Test Desc.	Interval	Control	Test Lot A	Test Lot B	Test Lot C
HTRB	1000 hrs	0/80	0/80	0/80	0/80
Temp Cycle	1000 cyc	0/80	0/79	0/80	0/80
Autoclave	96 hrs	0/80	0/80	0/80	0/80
H3TRB	1000 hrs	0/80	0/80	0/80	0/80
IOL	15000 cyc	0/80	0/80	0/80	0/80
D. P. A.	-	Pass	Pass	Pass	Pass
Physical Dimension	-	Pass	Pass	Pass	Pass
Res. To Solder Heat	-	Pass	Pass	Pass	Pass

**ELECTRICAL CHARACTERISTIC SUMMARY:**

Device - MRA4007T3

Test Temperature: 25 degC

Forward Voltage (volts) @ If=0.5A

	CONTROL (TAIWAN)	TEST GROUP (SEEFULL)		
		Lot 1	Lot 2	Lot3
MAX LIMIT	0.950	0.950	0.950	0.950
MIN	0.892	0.892	0.892	0.892
MAX	0.907	0.912	0.916	0.919
AVERAGE	0.899	0.896	0.899	0.898
STD DEV	0.005	0.006	0.007	0.008
CPK	3.4	3.0	2.4	2.2

Forward Voltage (volts) @ If=1.0A

	CONTROL (TAIWAN)	TEST GROUP (SEEFULL)		
		Lot 1	Lot 2	Lot3
MAX LIMIT	1.100	1.100	1.100	1.100
MIN	0.946	0.946	0.946	0.941
MAX	0.970	0.980	0.980	0.985
AVERAGE	0.957	0.953	0.957	0.956
STD DEV	0.008	0.010	0.010	0.012
CPK	6.0	4.9	4.8	4.0

Reverse Leakage (nanoamps) @ Vr=400V

	CONTROL (TAIWAN)	TEST GROUP (SEEFULL)		
		Lot 1	Lot 2	Lot3
MAX LIMIT	10000	10000	10000	10000
MIN	052	71	62	88
MAX	231	267	162	399
AVERAGE	107	156	102	123
STD DEV	54	68	23	56
CPK	61.1	48.3	143.5	58.8

Reverse Leakage (nanoamps) @ Vr=1000V

	CONTROL (TAIWAN)	TEST GROUP (SEEFULL)		
		Lot 1	Lot 2	Lot3
MAX LIMIT	10000	10000	10000	10000
MIN	145	188	148	246
MAX	541	632	541	495
AVERAGE	290	460	284	338
STD DEV	125	160	79	65
CPK	25.9	19.9	41.0	49.6



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**CHANGED PART IDENTIFICATION:**

Customers may receive effected SMA and SMB product manufactured from either Seefull or Taiwan starting with Date Code 0141 or later. The marking on the Seefull products will include PK.

**AFFECTED DEVICE LIST (WITHOUT SPECIALS)**

**PART**

MBRS120-1T3

MBRS140-1T3

MBRS140LT3

MBRS1540HT3

MRS1504T3