Hardware Manual

R-Car Starter Kit Premier / Pro BOM List

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General Precautions in the Handling of Microprocessing Unit and Microcontroller Unit Products

The following usage notes are applicable to all Microprocessing unit and Microcontroller unit products from Renesas. For detailed usage notes on the products covered by this document, refer to the relevant sections of the document as well as any technical updates that have been issued for the products.

1. Handling of Unused Pins
   Handle unused pins in accordance with the directions given under Handling of Unused Pins in the manual.
   — The input pins of CMOS products are generally in the high-impedance state. In operation with an unused pin in the open-circuit state, extra electromagnetic noise is induced in the vicinity of LSI, an associated shoot-through current flows internally, and malfunctions occur due to the false recognition of the pin state as an input signal become possible. Unused pins should be handled as described under Handling of Unused Pins in the manual.
2. Processing at Power-on
   The state of the product is undefined at the moment when power is supplied.
   — The states of internal circuits in the LSI are indeterminate and the states of register settings and pins are undefined at the moment when power is supplied.
   In a finished product where the reset signal is applied to the external reset pin, the states of pins are not guaranteed from the moment when power is supplied until the reset process is completed.
   In a similar way, the states of pins in a product that is reset by an on-chip power-on reset function are not guaranteed from the moment when power is supplied until the power reaches the level at which resetting has been specified.
3. Prohibition of Access to Reserved Addresses
   Access to reserved addresses is prohibited.
   — The reserved addresses are provided for the possible future expansion of functions. Do not access these addresses; the correct operation of LSI is not guaranteed if they are accessed.
4. Clock Signals
   After applying a reset, only release the reset line after the operating clock signal has become stable. When switching the clock signal during program execution, wait until the target clock signal has stabilized.
   — When the clock signal is generated with an external resonator (or from an external oscillator) during a reset, ensure that the reset line is only released after full stabilization of the clock signal. Moreover, when switching to a clock signal produced with an external resonator (or by an external oscillator) while program execution is in progress, wait until the target clock signal is stable.
5. Differences between Products
