

Report APR-21-H0756-A
Date: 28/Feb./2023

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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Reliability test result

Test Items	Reference	Test Conditions	Results Reject/Size
High Temperature Storage Life	JESD22-A103	Ta=125°C, t=1000h	0/22
Low Temperature Storage Life	JESD22-A119	Ta=-55°C, t=1000h	0/22
Temperature Humidity Bias (HAST)	JESD22-A110	Ta=130°C, RH=85%, VCC=7V, t=96h	0/20
High Temperature Operating Life	JESD22-A108	Ta=85°C, IF=Maximum current within Diode Power Dissipation rating, t=1000h	0/20
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 Moisture Soak: 85°C 85%RH, 168h (MSL=1) Reflow: 260°C max, 255°C x 30s, 3 times	0/22
Estimated Failure Rate	-	Estimated failure rate: 10Fit 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°C max, 255°C x 30s, 3 times

Reliability test results may include data from family representative products.

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

However, ΔIFHL shall be the initial value ± 50%.