

Report No. APR-21-H0756-B  
Date: 24/May/2024

# RENESAS SEMICONDUCTOR RELIABILITY REPORT

SERIES: PS9821-1

DEVICE: PS9821-1-AX  
PS9821-1-F3-AX  
PS9821-1-V-AX  
PS9821-1-V-F3-AX

APPLICATION: Standard

Quality Assurance Division  
Renesas Electronics Corporation

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(Rev.5.0-2 October 2020)

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## Reliability test result

| Test Items                                    | Reference              | Test Conditions                                                                                  | Results<br>Reject/Size |
|-----------------------------------------------|------------------------|--------------------------------------------------------------------------------------------------|------------------------|
| High Temperature Storage Life                 | JESD22-A103            | Ta=125°C, t=1000h                                                                                | 0/22                   |
| Temperature Humidity Bias (HAST)              | JESD22-A110            | Ta=130°C, RH=85%, VCC=7V, t=96h                                                                  | 0/22                   |
| High Temperature Operating Life               | JESD22-A108            | Ta=85°C, IF=Maximum current within Diode Power Dissipation rating, t=1000h                       | 0/22                   |
| Unbiased Temperature Humidity (Unbiased HAST) | JESD22-A118            | Ta=130°C, RH=85%, t=96h                                                                          | 0/22                   |
| Temperature Cycling                           | JESD22-A104            | -40°C~125°C, 850cycles                                                                           | 0/22                   |
| Electrostatic discharge (HBM Method)          | JS-001                 | C=100pF, 1.5kΩ, 2000V                                                                            | 0/5                    |
| Solderability                                 | J-STD-002              | 245°C, 5s Wet area 95% or more                                                                   | 0/22                   |
| Resistance to Soldering Heat                  | JESD22-A113, J-STD-020 | Bake: 125°C, 24h<br>Moisture Soak: 85°C85%RH, 168h(MSL=1)<br>Reflow: 260°Cmax, 255°Cx30s, 3times | 0/22                   |
| Estimated Failure Rate                        | -                      | Estimated failure rate: 10Fit<br>Ta= 55°C, Ea=0.7eV, C.L.=60%                                    |                        |

MSL Preconditioning was performed prior to Temperature humidity bias, Unbiased Temperature Humidity and Temperature cycling.

Preconditioning Details: 125°C, 24h→85°C, 85%RH, 168h→Reflow (260°Cmax, 255°Cx30s, 3times)

Reliability test results may include data from family representative products.

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

However, ΔIFHL/LH shall be the initial value +100%.