   Before changing from one product to another, i.e. to a product with a different part number, confirm that the change will not lead to problems.
   — The characteristics of Microprocessing unit or Microcontroller unit products in the same group but having a different part number may differ in terms of the internal memory capacity, layout pattern, and other factors, which can affect the ranges of electrical characteristics, such as characteristic values, operating margins, immunity to noise, and amount of radiated noise. When changing to a product with a different part number, implement a system-evaluation test for the given product.

Renesas Electronics Corporation

"R-Car_H3/M3 Starter Kit"

This parts list corresponds to Schematic revision Rev210

R-Car_Gen3_Starterkit Materials

Item	Quantity	Reference	Value	part Number	Tolerance	ted Volta	Device Size	Sub part	Maker	Note
1	1	**U1**	**H3_M3_SiP_BGA**	**R8J77965JA00BG R8J77960JA09BG R8J77951JA00BG R8J77951JA03BG R8J77951JX00BG**				**R-Car H3 SoC, R-Car M3-W SoC**	**Renesas**	**SoC**
								K4F6E3D4HB-MHCJ(16Gb, -40° C to 105° C) :Samsung MT53B256M32D1NP-062 AAT(8Gb, -40° C to 105° C) :Micron K4F8E3S4HB-MHCJ(8Gb, -40° C to 105° C) :Samsung K4F8E3S4HB-MHCJ(8Gb, -40° C to 105° C) :Samsung K4F6E3D4HB-MHCJ(16Gb, -40° C to 105° C) :Samsung K4F6E3D4HB-MHCJ(16Gb, -40° C to 105° C) :Samsung	**Micron Samsung**	**R8J77965JA00BG : M3N DDR16Gb R8J77960JA09BG : M3W DDR8Gb R8J77951JA00BG : H3 WS2.0 DDR8Gb R8J77951JX00BG : H3 WS2.0 DDR8Gb R8J77951JA03BG : H3 WS2.0 DDR16Gb R8J77951JA03BG : H3 WS3.0 DDR16Gb**
								S26KS512SDPBHV020	**Cypress**	**Flash**
2	1	**U22**	**eMMC**	**MTFC8GACAENS-K1 KLM8G1GESD-B04P KLMDG8JEUD-B04Q SDINBDG4-64G-ZA SDINBDG4-32G-ZA**					**Micron Samsung Sandisk**	**MTFC8GACAENS-K1 AIT(8Gb, -40° C to 85° C):Micron KLM8G1GESD-B04P(8GB, -40° C to 85° C) :Samsung KLMDG8JEUD-B04Q(128GB, -40° C to 105° C) :Samsung SDINBDG4-64G-ZA(64GB, -40° C to 105° C) :SanDisk SDINBDG4-32G-ZA(32GB, -40° C to 105° C) :SanDisk**
3	1	**U72**	**BD9571MWV BD9571MWF-M**	**BD9571MWV BD9571MWF-M**					**ROHM**	BD9571MWV : 2ndCut BD9571MWF-M : 5thCut
4	1	U12	BR24T01FVM-W	BR24T01FVM-W					ROHM	
5	1	U15	BD82065FVJ	BD82065FVJ					ROHM	
6	1	U61	5P49V5925B508NLGI	5P49V5925B508NLGI					Integrated Device Technology(IDT)	
7	1	U87	9FGV0841AKILF	9FGV0841AKILF					Integrated Device Technology(IDT)	
8	1	U5	QSPI_Memory	S25FS128SAGMFV100 S25FS128SAGMFI100					Cypress	
9	1	U38	AK4613VQ	AK4613VQ					ASAHI KASEI MICRODEVICES	
10	1	U78	KSZ9031RNXVB	KSZ9031RNXVB					MICREL	
11	1	U19	MIC94091YC6	MIC94091YC6					MICREL	
12	2	U82, U83	MAX9813LEKA	MAX9813LEKA					MAXIM	
13	1	U88	5M240ZM100	5M240ZM100C5N					ALTERA	
14	1	U41	CS2000-CP	CS2000CP-CZZR					CIRRUS LOGIC	
15	1	U42	CP2102*	CP2102-GM					Silicon Labs	
16	1	U122	FT232RQ	FT232RQ-REEL					FTDI	
