



PRODUCT/PROCESS CHANGE NOTIFICATION

PCN MPA-PWR/06/1901
Notification Date 07/10/2006

SILICON LINE CHANGE FOR BV32 FAMILY PRODUCTS

PWR - PWR BIP/ IGBT/ RF

Table 1. Change Identification

| | |
|---|---|
| Product Identification (Product Family/Commercial Product) | POWER Bipolar Transistors line BV32 |
| Type of change | Waferfab process change |
| Reason for change | Production optimization |
| Description of the change | Silicon line change for bipolar transistor as per the enclosed table. Such sales types, presently produced with the BV32 Planar technology silicon line, will be produced with the BV77 line, same technology, same diffusion , assembly and testing locations. The BV77 line has been designed with the same active area and same process used for the BV32 and optimizing the edge structure. |
| Product Line(s) and/or Part Number(s) | See attached |
| Description of the Qualification Plan | See attached |
| Change Product Identification | Letter "N" on additional info |
| Manufacturing Location(s) | |

Table 2. Change Implementation Schedule

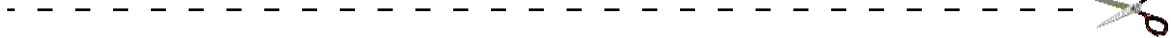
| | |
|--|-------------|
| Forecasted implementation date for change | 01-Oct-2006 |
| Forecasted availability date of samples for customer | 06-Jul-2006 |
| Forecasted date for STMicroelectronics change Qualification Plan results availability | 06-Jul-2006 |
| Estimated date of changed product first shipment | 08-Oct-2006 |

Table 3. Change Responsibility

| | Name | Signature | Date |
|----------------------------|------------------|------------------|-------------|
| Division Product Manager | Claudio Porto | | Jul.06 ,06 |
| Division Q.A. Manager | Giuseppe Falcone | | Jul.06 ,06 |
| Division Marketing Manager | Alfio Lanzafame | | Jul.06 ,06 |

Table 4. List of Attachments

| | |
|----------------------------|--|
| Customer Part numbers list | |
| Qualification Plan results | |



| | | |
|--|------------|-------------------------------------|
| Customer Acknowledgement of Receipt | | PCN MPA-PWR/06/1901 |
| Please sign and return to STMicroelectronics Sales Office | | Notification Date 07/10/2006 |
| <input type="checkbox"/> Qualification Plan Denied <input type="checkbox"/> Qualification Plan Approved <input type="checkbox"/> Change Denied <input type="checkbox"/> Change Approved | Name: | |
| | Title: | |
| | Company: | |
| | Date: | |
| | Signature: | |
| Remark | | |



**Reliability Evaluation Plan and results
on ST13003**

REL-073/06W
April '06

Line..... BV77
Package..... SOT-32

| Test | Conditions | S.S. | Requirement | Results |
|--------------------------------------|--------------------------------------|---------------|--|--|
| H.T.S | TA=150°C | 77 x 1 Lot | Parameter deviation within spec. limits at 1000 hours. | <i>No parameter deviation out of spec. limits at 1000 hours.</i> |
| T.H.B. | TA=85°C - RH=85% Vbias = 100V | 77 x 1 Lot | Parameter deviation within spec. limits at 1000 hours. | <i>No parameter deviation out of spec. limits at 1000 hours.</i> |
| H.T.R.B. | T.A.=150°C ; Vces=560 V | 77 x 1 Lot | Parameter deviation within spec. limits at 1000 hours. | <i>No parameter deviation out of spec. limits at 1000 hours.</i> |
| PRESSURE POT | TA=121°C - PA=2Atm | 77 x 1 Lot | Parameter deviation within spec. limits at 96 hours. | <i>No parameter deviation out of spec. limits at 96 hours.</i> |
| THERMAL CYCLES AIR TO AIR | TA=-65°C TO +150°C 1 HOUR / CYCLE | 77 x 1 Lot | Parameter deviation within spec. limits at 500 cycles. | <i>No parameter deviation out of spec. limits at 500 cycles.</i> |
| THERMAL FATIGUE | ΔTC=105°C - Pd=3W | 77 x 1 Lot | Parameter deviation within spec. limits at 10k cycles. | <i>No parameter deviation out of spec. limits at 10 Kcycles.</i> |



