

RENESAS SEMICONDUCTOR RELIABILITY REPORT

GROUP : RL78/G14

DEVICE : R5F104XXX

APPLICATION : Consumer / Industry

Quality Assurance Div.
Renesas Electronics Corporation

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Table. Reliability test results (QFP)

Test Items	Reference	Test Conditions	Results Failure/Size	Comment
High Temperature Operating Life (HTOL)	JESD22-A108	Ta=125 °C, Vccmax, 1000 hrs	0/22	
High Temperature Storage Life (HTSL)	JESD22-A103	Ta=150 °C, 1000 hrs	0/22	
Temperature Humidity bias (THB) (*1)	JESD22-A101	Ta=85 °C, RH=85 %, Vccmax, 1000 hrs	0/22	
Temperature Cycling (TC) (*1)	JESD22-A104	Ta=-65 °C to 150 °C , 300 cycles	0/22	
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	+/-500V,1time	0/3	Class: C2
Solderability (SD)	J-STD-002	245 °C, 5 s, Solder coverage ≥95 %	0/5	
Resistance to Soldering Heat (PC)	JESD22-A113, J-STD-020	MSL3(Moisture Sensitivity Level 3)	0/22	

*1) With preconditioning per JESD22-A113, MSL 3

•It is tested to confirm that all the samples are satisfied with an individual product specification.

Note :

Basically qualification tests were performed using a representative product with the same wafer process and the same package structure .

Table. Reliability test results (QFN)

Test Items	Reference	Test Conditions	Results Failure/Size	Comment
High Temperature Operating Life (HTOL)	JESD22-A108	Ta=125 °C, Vccmax, 1000 hrs	0/22	
High Temperature Storage Life (HTSL)	JESD22-A103	Ta=150 °C, 1000 hrs	0/22	
Temperature Humidity bias (THB) (*1)	JESD22-A101	Ta=85 °C, RH=85 %, Vccmax, 1000 hrs	0/22	
Temperature Cycling (TC) (*1)	JESD22-A104	Ta=-65 °C to 150 °C , 300 cycles	0/22	
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	+/-500V,1time	0/3	Class: C2
Solderability (SD)	J-STD-002	245 °C, 5 s, Solder coverage ≥95 %	0/5	
Resistance to Soldering Heat (PC)	JESD22-A113, J-STD-020	MSL3(Moisture Sensitivity Level 3)	0/22	

*1) With preconditioning per JESD22-A113, MSL 3

•It is tested to confirm that all the samples are satisfied with an individual product specification.

Note :

Basically qualification tests were performed using a representative product with the same wafer process and the same package structure .

Table. Reliability test results (SOP)

Test Items	Reference	Test Conditions	Results Failure/Size	Comment
High Temperature Operating Life (HTOL)	JESD22-A108	Ta=125 °C, Vccmax, 1000 hrs	0/22	
High Temperature Storage Life (HTSL)	JESD22-A103	Ta=150 °C, 1000 hrs	0/22	
Temperature Humidity bias (THB) (*1)	JESD22-A101	Ta=85 °C, RH=85 %, Vccmax, 1000 hrs	0/22	
Temperature Cycling (TC) (*1)	JESD22-A104	Ta=-65 °C to 150 °C , 300 cycles	0/22	
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	+/-500V,1time	0/3	Class: C2
Solderability (SD)	J-STD-002	245 °C, 5 s, Solder coverage ≥95 %	0/5	
Resistance to Soldering Heat (PC)	JESD22-A113, J-STD-020	MSL3(Moisture Sensitivity Level 3)	0/22	

*1) With preconditioning per JESD22-A113, MSL 3

•It is tested to confirm that all the samples are satisfied with an individual product specification.

Note :

Basically qualification tests were performed using a representative product with the same wafer process and the same package structure .