17	1	U27	TPD12S016PWR	TPD12S016PWR					TEXAS INSTRUMENTS	
18	2	U33, U68	TXS0102DCUT	TXS0102DCUT					TEXAS INSTRUMENTS	
19	2	U84, U85	IPG20N04S4L-08	IPG20N04S4L-08					Infineon	
20	1	U37	ADP1706ARDZ-1.2-R7	ADP1706ARDZ-1.2-R7					Analog Devices	
21	2	U34, U123	HD74LV1GT08A	HD74LV1GT08ACME					RENESAS	
22	1	U43	HD74LV1GT08A*	HD74LV1GT08ACME					RENESAS	
23	1	U35	HD74LV1G08A	HD74LV1G08ACME					RENESAS	
24	1	U89	SN74CB3Q3245RGYR	SN74CB3Q3245RGYR					TEXAS INSTRUMENTS	
25	1	U121	SN74AUP1T34DCK	SN74AUP1T34DCK					TEXAS INSTRUMENTS	
26	1	U124	LTC4365CTS8#PBF	LTC4365CTS8#PBF					LINEAR TECHNOLOGY	
27	1	U125	RQ3E180AJ	RQ3E180AJ					ROHM	
28	1	X1	2520 14.7456MHz/50ppm	SG-210SCB 14.745600 MHz L					SEIKO EPSON	
29	1	X4	2520 16.6666MHz/50ppm	SG-210SEB 16.666600 MHz L					SEIKO EPSON	
30	1	X6	2016 50.0000MHz/10pF/15ppm	FA-128 50.000000 MHz 10pf/15ppm					SEIKO EPSON	
31	3	X9, X23, X24	2016 25MHz/20pF/15ppm	FA-128 25.000000 MHz 20.0 +10.0-10.0					SEIKO EPSON	
32	1	X10	2520 125MHz/50ppm	SG-8003CG 125.000000 MHz SCB /SG8101CGA 125.000000 MHz					SEIKO EPSON	
33	2	X11, X25	2520 22.5792MHz/50ppm	SG-210SCB 22.5792MHz L					SEIKO EPSON	
34	1	X12	2016 24.576MHz/20pF/15ppm	FA-128 24.576000 MHz/20pF					SEIKO EPSON	
35	1	X5	2520 32.768kHz/50ppm	KC2520M32K7680CM3E00 32.768kHz/50ppm					KYOCERA CRISTAL	
36	181	C1, C2, C3, C21, C22, C25, C26, C29, C30, C31, C32, C34, C36, C37, C38, C49, C56, C64, C87, C89, C90, C92, C94, C99, C105, C126, C127, C128, C129, C142, C143, C144, C145, C146, C147, C148, C149, C150, C151, C152, C153, C154, C157, C158, C159, C160, C268, C270, C271, C272, C274, C275, C276, C277, C279, C280, C282, C287, C288, C289, C341, C343, C349, C350, C351, C352, C355, C356, C358, C359, C361, C376, C433, C434, C461, C464, C466, C467, C470, C471, C474, C475, C479, C531, C532, C544, C565, C604, C605, C606, C607, C608, C609, C610, C611, C616, C617, C618, C619, C620, C621, C622, C623, C671, C672, C673, C674, C675, C676, C677, C678, C734, C735, C736, C737, C738, C739, C740, C741, C747, C748, C749, C750, C752, C762, C763, C770, C771, C772, C773, C774, C793, C795, C796, C798, C799, C800, C802, C808, C809, C810, C813, C814, C816, C817, C818, C828, C829, C830, C831, C929, C930, C949, C951, C952, C953, C954, C957, C958, C959, C961, C963, C965, C966, C967, C968, C969, C970, C971, C972, C973, C974, C988, C1008, C1009, C1010, C1013, C1014, C1015, C1026, C1027	0.1uF	GRM033R61A104KE15D	+/-10%	10V	0603		MURATA	
37	3	C24, C27, C28	10pF	GRM0335C1E100JA01D	+/-5%	25V	0603		MURATA	
38	73	C33, C35, C41, C44, C46, C52, C58, C61, C74, C80, C86, C88, C102, C104, C106, C111, C112, C116, C117, C121, C122, C125, C173, C174, C175, C177, C180, C203, C204, C205, C206, C209, C210, C212, C215, C457, C458, C624, C625, C626, C627, C628, C629, C630, C631, C679, C680, C681, C682, C683, C684, C685, C686, C754, C755, C756, C757, C758, C759, C760, C761, C764, C765, C766, C767, C768, C769, C776, C880, C882, C883, C885, C886	0.01uF	GRM033R11A103KA01D	+/-10%	10V	0603		MURATA	
