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RENESAS SEMICONDUCTOR RELIABILITY REPORT

DEVICE: HN58X25128FPIAG#S0
HN58X25128FPIAG#U0

APPLICATION: Standard

Quality Assurance Div.
Renesas Electronics Corporation

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Reliability test result

Test Items	Reference	Test Conditions	Results Reject/Size
High Temperature Operating Life	JESD22-A108	Ta = 125 °C, Vcc max, 1000 h	0/450
Low Temperature Operating Life	JESD22-A108	Tj = -40 °C, Vcc max, 1000 h	0/45
High Temperature Storage Life	JESD22-A103	Ta = 150 °C, 1000 h	0/45
Temperature Humidity Bias (THB)	JESD22-A101	Ta = 85 °C, 85% RH, Vcc=5.5V, 1000 h	0/45
Temperature Cycling	JESD22-A104	Ta = -55 °C to +150 °C, 500 cycles	0/45
Resistance to Soldering Heat	JESD22-A113, J-STD-020	Bake:125 °C, 24 h Moisture Soak: 85 °C 85% RH, 168h (JEDEC-MSL1 Equivalent) Reflow: 260 °C peak, 255 °C 30 s, 3 times	0/22
Solderability	J-STD-002	245 °C, 5 s 95% solder coverage minimum	0/5
Electrostatic discharge (HBM Method)	JS-001	C = 100 pF, R = 1.5 kΩ, ±1000 V	0/3
Electrostatic discharge (CDM Method)	JESD22-C101	±500 V	0/3
Latch-up (I-Test)	JESD78	±150 mA	0/3
NVM Cycling Endurance	-	Ta = 85 °C, Vcc = 5.5V, 100k times	0/45
NVM Cycling Endurance	-	Ta = 25 °C, Vcc = 5.5V, 1000k times	0/45
Data Retention	-	Ta = 125 °C, 1000h	0/45
Estimated Failure Rate	-	15 FIT or less Prerequisites: Ta = 55 °C, Ea = 0.5 eV, C.L. = 60%	

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

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

Preconditioning Details: Bake (125 °C, 24 h) -> Moisture Soak (85 °C 85% RH, 168 h) -> Reflow (260 °C peak, 255 °C 30s, 3 times)