Table. Reliability test results (BGA)

Test Items	Reference	Test Conditions	Results Failure/Size	Comment
High Temperature Operating Life (HTOL)	JESD22-A108	Ta=125 °C, Vccmax, 1000 hrs	0/22	
High Temperature Storage Life (HTSL)	JESD22-A103	Ta=150 °C, 1000 hrs	0/22	
Temperature Humidity bias (THB) (*1)	JESD22-A101	Ta=85 °C, RH=85 %, Vccmax, 1000 hrs	0/22	
Temperature Cycling (TC) (*1)	JESD22-A104	Ta=-55 °C to 125 °C , 500 cycles	0/22	
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	+/-500V,1time	0/3	Class: C2
Resistance to Soldering Heat (PC)	JESD22-A113, J-STD-020	MSL3(Moisture Sensitivity Level 3)	0/22	

*1) With preconditioning per JESD22-A113, MSL 3

•It is tested to confirm that all the samples are satisfied with an individual product specification.

Note :

Basically qualification tests were performed using a representative product with the same wafer process and the same package structure .

Table. Reliability test results (LGA)

Test Items	Reference	Test Conditions	Results Failure/Size	Comment
High Temperature Operating Life (HTOL)	JESD22-A108	Ta=125 °C, Vccmax, 1000 hrs	0/22	
High Temperature Storage Life (HTSL)	JESD22-A103	Ta=150 °C, 1000 hrs	0/22	
Temperature Humidity bias (THB) (*1)	JESD22-A101	Ta=85 °C, RH=85 %, Vccmax, 1000 hrs	0/22	
Temperature Cycling (TC) (*1)	JESD22-A104	Ta=-55 °C to 125 °C , 500 cycles	0/22	
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	+/-500V,1time	0/3	Class: C2
Resistance to Soldering Heat (PC)	JESD22-A113, J-STD-020	MSL3(Moisture Sensitivity Level 3)	0/22	

*1) With preconditioning per JESD22-A113, MSL 3

•It is tested to confirm that all the samples are satisfied with an individual product specification.

Note :

Basically qualification tests were performed using a representative product with the same wafer process and the same package structure .

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)

$$\lambda = \lambda_b \times \pi T \text{ (FIT)}$$

①Unique failure rate (λ_b)

$$\lambda_b = 3.8 \text{ FIT}$$

Unique failure rate at $T_a=55^\circ\text{C}$ using 60 % confidence level.

②Temperature term (πT)

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

E_a : Activation energy (eV)

T_a : Ambient temperature ($^\circ\text{C}$)

πT simplified chart as $E_a=0.7 \text{ eV}$

T_a ($^\circ\text{C}$)	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)