39	43	C43, C51, C65, C70, C81, C107, C114, C119, C269, C273, C342, C554, C576, C578, C579, C580, C581, C582, C612, C613, C614, C615, C667, C668, C669, C670, C751, C792, C794, C797, C801, C811, C812, C815, C832, C955, C956, C986, C989, C990, C991, C992, C993	1uF	GRM155R61A105KE15D	+/-10%	10V	1005		MURATA	
40	16	C50, C55, C63, C69, C93, C353, C354, C357, C360, C362, C363, C476, C862, C863, C876, C877	2.2uF	GRM155R61C225KE11D	+/-10%	16V	1005		MURATA	
41	19	C85, C103, C110, C115, C120, C242, C243, C244, C245, C264, C265, C266, C267, C556, C557, C803, C804, C807, C878	4.7uF	GRM155R61A475MEAAD	+/-20%	10V	1005		MURATA	
42	73	C131, C134, C137, C638, C639, C640, C641, C642, C643, C644, C645, C646, C647, C648, C649, C650, C651, C652, C653, C654, C655, C656, C657, C658, C659, C660, C661, C662, C663, C664, C665, C666, C693, C694, C695, C696, C697, C698, C699, C700, C701, C702, C703, C704, C705, C706, C707, C708, C709, C710, C711, C712, C713, C714, C715, C716, C717, C718, C719, C720, C721, C722, C723, C724, C725, C726, C727, C728, C729, C730, C731, C732, C733	1000pF	GRM033R71E102KA01D	+/-10%	25V	0603		MURATA	
43	36	C155, C156, C161, C220, C221, C255, C256, C442, C444, C451, C453, C454, C455, C456, C465, C468, C469, C472, C473, C482, C530, C541, C555, C561, C566, C571, C577, C746, C805, C806, C860, C861, C879, C960, C1007, C1017	10uF	GRM188R61C106KAALD	+/-10%	16V	1608		MURATA	
44	11	C162, C200, C201, C216, C285, C286, C870, C871, C884, C889, C893	0.047uF	GRM155R71E473KA88D	+/-10%	25V	1005		MURATA	
45	8	C163, C165, C195, C198, C864, C865, C866, C874	0.22uF	GRM155R61C224KA12D	+/-10%	16V	1005		MURATA	
46	11	C167, C211, C213, C214, C545, C872, C873, C888, C890, C891,	0.022uF	GRM155R71H223KA12D	+/-10%	50V	1005		MURATA	

		C892								
47	14	C171, C172, C632, C633, C634, C635, C636, C637, C687, C688, C689, C690, C691, C692	4700pF	GRM033R71C472KE14D	+/-10%	16V	0603		MURATA	
48	3	C333, C334, C1011	1uF	GRM188R61C105KA93D	+/-10%	16V	1608		MURATA	
49	2	C377, C378	4.7uF	GRM188R61C475KAAJD	+/-10%	16V	1608		MURATA	
50	2	C437, C438	20pF	GRM0335C1H200JA01D	+/-5%	50V	0603		MURATA	
51	2	C478, C481	39pF	GRM0335C1E390JA01D	+/-5%	25V	0603		MURATA	
52	4	C483, C485, C558, C562	0.1uF*	GRM033R61A104KE15D	+/-10%	10V	0603		MURATA	
53	7	C490, C491, C492, C493, C976, C978, C1012	0.1uF	GRM155R71C104KA88D	+/-10%	16V	1005		MURATA	
54	14	C533, C534, C535, C536, C537, C560, C564, C837, C842, C999, C1000, C1001, C1002, C1003	100uF	GRM21BR60G107ME15L	+/-20%	4V	2012		MURATA	
55	2	C540, C542	47uF	GRM32ER61C476KE15L	+/-10%	16V	3225		MURATA	
