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**FINAL PRODUCT/PROCESS CHANGE NOTIFICATION**  
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**01-DEC-2004**

**SUBJECT: ON Semiconductor Final Product/Process Change Notification #13827**

**TITLE: SOT-723 Assembly/Test Qualification at Leshan**

**EFFECTIVE DATE: 01-Feb-2005**

**AFFECTED CHANGE CATEGORY:** ON Semiconductor Assembly/Test Site

**AFFECTED PRODUCT DIVISION:** Discretes Products

**ADDITIONAL RELIABILITY DATA:** Available

Contact your local ON Semiconductor Sales Office or Laura Rivers [S20636@onsemi.com](mailto:S20636@onsemi.com)

**SAMPLES:** Contact your local ON Semiconductor Sales Office  
or Mark Dewitt <FFN96B@onsemi.com>

**FOR ANY QUESTIONS CONCERNING THIS NOTIFICATION:**

Contact Sales Office or Mark Dewitt <FFN96B@onsemi.com>

**NOTIFICATION TYPE:**

Final Product/Process Change Notification (FPCN)

Final change notification sent to customers. FPCNs are issued at least 60 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 is the Final PCN to Initial PCN 13699 announcing ON Semiconductor is pleased to qualify additional Assembly/Test capacity of SOT-723 manufacturing in our factory located in Leshan China. This notification affects NPN/PNP General Purpose Transistors and Digital Transistors. Our Leshan factory is both QS9000 certified and AEC qualified and has been producing all the technologies in SOT-23 for customers worldwide for many years. This expansion will provide additional flexibility and capacity needed to improve responsiveness and on time delivery to our valuable customers.

There will be no change to the form, fit, and function of the devices. Device parameters will continue to meet all Data Book specifications, and reliability will continue to meet or exceed ON Semiconductors standards.



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**RELIABILITY DATA SUMMARY:**

Reliability Test Results: Package = SOT723,  
Devices =MMBT2907AM3T5G, BC846BM3T5G

Test	Conditions	Interval	Sample Size (Lots x Units)	Rej
A/clave+PC	Ta=121C, P=15 psig, RH = 100% After PC	96 hrs	5x80	0
H3TRB+PC	Ta=85C, P=15 psig, RH = 85%, After PC V =80% rated V	1008 hrs	5x80	0
HTB	Ta = 150 deg C	1008 hrs	5x80	0
HTRB	Ta=150C, V = 80% rated V	1008 hrs	5x80	0
Temp Cycle+PC	Ta = -65 to +150 deg C After PC	1000 cyc	5x80	0
IOL+PC	Ta=25C, Ton/off = 2 min, delta Tj = 100degC max	15000 cyc	5x 80	0
MSL1(PC)	24 hr bake @125deg C + 168 hr 85/85 + 3 IR @ 260 deg C + 1x Flux immersion + Alcohol + DI rinse + Visual	Readout	5x320	0
RSH	Ta=260C, Tdwell = 10 sec	end point	1x30	0
SD	Ta=245C, Tdwell=10sec		1x15	0
SD	Ta=260C, Tdwell = 10 sec		1 x 15	0

**ELECTRICAL CHARACTERISTIC SUMMARY:**

Electrical characterization has been completed on the designated qualification devices.  
These devices are representative of the entire family and will qualify the process.  
Datasheet specifications and electrical performance of the devices will remain unchanged.  
Characterization summary results:

- 1) ESD performance passes (HBM>3000V, MM>300V)\*
- 2) Passes full tri-temp electrical characterization of DC performance,  
no data sheet changes. No change from previous manufacturing process.

\*CDM is not applicable to packages smaller than 8 lead SOIC

A full characterization report is available upon request.

**CHANGED PART IDENTIFICATION**

Product with a date code of ww46 2004 and higher may be manufactured in Leshan.  
Standard part marking can be used to trace product back to assembly site.



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**AFFECTED DEVICE LIST (WITHOUT SPECIALS):**

**PART**

2SA2029M3T5G  
2SC5658M3T5G  
BC846BM3T5G  
BC856BM3T5G  
DTA114EM3T5G  
DTA114TM3T5G  
DTA114YM3T5G  
DTA115EM3T5G  
DTA123EM3T5G  
DTA123JM3T5G  
DTA124EM3T5G  
DTA124XM3T5G  
DTA143EM3T5G  
DTA143TM3T5G  
DTA143ZM3T5G  
DTA144EM3T5G  
DTA144TM3T5G  
DTA144WM3T5G  
DTC114EM3T5G  
DTC114TM3T5G  
DTC114YM3T5G  
DTC115EM3T5G  
DTC123EM3T5G  
DTC123JM3T5G  
DTC124EM3T5G  
DTC124XM3T5G  
DTC143EM3T5G  
DTC143TM3T5G  
DTC143ZM3T5G  
DTC144EM3T5G  
DTC144TM3T5G  
DTC144WM3T5G