**Product / Process Change Notice**

**Parts Affected:**

The NPN power transistor wafer process, in a TO-126 Case.

**Extent of Change:**

The NPN power transistor chip has changed from 1.5mm x 1.5mm to 1.37mm x 1.37mm. See figures 1 and 2 for more information.

**Reason for Change:**

The NPN power transistor wafer has been modified in order to enhance the manufacturing process controls and performance. The wafer size has increased from 4 inch to 5 inch in order to improve throughput and leadtime.

**Effect of Change:**

The wafer process meets all electrical specifications of the individual device listed on the following page.

**Qualification:**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  |  | P/N: | 2N5192 Chip Process |  | Package: | TO-126 |
| **No.** | | **Test** | **Conditions** (Reference standards are in bold) | **Qty** | **Pass/Fail** | **Test Results** |
| **1** | | **Device Life Tests** | | | | |
|  | a | **Intermittent Operational Life**  **(IOL)** | 3360 Cycles  **JESD22-A108** | 25 | Pass | 25/25 |
|  | b | **High Temperature Storage Life (HTSL)** | T=150°C, t = 1000 hours **JESD22-A103** | 25 | Pass | 25/25 |
|  | C | **Thermal Shock** | 1000 cycles, dwell time = 5 min,  0°C to +100°C, max transfer time = 20 sec. **JESD22-A106** | 25 | Pass | 25/25 |
|  | D | **Temperature Cycling (TC)** | -65°C -+150°C, Tdwell = 15min, 1000 cycles | 77 | Pass | 77/77 |
|  | E | **High Temperature Reverse Bias (HTRB)** | T=125°C, Tdwell = 15min, 1000 hours | 25 | Pass | 25/25 |

**Effective Date of Change:**

Existing inventory of the old process will be shipped until depleted.

**Sample Availability:**

Please contact your salesperson or manufacturer’s representative for samples.

**Figure 1: Old Chip Process Figure 2: New Chip Process**

Size: 1.5mm x 1.5mm Size: 1.37mm x 1.37mm





**Part Numbers Affected:**

|  |  |
| --- | --- |
| BD135 | BD233 |
| BD137 | BD235 |
| BD137-10 | BD237 |
| BD137-16 | BD439 |
| BD139 | BD441 |
| BD139-10 | CEN925 |
| BD139-16 | MJE180 |
| BD175 | MJE181 |
| BD177 | MJE182 |
| BD179 | MJE221 |



**Part Numbers Affected:**

|  |  |
| --- | --- |
| MJE222 | MJE521 |
| MJE223 | MJE720 |
| MJE224 | MJE721 |
| MJE225 | MJE722 |
| MJE240 | 2N4921 |
| MJE241 | 2N4922 |
| MJE242 | 2N4923 |
| MJE243 | 2N5190 |
| MJE244 | 2N5191 |
| MJE520 | 2N5192 |

As per JEDEC standard JESD46, Customer Notification of Product/Process Changes by Solid-State Suppliers, a lack of acknowledgement of a PCN within thirty (30) days constitutes acceptance of the change.

The undersigned acknowledges and accepts Central Semiconductor’s Product/Process Change Notification (PCN).

|  |  |
| --- | --- |
| Company Name: |  |
| Address: |  |
|  |
|  |
| Printed Name: |  |
| Title: |  |
| Signature: |  |
| Date: |  |