56	15	C546, C547, C548, C549, C573, C1004, C1005, C1006, C1016, C1018, C1019, C1021, C1022, C1024, C1025	47uF	GRM21BR61A476ME15L	+/-20%	10V	2012		MURATA	
57	4	C559, C563, C568, C572	0.01uF*	GRM033R11A103KA01D	+/-10%	10V	0603		MURATA	
58	3	C567, C1020, C1023	22uF	GRM188R61A226ME15D	+/-20%	10V	1608		MURATA	
59	2	C744, C745	24pF	GRM0335C1H240JA01D	+/-5%	50V	0603		MURATA	
60	1	C833	1uF*	GRM188R61C105KA93D	+/-10%	16V	1608		MURATA	
61	6	C867, C868, C869, C875, C881, C887	0.47uF	GRM155R6YA474KE01D	+/-10%	35V	1005		MURATA	
62	2	C962, C964	30pF	GRM0335C1E300JA01D	+/-5%	25V	0603		MURATA	
63	1	C985	1000pF*	GRM033R71E102KA01D	+/-10%	25V	0603		MURATA	
64	2	E17, E18	22uF	GRM31CR71A226KE15L	+/-10%	10V	3216		MURATA	
65	5	C994, C995, C996, C997, C998	100uF	EMK325ABJ107MM-T	+/-20%	16V	3225		TAIYO YUDEN	
66	66	R1, R24, R26, R27, R42, R43, R44, R45, R46, R47, R48, R51, R84, R86, R204, R225, R226, R227, R228, R229, R230, R231, R232, R233, R234, R235, R323, R412, R415, R430, R435, R625, R641, R645, R647, R649, R653, R658, R659, R661, R664, R668, R677, R680, R683, R684, R685, R687, R794, R813, R833, R834, R841, R842, R843, R844, R847, R849, R856, R857, R858, R859, R860, R862, R881, R882	0	MCR006YLPJ000	+/-5%		0603		ROHM	
67	46	R2, R4, R6, R7, R15, R25, R28, R50, R139, R196, R197, R198, R199, R201, R202, R203, R244, R245, R313, R314, R318, R319, R325, R337, R341, R413, R437, R440, R461, R610, R679, R681, R763, R764, R765, R766, R767, R768, R769, R785, R793, R805, R825, R845, R861, R884	10k	MCR006YLPJ103	+/-5%		0603		ROHM	
68	9	R3, R8, R9, R23, R334, R345, R346, R743, R744	22	MCR006YLPJ220	+/-5%		0603		ROHM	
69	8	R5, R85, R87, R350, R438, R439, R770, R771	10k*	MCR006YLPJ103	+/-5%		0603		ROHM	
70	2	R10, R33	100k	MCR006YLPJ104	+/-5%		0603		ROHM	
71	22	R11, R12, R13, R14, R186, R340, R343, R364, R365, R366, R615, R673, R674, R676, R752, R753, R754, R755, R756, R757, R759, R760	2k	MCR006YLPJ202	+/-5%		0603		ROHM	
72	24	R29, R30, R31, R32, R38, R41, R187, R247, R358, R359, R360, R361, R362, R363, R421, R428, R463, R464, R706, R707, R747, R809, R810, R818	1k	MCR006YLPJ102	+/-5%		0603		ROHM	
73	2	R34, R351	4.7k*	MCR006YLPJ472	+/-5%		0603		ROHM	
74	5	R35, R36, R37, R185, R321	4.7k	MCR006YLPJ472	+/-5%		0603		ROHM	
75	4	R39, R827, R885, R886	0*	MCR01MZPJ000	+/-5%		1005		ROHM	
76	11	R40, R74, R75, R76, R77, R646, R650, R672, R675, R826, R883	0	MCR01MZPJ000	+/-5%		1005		ROHM	
77	34	R49, R411, R424, R449, R453, R457, R459, R604, R643, R644, R651, R652, R656, R657, R662, R663, R666, R667, R670, R671, R678, R682, R835, R836, R846, R848, R852, R854, R872, R873, R874, R875, R879, R880	0*	MCR006YLPJ000	+/-5%		0603		ROHM	
78	8	R52, R53, R54, R55, R56, R57, R58, R59	200	MCR006YLPF2000	+/-1%		0603		ROHM	
79	9	R66, R67, R68, R69, R70, R71, R72, R73, R789	1	MCR01MZPFL1R00	+/-1%		1005		ROHM	