$$MTTF = 1/\lambda$$

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

*1. First four digit

Table. Product list

No	Group	Product part number	Package code	No	Group	Product part number	Package code
1	RL78/G14	R5F104AAASP	PLSP0030J*	51	RL78/G14	R5F104BGDFP	PLQP0032G*
2	RL78/G14	R5F104AADSP	PLSP0030J*	52	RL78/G14	R5F104BGDNA	PWQN0032K*
3	RL78/G14	R5F104AAGSP	PLSP0030J*	53	RL78/G14	R5F104BGGFP	PLQP0032G*
4	RL78/G14	R5F104ACASP	PLSP0030J*	54	RL78/G14	R5F104BGGNA	PWQN0032K*
5	RL78/G14	R5F104ACDSP	PLSP0030J*	55	RL78/G14	R5F104CAALA	PWLG0036K*
6	RL78/G14	R5F104ACGSP	PLSP0030J*	56	RL78/G14	R5F104CADLA	PWLG0036K*
7	RL78/G14	R5F104ADASP	PLSP0030J*	57	RL78/G14	R5F104CAGLA	PWLG0036K*
8	RL78/G14	R5F104ADDSP	PLSP0030J*	58	RL78/G14	R5F104CCALA	PWLG0036K*
9	RL78/G14	R5F104ADGSP	PLSP0030J*	59	RL78/G14	R5F104CCDLA	PWLG0036K*
10	RL78/G14	R5F104AEASP	PLSP0030J*	60	RL78/G14	R5F104CCGLA	PWLG0036K*
11	RL78/G14	R5F104AEDSP	PLSP0030J*	61	RL78/G14	R5F104CDALA	PWLG0036K*
12	RL78/G14	R5F104AEGSP	PLSP0030J*	62	RL78/G14	R5F104CDDLA	PWLG0036K*
13	RL78/G14	R5F104AFASP	PLSP0030J*	63	RL78/G14	R5F104CDGLA	PWLG0036K*
14	RL78/G14	R5F104AFDSP	PLSP0030J*	64	RL78/G14	R5F104CEALA	PWLG0036K*
15	RL78/G14	R5F104AFGSP	PLSP0030J*	65	RL78/G14	R5F104CEDLA	PWLG0036K*
16	RL78/G14	R5F104AGASP	PLSP0030J*	66	RL78/G14	R5F104CEGLA	PWLG0036K*
17	RL78/G14	R5F104AGDSP	PLSP0030J*	67	RL78/G14	R5F104CFALA	PWLG0036K*
18	RL78/G14	R5F104AGGSP	PLSP0030J*	68	RL78/G14	R5F104CFGLA	PWLG0036K*
19	RL78/G14	R5F104BAAFP	PLQP0032G*	69	RL78/G14	R5F104CGALA	PWLG0036K*
20	RL78/G14	R5F104BAANA	PWQN0032K*	70	RL78/G14	R5F104CGDLA	PWLG0036K*
21	RL78/G14	R5F104BADFP	PLQP0032G*	71	RL78/G14	R5F104CGGLA	PWLG0036K*
22	RL78/G14	R5F104BADNA	PWQN0032K*	72	RL78/G14	R5F104EAANA	PWQN0040K*
23	RL78/G14	R5F104BAGFP	PLQP0032G*	73	RL78/G14	R5F104EADNA	PWQN0040K*
24	RL78/G14	R5F104BAGNA	PWQN0032K*	74	RL78/G14	R5F104EAGNA	PWQN0040K*
25	RL78/G14	R5F104BCAFP	PLQP0032G*	75	RL78/G14	R5F104ECANA	PWQN0040K*
26	RL78/G14	R5F104BCANA	PWQN0032K*	76	RL78/G14	R5F104ECDNA	PWQN0040K*
27	RL78/G14	R5F104BCDFP	PLQP0032G*	77	RL78/G14	R5F104ECGNA	PWQN0040K*
28	RL78/G14	R5F104BCDNA	PWQN0032K*	78	RL78/G14	R5F104EDANA	PWQN0040K*
29	RL78/G14	R5F104BCGFP	PLQP0032G*	79	RL78/G14	R5F104EDDNA	PWQN0040K*
30	RL78/G14	R5F104BCGNA	PWQN0032K*	80	RL78/G14	R5F104EDGNA	PWQN0040K*
31	RL78/G14	R5F104BDAFP	PLQP0032G*	81	RL78/G14	R5F104EEANA	PWQN0040K*
32	RL78/G14	R5F104BDANA	PWQN0032K*	82	RL78/G14	R5F104EEDNA	PWQN0040K*
33	RL78/G14	R5F104BDDFP	PLQP0032G*	83	RL78/G14	R5F104EEGNA	PWQN0040K*
34	RL78/G14	R5F104BDDNA	PWQN0032K*	84	RL78/G14	R5F104EFANA	PWQN0040K*
35	RL78/G14	R5F104BDGFP	PLQP0032G*	85	RL78/G14	R5F104EFDNA	PWQN0040K*
36	RL78/G14	R5F104BDGNA	PWQN0032K*	86	RL78/G14	R5F104EFGNA	PWQN0040K*
37	RL78/G14	R5F104BEAFP	PLQP0032G*	87	RL78/G14	R5F104EGANA	PWQN0040K*
38	RL78/G14	R5F104BEANA	PWQN0032K*	88	RL78/G14	R5F104EGDNA	PWQN0040K*
39	RL78/G14	R5F104BEDFP	PLQP0032G*	89	RL78/G14	R5F104EGGNA	PWQN0040K*
40	RL78/G14	R5F104BEDNA	PWQN0032K*	90	RL78/G14	R5F104EHANA	PWQN0040K*
41	RL78/G14	R5F104BEGFP	PLQP0032G*	91	RL78/G14	R5F104EHDNA	PWQN0040K*
42	RL78/G14	R5F104BEGNA	PWQN0032K*	92	RL78/G14	R5F104EHGNA	PWQN0040K*
43	RL78/G14	R5F104BFAFP	PLQP0032G*	93	RL78/G14	R5F104FAAFP	PLQP0044G*
44	RL78/G14	R5F104BFANA	PWQN0032K*	94	RL78/G14	R5F104FADFP	PLQP0044G*
45	RL78/G14	R5F104BFDFP	PLQP0032G*	95	RL78/G14	R5F104FAGFP	PLQP0044G*
46	RL78/G14	R5F104BFDNA	PWQN0032K*	96	RL78/G14	R5F104FCAFP	PLQP0044G*
47	RL78/G14	R5F104BFGFP	PLQP0032G*	97	RL78/G14	R5F104FCDFP	PLQP0044G*
48	RL78/G14	R5F104BFGNA	PWQN0032K*	98	RL78/G14	R5F104FCGFP	PLQP0044G*
49	RL78/G14	R5F104BGAFP	PLQP0032G*	99	RL78/G14	R5F104FDAFP	PLQP0044G*
50	RL78/G14	R5F104BGANA	PWQN0032K*	100	RL78/G14	R5F104FDDFP	PLQP0044G*

