
PRODUCT AND PROCESS CHANGE NOTIFICATION

ISSUE DATE: 21-Apr-1999

NOTIFICATION #:4565

EFFECTIVE DATE: 30-Jul-1999

ISSUING DIVISION:PHX-OSPD

DESCRIPTION AND PURPOSE

The purpose of this PCN is to qualify the subcontractor, Lite On, in Taiwan to increase assembly capacity to manufacture Zener SMB devices including uni-directional TVS and regulators. This change will qualify an additional assembly site for the purpose of adding capacity.

QUALIFICATION PLAN

N/A

RELIABILITY DATA SUMMARY

ENVIRONMENTAL AND LIFE TEST ACCEPTANCE CRITERIA

| PARAMETER | CONDITIONS | FAILURE DEFINITION | | | | |
|-----------|-------------|--------------------|------|-------|--------------|---------------------|
| | | INITIAL- ENDPOINTS | | | DELTA LIMITS | |
| | | MIN | MAX | UNITS | MAX | BASE |
| Ir | Vr=75 Volts | - | 5 | uA | +20% | Spec width =+1uA |
| VZ | IzT=1.0mA | 83.3 | 92.1 | volt | +_20% | Initial |
| Vf | If=200mA | - | 1.5 | volt | +_20% | Specwidth (+_3V) |

ENVIRONMENTAL TEST SUMMARY

| TESTS | CONDITIONS | INTERVAL | SAMPLE SIZE | REJECTS | | |
|----------------------|---|------------------------------|-------------|---------|-----|-----|
| | | | | CAT | LIM | DEL |
| Temp cyc. | Ta=65/+150 degrees C, Air to Air, Dwell greater than or equal to 15 min, transfer less than or equal to 10 mins | 500 cyc ----- 1000 cyc | 252 | 0 | 0 | 0 |
| Autoclave | Ta=121 degrees C, RH=100%,P=15 psig, Clean and Bake 1 hr. @ 100 degrees C prior to measurements | 96 hrs. | 252 | 0 | 0 | 0 |
| Physical Dimensions | Case outline | N/M | 30 | 0 | 0 | 0 |
| Solder Heat | Ta=+260 degrees C, Dwell=10 sec | End pts bd mt for elec. | 30 | 0 | 0 | 0 |
| Solder- ability | Mil-Std-750, Method 2026, Steam Age=8 hrs | N/M | 30 | 0 | 0 | 0 |
| External Visual | Greater than or equal to Mil-Std-750, Method 2071 | N/M | 150 | 0 | 0 | 0 |
| Die Bond (Die Shear) | No temp cycle | N/M | 5 | 0 | 0 | 0 |

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LIFE TEST SUMMARY

| TESTS | TEST CONDITIONS | | | SAMPLE SIZE | REJECTS | | |
|------------------------------------|--|--|-----------------------|-------------|---------|--------|--------|
| | ENVIR. | BIAS | INTERVAL | | CAT | LIM | DEL |
| HTRB | Ta=+150 degC | 75 vlts | 504 hrs 1008 hrs | 252 | 0 0 | 0 0 | 0 0 |
| IOL | Ton=2 min, Toff=2 min, Ta=+25degC | DeltaTj= 100degC, Tj greater than or = to 150degC, Vz =99V | 7500 cyc 10000 cyc | 252 | 0 0 | 0 0 | 0 0 |
| Highly Accel. Stress Test | Ta=+130degC, RH=85%, P= 18.8 psig | 40 vlts | 48 hrs 96 hrs | 252 | 0 0 | 0 0 | 0 0 |
| High Humid. HTRB | Ta=+85degC, RH=85% | 75 vlts | 504 hrs 1008 hrs | 252 | 0 0 | 0 0 | 0 0 |
| ESD | Human Body Model & Machine Models 1 & 2 | Degradtn. or compliance | N/M | 60 | N | N | N |
| HTSL | Ta=+150degC | None | 1008 hrs | 252 | 0 | 0 | 0 |

ELECTRICAL CHARACTERISTIC SUMMARY

Electrical characterization at room, 150 degrees C and -55 degrees C, will be done on three assembly lots of ISMB75AT3 from Lite On and will be compared to one control lot from SBN Site 1. Additionally, surge-to-destruct test will be done and compared to SBN assembled devices using P6SMB200AT3 and P6SMB160AT3. Estimated date of completion is 5/22/99.

CHANGED PART IDENTIFICATION

Line 1 of the device marking will consist of the Motorola symbol, followed by a 3 digit date code.

Line 2 of the device marking is reserved for each device as documented on 48A.

Line 3 of device marking will be reserved for the site code. If assembled in Motorola SBN factory, line 3 will not be required. If assembled in Lite On, the site code will be ZP.