80	1	R78	49.9*	MCR006YLPF49R9	+/-1%		0603		ROHM	
81	12	R91, R92, R94, R95, R99, R101, R102, R103, R108, R109, R110, R115	240.0	MCR01MZPF2400	+/-1%		1005		ROHM	
82	4	R93, R100, R107, R111	240.0*	MCR01MZPF2400	+/-1%		1005		ROHM	
83	1	R200	10k	MCR01MZPJ103	+/-5%		1005		ROHM	
84	1	R205	10k*	MCR01MZPJ103	+/-5%		1005		ROHM	
85	11	R223, R224, R236, R863, R864, R865, R866, R867, R868, R869, R870	47k	MCR006YLPJ473	+/-5%		0603		ROHM	
86	2	R299, R305	130	MCR006YLPJ131	+/-5%		0603		ROHM	
87	1	R320	12.1k	MCR006YLPF1212	+/-1%		0603		ROHM	
88	7	R327, R329, R462, R465, R790, R791, R792	1k*	MCR006YLPJ102	+/-5%		0603		ROHM	
89	2	R414, R416	6.8k	MCR006YLPF6801	+/-1%		0603		ROHM	
90	2	R418, R434	1k	MCR006YLPF1001	+/-1%		0603		ROHM	
91	1	R425	470	MCR006YRTF4700	+/-1%		0603		ROHM	
92	1	R426	240	MCR006YZPF2400	+/-1%		0603		ROHM	
93	1	R436	160	MCR006YLPF1600	+/-1%		0603		ROHM	
94	2	R450, R454	15k	MCR006YLPF1502	+/-1%		0603		ROHM	
95	2	R451, R455	39k	MCR006YLPF3902	+/-1%		0603		ROHM	
96	7	R601, R602, R611, R612, R795, R796, R797	33	MCR006YLPJ330	+/-5%		0603		ROHM	
97	1	R613	2.2	MCR01MZPFL2R20	+/-1%		1005		ROHM	
98	1	R624	47k*	MCR006YLPJ473	+/-5%		0603		ROHM	
99	6	R724, R725, R726, R727, R728, R729	100	MCR006YLPF1000	+/-1%		0603		ROHM	
100	1	R871	33*	MCR006YLPJ330	+/-5%		0603		ROHM	
101	2	R60, R63	1.62k	ERJ-1GEF1621C	+/-1%		0603		Panasonic	
102	3	R61, R62, R64	4.02k 200	ERJ-1GEF4021C MCR006YLPF2000	+/-1% +/-1%		0603 0603		Panasonic ROHM	M3SiP H3SiP
103	1	R65	4.02k	ERJ-1GEF4021C	+/-1%		0603		Panasonic	
104	6	R642, R648, R654, R660, R665, R669	24.9	ERJ-1GEF24R9C	+/-1%		0603		Panasonic	
105	1	R887	100k	MCR01MZPD1003	+/-0.5%		1005		ROHM	
106	1	R888	1.2M	MCR01MZPD1204	+/-0.5%		1005		ROHM	
107	1	L53	0.15uH	SPM6545VT- R15M-D	+/-20%		7366		TDK	
108	2	L55, L56	0.24uH	DFE201612P-24M	+/-20%		2016		TOKO	
109	2	L57, L58	0.33uH	DFE201612P-33M	+/-20%		2016		TOKO	
110	1	L54	0.15uH	SPM3020T-R15M-CA02			3230		TDK	
111	1	L62	MCZ1210AH900L2TD0G	MCZ1210AH900L2TD0G					TDK	
112	7	L68, L69, L70, L71, L72, L108, L109	2.0nH	LQG15HH2N0S02D	+/-0.3nH		1005		MURATA	
113	4	L80, L81, L103, L105	26ohm_100MHz	BLM18KG260TZ1D	+/-25%		1608		MURATA	
114	15	L3, L4, L5, L6, L8, L74, L75, L76, L96, L97, L98, L99, L100, L102, L110	600ohm_100MHz	BLM15AX601SZ1D	+/-25%		1005		MURATA	
115	1	L104	NFM31HK223R1H3	NFM31HK223R1H3L	+/-20%		3216		MURATA	
116	1	N1	10k	NCU18XH103F6SRB			1608		MURATA	
117	1	CN7	Ether_CN	HFJ11-1G41E-L12RL					Halo Electronics	
118	1	CN4	HDMI_CN_0467651301	0467651301					MOLEX	
119	1	CN5	48204-0001	48204-0001					MOLEX	
120	1	CN14	22-04-1031	22-04-1031					MOLEX	
121	1	CN3	SICA2P20S1000	SICA2P20S1000					TOKYO ELETECH	
122	1	CN12	ZX62D-AB-5P8(30)	ZX62D-AB-5P8(30)					HIROSE	
123	1	CN10	ZX62D-AB-5P8(30)*	ZX62D-AB-5P8(30)					HIROSE	
124	1	CN13	PJ-063AH	PJ-063AH					CUI Inc.	