Table. Product list

MCR-22-0500

No	Group	Product part number	Package code	No	Group	Product part number	Package code
101	RL78/G14	R5F104FDGFP	PLQP0044G*	161	RL78/G14	R5F104LDGLA	PWLG0064K*
102	RL78/G14	R5F104FEAFP	PLQP0044G*	162	RL78/G14	R5F104LEAFA	PLQP0064J*
103	RL78/G14	R5F104FEDFP	PLQP0044G*	163	RL78/G14	R5F104LEAFB	PLQP0064K*
104	RL78/G14	R5F104FEGFP	PLQP0044G*	164	RL78/G14	R5F104LEAFP	PLQP0064G*
105	RL78/G14	R5F104FFAFP	PLQP0044G*	165	RL78/G14	R5F104LEALA	PWLG0064K*
106	RL78/G14	R5F104FFDFP	PLQP0044G*	166	RL78/G14	R5F104LEDFA	PLQP0064J*
107	RL78/G14	R5F104FFGFP	PLQP0044G*	167	RL78/G14	R5F104LEDFA	PLQP0064K*
108	RL78/G14	R5F104FGAFP	PLQP0044G*	168	RL78/G14	R5F104LEDFA	PLQP0064G*
109	RL78/G14	R5F104FGDFP	PLQP0044G*	169	RL78/G14	R5F104LEDLA	PWLG0064K*
110	RL78/G14	R5F104FGGFP	PLQP0044G*	170	RL78/G14	R5F104LEGFA	PLQP0064J*
111	RL78/G14	R5F104FHAFF	PLQP0044G*	171	RL78/G14	R5F104LEGFB	PLQP0064K*
112	RL78/G14	R5F104FHDFP	PLQP0044G*	172	RL78/G14	R5F104LEGFP	PLQP0064G*
113	RL78/G14	R5F104FHGFP	PLQP0044G*	173	RL78/G14	R5F104LEGLA	PWLG0064K*
114	RL78/G14	R5F104FJAFF	PLQP0044G*	174	RL78/G14	R5F104LFABG	PVBG0064L*
115	RL78/G14	R5F104FJDFF	PLQP0044G*	175	RL78/G14	R5F104LFAFA	PLQP0064J*
116	RL78/G14	R5F104FJGFP	PLQP0044G*	176	RL78/G14	R5F104LFAFB	PLQP0064K*
117	RL78/G14	R5F104JCAFA	PLQP0052J*	177	RL78/G14	R5F104LFAFP	PLQP0064G*
118	RL78/G14	R5F104JCDAFA	PLQP0052J*	178	RL78/G14	R5F104LFALA	PWLG0064K*
119	RL78/G14	R5F104JCGFA	PLQP0052J*	179	RL78/G14	R5F104LFANA	PWQN0064K*
120	RL78/G14	R5F104JDAFA	PLQP0052J*	180	RL78/G14	R5F104LFDFA	PLQP0064J*
121	RL78/G14	R5F104JDDFA	PLQP0052J*	181	RL78/G14	R5F104LFDFA	PLQP0064K*
122	RL78/G14	R5F104JDGFA	PLQP0052J*	182	RL78/G14	R5F104LFDFA	PLQP0064G*
123	RL78/G14	R5F104JEAFA	PLQP0052J*	183	RL78/G14	R5F104LFDNA	PWQN0064K*
124	RL78/G14	R5F104JEDFA	PLQP0052J*	184	RL78/G14	R5F104LFGBG	PVBG0064L*
125	RL78/G14	R5F104JEGFA	PLQP0052J*	185	RL78/G14	R5F104LFGFA	PLQP0064J*
126	RL78/G14	R5F104JFAFA	PLQP0052J*	186	RL78/G14	R5F104LFGFB	PLQP0064K*
127	RL78/G14	R5F104JFDFA	PLQP0052J*	187	RL78/G14	R5F104LFGFP	PLQP0064G*
128	RL78/G14	R5F104JFGFA	PLQP0052J*	188	RL78/G14	R5F104LFGFA	PWLG0064K*
129	RL78/G14	R5F104JGAFA	PLQP0052J*	189	RL78/G14	R5F104LFGNA	PWQN0064K*
