



Report No. APR-24-H0221
Date: 29/Jul./2024

RENESAS SEMICONDUCTOR RELIABILITY REPORT

SERIES: RV1S9184Q

DEVICE: RV1S9184QKCSP-1000#SC0/D
RV1S9184QKCSP-1000#KC0/D

APPLICATION: Automobile

Quality Assurance Division
Renesas Electronics Corporation

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AEC-Q100 Qualification test results for RV1S9184Q
Automotive Grade Level = 1

Test Items	Reference	Test Conditions	Lots	Sample Size	Results
Preconditioning	JESD22-A113 J-STD-020	Bake: 125°C, 24h Moisture Soak: 85°C85%RH, 168h(MSL1) Reflow: 260°Cmax, 255°Cx30s, 3times	3	231	0 of 693
Temperature Humidity Bias (HAST)	JESD22-A110	Ta=130°C, RH=85%, Apply rated voltage, 96h	3	77	0 of 231
Unbiased Temperature Humidity (Unbiased HAST)	JESD22-A118	Ta=130°C, RH=85%, 96h	3	77	0 of 231
Temperature Cycling	JESD22-A104	-55°C~150°C, 1000cycles	3	77	0 of 231
High Temperature Storage Life	JESD22-A103	Ta=150°C, 1000h	1	45	0 of 45
High Temperature Operating Life	JESD22-A108	Ta=135°C, IF=Maximum current within Diode Power Dissipation rating, 1000h	3	77	0 of 231
Early Life Failure Rate (ELFR)	AEC-Q100-008	Ta=135°C, 48h	3	800	0 of 2400
Solderability	J-STD-002	245°C, 5s Wet area 95% or more	1	15	0 of 15
Electrostatic discharge (HBM Method)	AEC-Q100-002	C=100pF, 1.5kΩ, 2000V	1	3	0 of 3
Electrostatic discharge (CDM Method)	AEC-Q100-011	500V	1	3	0 of 3
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°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%.