Report No. MCR-22-0324-B
October 01,2026

RELIABILITY REPORT

GROUP : RX72T

DEVICE : R5F572TXXX

QUALITY GRADE : Standard

Quality Assurance Div.
Renesas Electronics Corporation

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Summary of Reliability Test Results for QFP Package (MSL3)

Test Item	Reference	Test Conditions	Test Result	Comment
High Temperature Operating Life (HTOL)	JESD22-A108	Ta=125 ℃, Vccmax, 1000 hrs	0/231	3 lots or more
High Temperature Storage Life (HTSL)	JESD22-A103	Ta=150 ℃, 1000 hrs	0/75	3 lots or more
Temperature Humidity bias (THB) (*1)	JESD22-A101	Ta=85 ℃, RH=85 %, Vccmax, 1000 hrs	0/75	3 lots or more
Temperature Humidity bias (HAST) (*1)	JESD22-A110	Ta=110 ℃, RH=85 %, Vccmax, 264 hrs	0/75	3 lots or more
Temperature Cycling (TC) (*1)	JESD22-A104	Ta=-65 ℃ to 150 ℃ , 500 cycles	0/75	3 lots or more
Latch-Up (LU)	JESD78	Pulse Current Injection, I=+/-150 mA	0/3	
Electrostatic discharge (ESD-HBM)	JS-001	1.5 kΩ, 100 pF, +/-2000 V, 1 time	0/3	Class: 2
Electrostatic discharge (ESD-CDM)	JESD22-C101	+/-500 V,1 time	0/3	Class: C2
Solderability (SD)	J-STD-002	245 ℃, 5 s, Solder coverage ≥95 %	0/5	
Resistance to Soldering Heat (MSL3)	JESD22-A113, J-STD-020	MSL3(Moisture Sensitivity Level 3) Peak Reflow Temp=260 °C	Pass	Verified after MSL preconditioning; applied to applicable reliability tests (*1).

Note :
- (*1) With preconditioning per JESD22-A113, MSL 3
- It is tested to confirm that all the samples are satisfied with an individual product specification.
- Basically qualification tests were performed using a representative product with the same wafer process and the same package structure .

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The failure rate of the device in an actual use condition can be estimated by the below procedure.

・Equation for the failure rate estimation (λ)

$$\lambda = \lambda b \times \pi T \ (FIT)$$

①Unique failure rate (λb)

λb= 0.004 FIT

Unique failure rate at Ta=55 ℃ using 60 % confidence level.

②Temperature term (πT)

$$\pi T = exp\{11600 \times Ea \times (1/(273+55) - 1/(273+Ta))\}$$

Ea： Activation energy（eV)
Ta： Ambient temperature（℃)

πT simplified chart as Ea=0.7 eV												
Ta (℃)	40	50	55	60	65	70	75	80	85	90	100	110
πT	0.31	0.68	1	1.45	2.08	2.95	4.15	5.77	7.96	10.88	19.82	34.99

・MTTF (Mean Time To Failure)

$$MTTF = 1/\lambda$$

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Reference about Renesas package code

Package type		Package code *1
Lead type plastic package	QFP	PxQP
	SOP	PxSP
Non-lead type plastic package	QFN	PxQN
Grid array type plastic package	BGA	PxBG
	LGA	PxLG
Wafer level chip scale package	WLCSP	SxBG

*1. First four digit

Table. Product list

No	Product part number	Package code	MSL	No	Product part number	Package code	MSL
1	R5F572TFCDFB	PLQP0144K*	MSL3	51			
2	R5F572TFCGFB	PLQP0144K*	MSL3	52			
3	R5F572TFGDFB	PLQP0144K*	MSL3	53			
4	R5F572TFGGFB	PLQP0144K*	MSL3	54			
5	R5F572TKCDFB	PLQP0144K*	MSL3	55			
6	R5F572TKCGFB	PLQP0144K*	MSL3	56			
7	R5F572TKGDFB	PLQP0144K*	MSL3	57			
8	R5F572TKGGFB	PLQP0144K*	MSL3	58			
9	R5F572TFADFP	PLQP0100K*	MSL3	59			
10	R5F572TFAGFP	PLQP0100K*	MSL3	60			
11	R5F572TFBDFP	PLQP0100K*	MSL3	61			
12	R5F572TFBGFP	PLQP0100K*	MSL3	62			
13	R5F572TFCDFP	PLQP0100K*	MSL3	63			
14	R5F572TFCGFP	PLQP0100K*	MSL3	64			
15	R5F572TFEDFP	PLQP0100K*	MSL3	65			
16	R5F572TFEGFP	PLQP0100K*	MSL3	66			
17	R5F572TFFDFP	PLQP0100K*	MSL3	67			
18	R5F572TFFGFP	PLQP0100K*	MSL3	68			
19	R5F572TFGDFP	PLQP0100K*	MSL3	69			
20	R5F572TFGGFP	PLQP0100K*	MSL3	70			
21	R5F572TKADFP	PLQP0100K*	MSL3	71			
22	R5F572TKAGFP	PLQP0100K*	MSL3	72			
23	R5F572TKBDFP	PLQP0100K*	MSL3	73			
24	R5F572TKBGFP	PLQP0100K*	MSL3	74			
25	R5F572TKCDFP	PLQP0100K*	MSL3	75			
26	R5F572TKCGFP	PLQP0100K*	MSL3	76			
27	R5F572TKEDFP	PLQP0100K*	MSL3	77			
28	R5F572TKEGFP	PLQP0100K*	MSL3	78			
29	R5F572TKFDFP	PLQP0100K*	MSL3	79			
30	R5F572TKFGFP	PLQP0100K*	MSL3	80			
31	R5F572TKGDFP	PLQP0100K*	MSL3	81			
32	R5F572TKGGFP	PLQP0100K*	MSL3	82			
33				83			
34				84			
35				85			
36				86			
37				87			
38				88			
39				89			
40				90			
41				91			
42				92			
43				93			
44				94			
45				95			
46				96			
47				97			
48				98			
49				99			
50				100			

Note: MSL stands for Moisture Sensitivity Level.

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