



Micro Commercial Components

# Reliability Report

Part Number: MOSFET SMD Series

Yearly Reliability monitoring:2024

Based on similar Structural

Test Results : **PASS**

| Test Item  | Conditions   | Duration                     | Quantity  | Rejects   |
|--|--|------------------------------|-----------|-----------|
| <b>TEST</b><br>Pre- and Post-Stress<br>Electrical Test         | $T_a = 25\text{ }^\circ\text{C}$   | N/A                          | all parts | see below |
| * <b>Pre-conditioning</b>                                      | JESD22A-113  |                              |           |           |
|  | 1. Temperature Cycling:-40 $^\circ\text{C}$ ~60 $^\circ\text{C}$ ,<br>2. Bake:125 $^\circ\text{C}$ ,                       | 5Cycles;<br>24 hours;        | 338Pcs    | 0         |
|  | 3.1 Moisture Soak:85 $^\circ\text{C}$ , 85%RH for MSL1<br>OR   | 168hours                     |           |           |
|  | 3.2 Moisture Soak:30 $^\circ\text{C}$ , 60%RH for MSL3;  | 192hours                     |           |           |
| 4. Reflow*3Cycles:260 $^\circ\text{C}$                         | 3Cycles  |                              |           |           |
| <b>HTRB</b><br>High Temperature<br>Reverse Bias                | MIL-STD-750 Method 1038<br>$T_j = T_{jmax}$ , 100% VDS   | 1000 hours                   | 77Pcs     | 0         |
| <b>HTGB</b><br>High Temperature<br>Gate Bias                   | JESD22-A-108<br>$T_j = T_{jmax}$ , 100% Vgs  | 1000 hours                   | 77Pcs     | 0         |
| <b>TC</b><br>Temperature Cycling                               | JESD22-A104<br>-55 $^\circ\text{C}$ (+0,-10)/15Min~<br>150(+15,-0)/15Min,  | 1000Cycles<br>(500hours)     | 77Pcs     | 0         |
| <b>AC</b><br>Autoclave   | JESD22-A102<br>$T_a = 121\text{ }^\circ\text{C}\pm 2\text{ }^\circ\text{C}$ , RH = 100 %,<br>15psig                        | 96 hours                     | 77Pcs     | 0         |
| <b>H3TRB</b><br>High Humidity High<br>Temperature Reverse Bias | JESD22-A101<br>$T_a = 85\text{ }^\circ\text{C}\pm 2\text{ }^\circ\text{C}$ , RH = 85% $\pm$ 5%,<br>80 % VDS (VDS MAX=100V) | 1000 hours                   | 77Pcs     | 0         |
| <b>IOL</b><br>Intermittent Operating Life                      | MIL-STD-750 Method 1037<br>ON 2Min/OFF 2min,<br>$\Delta T_j \geq 100\text{ }^\circ\text{C}$                                | 15000 cycles<br>(1000 hours) | 77Pcs     | 0         |
| <b>RSH</b><br>Resistance to Solder Heat                        | JESD22-A111<br>260 $^\circ\text{C}$ (+5, -0)   | 10 s                         | 30Pcs     | 0         |
| <b>SD</b><br>Solderability                                     | J-STD-002<br>235 $^\circ\text{C} \pm 5\text{ }^\circ\text{C}$  | 3 s                          | 10Pcs     | 0         |
| <b>HTSL</b><br>High Temperature<br>Storage Life                | JESD22-A103<br>$T_{stgMax}$  | 1000 hours                   | 77Pcs     | 0         |

\* Remark : detail MSL of product refer to data sheet on MCC website.