130	RL78/G14	R5F104JGDFA	PLQP0052J*	190	RL78/G14	R5F104LGABG	PVBG0064L*
131	RL78/G14	R5F104JGGFA	PLQP0052J*	191	RL78/G14	R5F104LGAFA	PLQP0064J*
132	RL78/G14	R5F104JHAFA	PLQP0052J*	192	RL78/G14	R5F104LGAFB	PLQP0064K*
133	RL78/G14	R5F104JHDAFA	PLQP0052J*	193	RL78/G14	R5F104LGAFA	PLQP0064G*
134	RL78/G14	R5F104JHGFA	PLQP0052J*	194	RL78/G14	R5F104LGALA	PWLG0064K*
135	RL78/G14	R5F104JJAFA	PLQP0052J*	195	RL78/G14	R5F104LGANA	PWQN0064K*
136	RL78/G14	R5F104JJDAFA	PLQP0052J*	196	RL78/G14	R5F104LGDAFA	PLQP0064J*
137	RL78/G14	R5F104JJGFA	PLQP0052J*	197	RL78/G14	R5F104LGDFB	PLQP0064K*
138	RL78/G14	R5F104LCAFA	PLQP0064J*	198	RL78/G14	R5F104LGDFP	PLQP0064G*
139	RL78/G14	R5F104LCAFB	PLQP0064K*	199	RL78/G14	R5F104LGDNA	PWQN0064K*
140	RL78/G14	R5F104LCAFP	PLQP0064G*	200	RL78/G14	R5F104LGGBG	PVBG0064L*
141	RL78/G14	R5F104LCALA	PWLG0064K*	201	RL78/G14	R5F104LGGFA	PLQP0064J*
142	RL78/G14	R5F104LCDFA	PLQP0064J*	202	RL78/G14	R5F104LGGFB	PLQP0064K*
143	RL78/G14	R5F104LCDFB	PLQP0064K*	203	RL78/G14	R5F104LGGFP	PLQP0064G*
144	RL78/G14	R5F104LCDFP	PLQP0064G*	204	RL78/G14	R5F104LGGLA	PWLG0064K*
145	RL78/G14	R5F104LCDLA	PWLG0064K*	205	RL78/G14	R5F104LGGNA	PWQN0064K*
146	RL78/G14	R5F104LCGFA	PLQP0064J*	206	RL78/G14	R5F104LHABG	PVBG0064L*
147	RL78/G14	R5F104LCGFB	PLQP0064K*	207	RL78/G14	R5F104LHAFA	PLQP0064J*
148	RL78/G14	R5F104LCGFP	PLQP0064G*	208	RL78/G14	R5F104LHAFB	PLQP0064K*
149	RL78/G14	R5F104LCGLA	PWLG0064K*	209	RL78/G14	R5F104LHAFA	PLQP0064G*
150	RL78/G14	R5F104LDAFA	PLQP0064J*	210	RL78/G14	R5F104LHALA	PWLG0064K*
151	RL78/G14	R5F104LDAFB	PLQP0064K*	211	RL78/G14	R5F104LHANA	PWQN0064K*
152	RL78/G14	R5F104LDAFP	PLQP0064G*	212	RL78/G14	R5F104LHDAFA	PLQP0064J*
153	RL78/G14	R5F104LDALA	PWLG0064K*	213	RL78/G14	R5F104LHDFB	PLQP0064K*
154	RL78/G14	R5F104LDDFA	PLQP0064J*	214	RL78/G14	R5F104LHDFP	PLQP0064G*
155	RL78/G14	R5F104LDDFB	PLQP0064K*	215	RL78/G14	R5F104LHDNA	PWQN0064K*
156	RL78/G14	R5F104LDDFP	PLQP0064G*	216	RL78/G14	R5F104LHGBG	PVBG0064L*
157	RL78/G14	R5F104LDDLA	PWLG0064K*	217	RL78/G14	R5F104LHGFA	PLQP0064J*
158	RL78/G14	R5F104LDGFA	PLQP0064J*	218	RL78/G14	R5F104LHGFB	PLQP0064K*
159	RL78/G14	R5F104LDGFB	PLQP0064K*	219	RL78/G14	R5F104LHGFP	PLQP0064G*
160	RL78/G14	R5F104LDGFP	PLQP0064G*	220	RL78/G14	R5F104LHGLA	PWLG0064K*