125	2	CN8, CN9	SJ-3523-SMT	SJ-3523-SMT					CUI Inc.	
126	1	CN6	DM3AT-SF-PEJM5	DM3AT-SF-PEJM5					HIROSE	
127	1	CN11	PSS-710153-06	PSS-710153-06					HIROSUGI	
128	1	CN2	PSM-410336-09	PSM-410336-09					HIROSUGI	
129	1	SW1	CHS-01A	CHS-01A					COPAL ELECTRONICS	
130	2	SW2, SW6	CHS-04A	CHS-04A					COPAL ELECTRONICS	
131	3	SW3, SW4, SW5	B3U-1100PM	B3U-1100PM					OMRON	
132	3	SW7, SW8, SW9	SKRPABE010	SKRPABE010					ALPS	
133	11	TR6, TR7, TR8, TR9, TR10, TR11, TR12, TR20, TR21, TR26, TR30	RE1C001UNTCL	RE1C001UNTCL					ROHM	
134	3	D37, D38, D39	DZ2S033M0L	DZ2S033M0L					Panasonic	
135	1	D40	VS5V0UA1LAMTR*	VS5V0UA1LAMTR					ROHM	
136	7	LED1, LED4, LED5, LED6, LED9, LED14, LED15	SML-P11MT	SML-P11MTT86					ROHM	
137	2	ZR1, ZR2	AVRL101A3R3FTA	AVRL101A3R3FTA					TDK	
138	1	JP1	HWP-3P-G	HWP-3P-G					MAC8	
139	1	(JP1)	(HWP-3P-G)	JS-1					MAC8	
140	1	JP2	MJP-1.0	MJP-1.0					MAC8	
141	1	JP3	MJP-0.3*	MJP-0.3					MAC8	
142	1	MP2	D3.3V	---					---	
143	1	MP3	D1.8V	---					---	
144	1	MP4	DDR1_1.8VV	---					---	
145	1	MP5	DDR0_1.8VV	---					---	
146	1	MP6	DDR1_1.1V	---					---	
147	1	MP7	DDR0_1.1V	---					---	
148	1	MP8	VDD0.8V	---					---	
149	1	MP9	DVFS0.8V	---					---	
150	1	MP10	VLDO_SD0	---					---	
151	1	MP11	VLDO_SD3	---					---	
152	1	MP12	D1.2V	---					---	
153	2	PAD1, PAD2	NC	---					---	
154	3	TP2, TP3, TP4	HK-2-G	HK-2-G					MAC8	
155	13	CP1, CP2, CP3, CP4, CP5, CP6, CP7, CP8, CP9, CP10, CP11, CP12, CP13	CP	SMD-CU1.00-SR0.90					---	
156	1	SKT1	SIP_Heatsink_Hole	SIP_Heatsink_Hole					---	
157	1	CN1	440p_ComExpress	401-55501-51					EPT	
158	**1**	**-**	***PCB***	*FR4 8 layers build up*					*Kyocera*	*95mm x 95mm, 1.6mm thickness, 8 layers stack build up*

R-Car Starter Kit Premier
R-Car Starter Kit Pro

RENESAS