Report No. APR-22-H0175-B
Date: Nov. 01, 2023

RENESAS SEMICONDUCTOR RELIABILITY REPORT

SERIES: UPC822G2

DEVICE: UPC822G2(20)-E1-A
UPC822G2(20)-E1-AX

For both products manufactured by Naito Densei Sado Factory (NDK) and UTAC THAI Limited (UTL)

APPLICATION: High Quality

Quality Assurance Div.
Renesas Electronics Corporation

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Reliability test result

UPC822G2 (High Quality)

Test Items	Reference	Test Conditions	Results Reject/Size
High Temperature Operating Life	JESD22-A108	Ta=125 °C, Apply rated voltage, 1,000h	0/22
Temperature Humidity Bias (HAST)	JESD22-A110	Ta=85 °C, 85%RH, Apply rated voltage, 1,000h	0/22
Temperature Cycling	JESD22-A104	Ta=-65 ~ 150 °C, 300 cycles	0/22
High Temperature Storage Life	JESD22-A103	Ta=150 °C, 1,000h	0/22
Resistance to Soldering Heat	JESD22-A113, J-STD-020	Bake: 125°C、24h Moisture Soak:85°C85%RH, 168h(MSL=1) Reflow:260°Cmax、255°Cx30s、3 times)	0/22
Solderability	J-STD-002	245°C, 5s (Solder wetting area 95% or more)	0/22
Electrostatic discharge (HBM Method)	JS-001	C=100pF, R=1.5k ohm, ±1,000V	0/3
Electrostatic discharge (CDM Method)	JESD22-C101	±500V	0/3
Estimated Failure Rate	-	Estimated failure rate: 15Fit Ta= 55°C, Ea=0.7eV, 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.

<Judgement criteria>
Electrical characteristics described in the delivery specification.
(Solderability test is excluded.)

<Preconditioning Details>
125°C, 24h ＋ 85°C85%RH 168h(JEDEC MSL1) -> Reflow(260°Cmax、255°Cx30s、3 times)