Table. Product list

MCR-22-0500

No	Group	Product part number	Package code	No	Group	Product part number	Package code
221	RL78/G14	R5F104LHGNA	PWQN0064K*	281	RL78/G14	R5F104MLGFB	PLQP0080K*
222	RL78/G14	R5F104LJABG	PVBG0064L*	282	RL78/G14	R5F104PFAFA	PLQP0100J*
223	RL78/G14	R5F104LJAFA	PLQP0064J*	283	RL78/G14	R5F104PFAFB	PLQP0100K*
224	RL78/G14	R5F104LJAFB	PLQP0064K*	284	RL78/G14	R5F104PFDFA	PLQP0100J*
225	RL78/G14	R5F104LJAFA	PLQP0064G*	285	RL78/G14	R5F104PFDFA	PLQP0100K*
226	RL78/G14	R5F104LJALA	PWLG0064K*	286	RL78/G14	R5F104PFGFA	PLQP0100J*
227	RL78/G14	R5F104LJANA	PWQN0064K*	287	RL78/G14	R5F104PFGFB	PLQP0100K*
228	RL78/G14	R5F104LJDFA	PLQP0064J*	288	RL78/G14	R5F104PGAFA	PLQP0100J*
229	RL78/G14	R5F104LJDFA	PLQP0064K*	289	RL78/G14	R5F104PGAFA	PLQP0100K*
230	RL78/G14	R5F104LJDFA	PLQP0064G*	290	RL78/G14	R5F104PGDFA	PLQP0100J*
231	RL78/G14	R5F104LJDFA	PWQN0064K*	291	RL78/G14	R5F104PGDFB	PLQP0100K*
232	RL78/G14	R5F104LJGBG	PVBG0064L*	292	RL78/G14	R5F104PGGFA	PLQP0100J*
233	RL78/G14	R5F104LJGFA	PLQP0064J*	293	RL78/G14	R5F104PGGFB	PLQP0100K*
234	RL78/G14	R5F104LJGFB	PLQP0064K*	294	RL78/G14	R5F104PHAFA	PLQP0100J*
235	RL78/G14	R5F104LJGFB	PLQP0064G*	295	RL78/G14	R5F104PHAFA	PLQP0100K*
236	RL78/G14	R5F104LJGLA	PWLG0064K*	296	RL78/G14	R5F104PHDFA	PLQP0100J*
237	RL78/G14	R5F104LJGNA	PWQN0064K*	297	RL78/G14	R5F104PHDFB	PLQP0100K*
238	RL78/G14	R5F104LKAFA	PLQP0064J*	298	RL78/G14	R5F104PHGFA	PLQP0100J*
239	RL78/G14	R5F104LKAFA	PLQP0064K*	299	RL78/G14	R5F104PHGFB	PLQP0100K*
240	RL78/G14	R5F104LKALA	PWLG0064K*	300	RL78/G14	R5F104PJAFB	PLQP0100J*
241	RL78/G14	R5F104LKGFA	PLQP0064J*	301	RL78/G14	R5F104PJAFB	PLQP0100K*
242	RL78/G14	R5F104LKGFB	PLQP0064K*	302	RL78/G14	R5F104PJDFB	PLQP0100J*
243	RL78/G14	R5F104LKGFB	PWLG0064K*	303	RL78/G14	R5F104PJDFB	PLQP0100K*
244	RL78/G14	R5F104LLAFA	PLQP0064J*	304	RL78/G14	R5F104PJGFA	PLQP0100J*
245	RL78/G14	R5F104LLAFA	PLQP0064K*	305	RL78/G14	R5F104PJGFB	PLQP0100K*
246	RL78/G14	R5F104LLALA	PWLG0064K*	306	RL78/G14	R5F104PKAFA	PLQP0100J*
247	RL78/G14	R5F104LLGFA	PLQP0064J*	307	RL78/G14	R5F104PKAFB	PLQP0100K*
248	RL78/G14	R5F104LLGFB	PLQP0064K*	308	RL78/G14	R5F104PKGFA	PLQP0100J*
249	RL78/G14	R5F104LLGFA	PWLG0064K*	309	RL78/G14	R5F104PKGFB	PLQP0100K*
