ON Semiconductor

INITIAL PRODUCT/PROCESS CHANGE NOTIFICATION
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03-APR-2001

SUBJECT: Product/Process Change Notification #11248

TITLE: Initial Notice: Additional Die Metalization Qualification for Schottky Rectifiers

EFFECTIVE DATE: 01-Aug-2001

AFFECTED CHANGE CATEGORY: Wafer Process

AFFECTED PRODUCT DIVISION: Bipolar Discrete Products

ADDITIONAL RELIABILITY DATA: Available with Final Notification
Contact your local ON Semiconductor Sales Office.
or Ken Crozier <RJT440@onsemi.com>

SAMPLES: Contact Below
Contact your local ON Semiconductor Sales Office.
or Bob Cook <R13943@onsemi.com>

FOR ANY QUESTIONS CONCERNING THIS NOTIFICATION:
Contact Sales Office or Bob Cook <R13943@onsemi.com>

DESCRIPTION AND PURPOSE:
Initial Notification, 120 Days prior to the change will be followed by appropriate Final Process Change Notices with supporting data a minimum of 60 days prior to implementation.

ON Semiconductor has qualified an additional top and back metalization scheme for surface mount and axial leaded Schottky rectifiers. As proven through rigorous testing, the device performance and reliability is not affected. This addition will improve our manufacturing efficiency, allowing ON Semiconductor to meet the increasing demand for our Schottky rectifier product.

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QUALIFICATION PLAN:

Description: Additional solderable die metalization schemes (top and back) for our SMA, SMB, SMC, Powermite, 1A Axial, and 3A Axial Schottky product. This additional metal scheme utilizes silver, Ag, as the top layer (current scheme utilizes gold, Au).

Qualification Plan:

Test	Conditions	Exceptions
H3TRB	Tj=Max rated Tj, RH=85%, 1000 hrs.	
ESD	HBM	
HTRB	Tj=Max rated Tj, 1000 hrs.	
IOL	Ta=25 deg. C, delta Tj =>100 deg. C,	
Temp Cycle	Air to Air, -65 to 150 deg. C 1000 cycles	
Autoclave	Ta=121 deg. C, RH= 100%, PSIg= 15, 96 hrs.	
High Temp Bake	150 dec C, 1000hrs	
Bond Pull Strength	Per spec.	
Resist Solder Heat	Per spec.	
Thermal Resistance	Per Spec.	
Parametric Test	Tri Temp.	

Qualification Vehicle Justification: Top Metal / Barrier Interaction

Family/Package	Qualification Device	Reason Chosen
SMA/B/C	MBRS1100T3 (DR0966GS)	Highest Voltage in Family (100V)
Powermite/Barrier	MBRM140T3 (DR0954G)	Highest Voltage in Family (40V)
1A Surmetic(axial)	MBR1100 (DR0966G)	Highest Voltage in Family (100V)
3A Surmetic(axial)	MBR3100 (DR0968G)	Highest Voltage in Family (100V)

RELIABILITY DATA SUMMARY:
To be issued with the Final PCN.

ELECTRICAL CHARACTERISTIC SUMMARY:
To be issued with the Final PCN.

CHANGED PART IDENTIFICATION
To be issued with the Final PCN.

AFFECTED DEVICE LIST:

1N5817
1N5817RL
1N5818
1N5818RL
1N5819
1N5819RL
1N5820
1N5820RL
1N5821
1N5821RL
1N5822
1N5822RL
80SQ045N
80SQ045NRL
MBR1100
MBR1100RL
MBR130P
MBR130PRL
MBR140PRL
MBR150
MBR150RL
MBR160
MBR160RL
MBR3100
MBR3100RL
MBR340
MBR340P
MBR340PRL
MBR340RL
MBR350
MBR350RL
MBR360
MBR360RL
MBR835
MBR835RL
MBR840
MBR840RL
MBR845
MBR845RL
MBRA120LT3
MBRA130LT3
MBRA140T3
MBRM120LT3
MBRM130LT3
MBRM140T3
MBRS1100T3
MBRS120T3
MBRS130LT3
MBRS130T3
MBRS140T3
MBRS190T3
MBRS230LT3
MBRS240LT3
MBRS320T3
MBRS330T3
MBRS340T3
MBRS360T3