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RENESAS SEMICONDUCTOR RELIABILITY REPORT

DEVICE: RMWV6416AGSD-5S2#AA0
RMWV6416AGSD-5S2#HA0

APPLICATION: Standard

IoT and Infrastructure Quality Assurance Department
Quality Assurance Division
Renesas Electronics Corporation

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1. Reliability test results

| No | Test Item | Test Conditions | Results (Reject/Sample Size) |
|----|---|--|---------------------------------|
| 1 | High Temperature Operating Life | Ta = 125 °C, Vcc max, 1000 h | 0/228 |
| 2 | Low Temperature Operating Life | Ta = -40 °C, Vcc max, 1000 h | 0/32 |
| 3 | High Temperature Storage Life | Ta = 150 °C, 1000 h | 0/75 |
| 4 | HAST | Ta = 130 °C, 85% RH, Vcc max, 96 h | 0/75 |
| 5 | Temperature Cycling | Ta = -65 °C to +150 °C, 300 cycles | 0/75 |
| 6 | Unbiased HAST | Ta = 130 °C, 85% RH, 96 h | 0/75 |
| 7 | Resistance to Soldering Heat | Bake: 125°C, 24h Moisture Soak: 30 °C 70% RH, 192h (JEDEC-MSL3 Equivalent) Reflow: 260 °C peak, 255 °C 30 s, 3 times | 0/33 |
| 8 | Solderability | 245 °C, 5 s 95% solder coverage minimum | 0/5 |
| 9 | Electrostatic discharge (HBM Method) | C = 100 pF, R = 1.5 kΩ, ±1000 V | 0/3 |
| 10 | Electrostatic discharge (CDM Method) | ±1000 V | 0/3 |
| 11 | Latch-up (Pulse Current Injection) | ±150 mA | 0/3 |
| 12 | Estimated Failure Rate | 6.3 FIT or less Prerequisites: Ta = 55 °C, Ea = 0.7 eV, C.L. = 60% | |
| 13 | System Soft Error Rate (SSER) | 0.62 FIT/Mbit or less (no error) Prerequisites: C.L. = 60% | |

Reliability test results may include data from family representative products. MSL Preconditioning was performed prior to HAST, Temperature Cycling and Unbiased HAST.

The Criteria shall follow the electrical characteristics in Specifications, except for Solderability and SSER.

Preconditioning Details: Bake (125 °C, 24 h) -> Moisture Soak (30 °C 70% RH, 192 h) -> Reflow (260 °C peak, 3 times)