250	RL78/G14	R5F104MFAFA	PLQP0080J*	310	RL78/G14	R5F104PLAFA	PLQP0100J*
251	RL78/G14	R5F104MFAFA	PLQP0080K*	311	RL78/G14	R5F104PLAFA	PLQP0100K*
252	RL78/G14	R5F104MFDFA	PLQP0080J*	312	RL78/G14	R5F104PLGFA	PLQP0100J*
253	RL78/G14	R5F104MFDFA	PLQP0080K*	313	RL78/G14	R5F104PLGFB	PLQP0100K*
254	RL78/G14	R5F104MFGFA	PLQP0080J*	314	RL78/G14	R5F104GAFA	PLQP0048K*
255	RL78/G14	R5F104MFGFB	PLQP0080K*	315	RL78/G14	R5F104GAANA	PWQN0048K*
256	RL78/G14	R5F104MGAFA	PLQP0080J*	316	RL78/G14	R5F104GADFB	PLQP0048K*
257	RL78/G14	R5F104MGAFA	PLQP0080K*	317	RL78/G14	R5F104GADNA	PWQN0048K*
258	RL78/G14	R5F104MGDFA	PLQP0080J*	318	RL78/G14	R5F104GAGFB	PLQP0048K*
259	RL78/G14	R5F104MGDFB	PLQP0080K*	319	RL78/G14	R5F104GAGNA	PWQN0048K*
260	RL78/G14	R5F104MGGFA	PLQP0080J*	320	RL78/G14	R5F104GCAFB	PLQP0048K*
261	RL78/G14	R5F104MGGFB	PLQP0080K*	321	RL78/G14	R5F104GCANA	PWQN0048K*
262	RL78/G14	R5F104MHAFA	PLQP0080J*	322	RL78/G14	R5F104GCDFA	PLQP0048K*
263	RL78/G14	R5F104MHAFA	PLQP0080K*	323	RL78/G14	R5F104GCDNA	PWQN0048K*
264	RL78/G14	R5F104MHDFA	PLQP0080J*	324	RL78/G14	R5F104GCGFB	PLQP0048K*
265	RL78/G14	R5F104MHDFA	PLQP0080K*	325	RL78/G14	R5F104GCGNA	PWQN0048K*
266	RL78/G14	R5F104MHGFA	PLQP0080J*	326	RL78/G14	R5F104GDAFA	PLQP0048K*
267	RL78/G14	R5F104MHGFB	PLQP0080K*	327	RL78/G14	R5F104GDANA	PWQN0048K*
268	RL78/G14	R5F104MJAFA	PLQP0080J*	328	RL78/G14	R5F104GDDFB	PLQP0048K*
269	RL78/G14	R5F104MJAFA	PLQP0080K*	329	RL78/G14	R5F104GDDNA	PWQN0048K*
270	RL78/G14	R5F104MJDFA	PLQP0080J*	330	RL78/G14	R5F104GDGFB	PLQP0048K*
271	RL78/G14	R5F104MJDFA	PLQP0080K*	331	RL78/G14	R5F104GDGNA	PWQN0048K*
272	RL78/G14	R5F104MJGFA	PLQP0080J*	332	RL78/G14	R5F104GEAFA	PLQP0048K*
273	RL78/G14	R5F104MJGFB	PLQP0080K*	333	RL78/G14	R5F104GEANA	PWQN0048K*
274	RL78/G14	R5F104MKAFA	PLQP0080J*	334	RL78/G14	R5F104GEDFB	PLQP0048K*
275	RL78/G14	R5F104MKAFA	PLQP0080K*	335	RL78/G14	R5F104GEDNA	PWQN0048K*
276	RL78/G14	R5F104MKGFA	PLQP0080J*	336	RL78/G14	R5F104GEGFB	PLQP0048K*
277	RL78/G14	R5F104MKGFB	PLQP0080K*	337	RL78/G14	R5F104GEGNA	PWQN0048K*
278	RL78/G14	R5F104MLAFA	PLQP0080J*	338	RL78/G14	R5F104GFAFA	PLQP0048K*
279	RL78/G14	R5F104MLAFA	PLQP0080K*	339	RL78/G14	R5F104GFANA	PWQN0048K*
280	RL78/G14	R5F104MLGFA	PLQP0080J*	340	RL78/G14	R5F104GDFB	PLQP0048K*