**Reliability Evaluation Plan and results
on STD13003**

**REL-071/ 06W
April 2006**

**Line..... BV77
Package.... DPAK**

| Test | Conditions | S.S. | Requirement | Results |
|---|---|----------------|--|--|
| PRECONDITIONING OF SMD DEVICES BEFORE TC/THB/ENV. SEQ. | DRYNG 1H @ 125°C STORE 168H @ TA=85°C RH=85% Reflow @ 260°C 3 times | 204 x 1 Lot | Parameter deviation within spec. limits at end of preconditioning. | <i>No parameter deviation out of spec. limits at end of preconditioning.</i> |
| H.T.S. | TA=150°C | 77 x 1 Lot | Parameter deviation within spec. limits at 1000 hours. | No parameter deviation at 1000 hours. |
| T.H.B. | <i>D.U.T. SMD PRECONDITIONED</i> TA=85°C - RH=85% Vbias= 100V | 77 x 1 Lot | Parameter deviation within spec. limits at 1000 hours. | No parameter deviation at 1000 hours |
| H.T.R.B. | T.A.= 150°C Vces = 560V | 77 x 1 Lot | Parameter deviation within spec. limits at 1000 hours. | No parameter deviation at 1000 hours |
| PRESSURE POT | TA=121°C - PA=2Atm | 77 x 1 Lot | Parameter deviation within spec. limits at 96 hours. | No parameter deviation at 96 hours. . |
| THERMAL CYCLES AIR TO AIR | <i>D.U.T. SMD PRECONDITIONED</i> TA=-65°C TO 150°C 1 HOUR / CYCLE | 77 x 1 Lot | Parameter deviation within spec. limits at 500 cycles. | No parameter deviation at 500 cy |
| THERMAL FATIGUE | ΔTC=105°C - Pd=2W | 77 x 1 Lot | Parameter deviation within spec. limits at 10k cycles. | No parameter deviation at 10Kcy. |
| ENVIRONMENTAL SEQUENCE | <i>D.U.T. SMD PRECONDITIONED</i> 100 THERMAL CYCLES + 168H PP | 50 x 1 Lot | Parameter deviation within spec. limits at end of test. | No parameter deviation at end of test. |



**Reliability Evaluation Plan and results
on STX13003**

REL-072-06/W
April 2006

Line..... BV77
Package..... TO92

| Test | Conditions | S.S. | Requirement | Results |
|--------------------------------------|--------------------------------------|---------------|---|--|
| H.T.S. | TA=150°C | 77 x 1 Lot | Parameter deviation within spec. limits at 1000 hours. | <i>No parameter deviation out of spec. limits at 1000 hours.</i> |
| T.H.B. | TA=85°C - RH=85% Vbias= 100V | 77 x 1 Lot | Parameter deviation within spec. limits at 1000 hours. | <i>No parameter deviation out of spec. limits at 1000 hours.</i> |
| H.T.R.B. | T.A.= 150°C Vces = 560 V | 77 x 1 Lot | Parameter deviation within spec. limits at 1000 hours. | <i>No parameter deviation out of spec. limits at 1000 hours.</i> |
| PRESSURE POT | TA=121°C - PA=2Atm | 77 x 1 Lot | Parameter deviation within spec. limits at 96 hours. | <i>No parameter deviation out of spec. limits at 96 hours.</i> |
| THERMAL CYCLES AIR TO AIR | TA=-65°C TO 150°C 1 HOUR / CYCLE□ | 77 x 1 Lot | Parameter deviation within spec. limits at 500 cycles. | <i>No parameter deviation out of spec. limits at 1000 cy</i> |
| ENVIRONMENTAL SEQUENCE | 100 THERMAL CYCLES + 168H PP | 50 x 1 Lot | Parameter deviation within spec. limits at end of test. | <i>No parameter deviation at end of test.</i> |

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