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FILE FORMAT: ASCII TEXT

FONT - Courier

SIZE - 12 Point

LINE - 70 characters/line

PAGE - 55 lines/page

PAGEBREAK CHARACTER - ^L (Control L)

AFFECTED DEVICE LIST (WITHOUT SPECIALS)

| | | | | | | |
|-------------|---|-------------|---|-------------|---|-------------|
| 1SMB100AT3 | , | 1SMB10AT3 | , | 1SMB110AT3 | , | 1SMB11AT3 |
| 1SMB120AT3 | , | 1SMB12AT3 | , | 1SMB130AT3 | , | 1SMB13AT3 |
| 1SMB14AT3 | , | 1SMB150AT3 | , | 1SMB15AT3 | , | 1SMB16AT3 |
| 1SMB170AT3 | , | 1SMB17AT3 | , | 1SMB18AT3 | , | 1SMB20AT3 |
| 1SMB22AT3 | , | 1SMB24AT3 | , | 1SMB26AT3 | , | 1SMB28AT3 |
| 1SMB30AT3 | , | 1SMB33AT3 | , | 1SMB36AT3 | , | 1SMB40AT3 |
| 1SMB43AT3 | , | 1SMB45AT3 | , | 1SMB48AT3 | , | 1SMB5.0AT3 |
| 1SMB51AT3 | , | 1SMB54AT3 | , | 1SMB58AT3 | , | 1SMB5913BT3 |
| 1SMB5914BT3 | , | 1SMB5915BT3 | , | 1SMB5916BT3 | , | 1SMB5917BT3 |
| 1SMB5918BT3 | , | 1SMB5919AT3 | , | 1SMB5919BT3 | , | 1SMB5920BT3 |
| 1SMB5921BT3 | , | 1SMB5922BT3 | , | 1SMB5923BT3 | , | 1SMB5924BT3 |
| 1SMB5925BT3 | , | 1SMB5926BT3 | , | 1SMB5927BT3 | , | 1SMB5928BT3 |
| 1SMB5929BT3 | , | 1SMB5930BT3 | , | 1SMB5931BT3 | , | 1SMB5932BT3 |
| 1SMB5933BT3 | , | 1SMB5934BT3 | , | 1SMB5935BT3 | , | 1SMB5936BT3 |
| 1SMB5937BT3 | , | 1SMB5938BT3 | , | 1SMB5939BT3 | , | 1SMB5940BT3 |
| 1SMB5941BT3 | , | 1SMB5942BT3 | , | 1SMB5943BT3 | , | 1SMB5944BT3 |
| 1SMB5945BT3 | , | 1SMB5946BT3 | , | 1SMB5947BT3 | , | 1SMB5948BT3 |
| 1SMB5949BT3 | , | 1SMB5950BT3 | , | 1SMB5951BT3 | , | 1SMB5952BT3 |
| 1SMB5953BT3 | , | 1SMB5954BT3 | , | 1SMB5955BT3 | , | 1SMB5956BT3 |
| 1SMB6.0AT3 | , | 1SMB6.5AT3 | , | 1SMB60AT3 | , | 1SMB64AT3 |
| 1SMB7.0AT3 | , | 1SMB7.5AT3 | , | 1SMB70AT3 | , | 1SMB75AT3 |
| 1SMB8.0AT3 | , | 1SMB8.5AT3 | , | 1SMB85AT3 | , | 1SMB9.0AT3 |
| 1SMB90AT3 | , | P6SMB100AT3 | , | P6SMB10AT3 | , | P6SMB110AT3 |
| P6SMB11AT3 | , | P6SMB120AT3 | , | P6SMB12AT3 | , | P6SMB130AT3 |
| P6SMB13AT3 | , | P6SMB150AT3 | , | P6SMB15AT3 | , | P6SMB160AT3 |
| P6SMB16AT3 | , | P6SMB180AT3 | , | P6SMB18AT3 | , | P6SMB200AT3 |
| P6SMB20AT3 | , | P6SMB22AT3 | , | P6SMB24AT3 | , | P6SMB27AT3 |
| P6SMB30AT3 | , | P6SMB33AT3 | , | P6SMB36AT3 | , | P6SMB39AT3 |
| P6SMB43AT3 | , | P6SMB47AT3 | , | P6SMB51AT3 | , | P6SMB56AT3 |
| P6SMB6.8AT3 | , | P6SMB62AT3 | , | P6SMB68AT3 | , | P6SMB7.5AT3 |
| P6SMB75AT3 | , | P6SMB8.2AT3 | , | P6SMB82AT3 | , | P6SMB9.1AT3 |
| P6SMB91AT3 | | | | | | |