Table. Product list

MCR-22-0500

No	Group	Product part number	Package code	No	Group	Product part number	Package code
341	RL78/G14	R5F104GFDNA	PWQN0048K*	401			
342	RL78/G14	R5F104GFGFB	PLQP0048K*	402			
343	RL78/G14	R5F104GFGNA	PWQN0048K*	403			
344	RL78/G14	R5F104GGAFFB	PLQP0048K*	404			
345	RL78/G14	R5F104GGANA	PWQN0048K*	405			
346	RL78/G14	R5F104GGDFB	PLQP0048K*	406			
347	RL78/G14	R5F104GGDNA	PWQN0048K*	407			
348	RL78/G14	R5F104GGGFB	PLQP0048K*	408			
349	RL78/G14	R5F104GGGNA	PWQN0048K*	409			
350	RL78/G14	R5F104GHAFB	PLQP0048K*	410			
351	RL78/G14	R5F104GHANA	PWQN0048K*	411			
352	RL78/G14	R5F104GHDFFB	PLQP0048K*	412			
353	RL78/G14	R5F104GHDNA	PWQN0048K*	413			
354	RL78/G14	R5F104GHGFB	PLQP0048K*	414			
355	RL78/G14	R5F104GHGNA	PWQN0048K*	415			
356	RL78/G14	R5F104GJAFB	PLQP0048K*	416			
357	RL78/G14	R5F104GJANA	PWQN0048K*	417			
358	RL78/G14	R5F104GJDFFB	PLQP0048K*	418			
359	RL78/G14	R5F104GJDNA	PWQN0048K*	419			
360	RL78/G14	R5F104GJGFB	PLQP0048K*	420			
361	RL78/G14	R5F104GJGNA	PWQN0048K*	421			
362	RL78/G14	R5F104GKAFFB	PLQP0048K*	422			
363	RL78/G14	R5F104GKANA	PWQN0048K*	423			
364	RL78/G14	R5F104GKGFB	PLQP0048K*	424			
365	RL78/G14	R5F104GKGNA	PWQN0048K*	425			
366	RL78/G14	R5F104GLAFB	PLQP0048K*	426			
367	RL78/G14	R5F104GLANA	PWQN0048K*	427			
368	RL78/G14	R5F104GLGFB	PLQP0048K*	428			
369	RL78/G14	R5F104GLGNA	PWQN0048K*	429			
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