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Old Company Name in Catalogs and Other Documents

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April 1st, 2010
Renesas Electronics Corporation

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RENESAS TECHNICAL UPDATE

Nippon Bldg., 2-6-2, Ohte-machi, Chiyoda-ku, Tokyo 100-0004, Japan
Renesas Technology Corp.

Product Category	MPU&MCU		Document No.	TN-SH7-A605B/E	Rev.	2.00
Title	SH7751R New Package Product name		Information Category	Technical Notification		
Applicable Product	SH7751R	Lot No.	Reference Document	SH7751 Series hardware manual (ADE-602-201B)		
		All				

The followings are the information of new package product of SH7751R(HD6417751R)

1. New product names / specification

- (1) New products' pin arrangement refers to Appendix 1, 2.
- (2) Package dimensions is 17mm × 17mm. Please refer to Appendix 3.
- (3) Mark example refer to Appendix 4.
- (4) DC characteristics and AC characteristics is same existing products
"HD6417751RBP200/200D/240/240D:27mm × 27mmBGA".
- (5) The following shows new products' "Operating temperature" and "Solder ball".

New product name	Operating temperature	Solder ball	Note: about AC/DC spec. *1
HD6417751RBG200	-20 to 75	include lead (Sn-Pb)	HD6417751RBP200
HD6417751RBG200V	-20 to 75	Pb-free	HD6417751RBP200V
HD6417751RBG200D	-40 to 85	include lead (Sn-Pb)	HD6417751RBP200D
HD6417751RBG200DV	-40 to 85	Pb-free	HD6417751RBP200DV
HD6417751RBG240	-20 to 75	include lead (Sn-Pb)	HD6417751RBP240
HD6417751RBG240V	-20 to 75	Pb-free	HD6417751RBP240V
HD6417751RBG240D	-40 to 85	include lead (Sn-Pb)	HD6417751RBP240D
HD6417751RBG240DV	-40 to 85	Pb-free	HD6417751RBP240DV

*1: Please refer the AC/DC characteristics of these products.

Appendix 1 Pin arrangement of PRBG0292GA-A(17mm X 17mm) version

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20																																						
A	EXTAL	XTAL	VSS-CPG	VDD-PLL1	VDD-PLL2	STATUS0	DRAK0	MD5	AUDATA3	AUDATA0	AUDSYNC	MD1/TXD2	TCLK	MD2/RXD2	MD6/IOIS16#	NMI	RESET#	VDD-RTC	EXTAL2	XTAL2	A																																					
B	TMS	TCK	VDD-CPG	VSS-PLL2	ASEBRK#/BRKACK	STATUS1	DRAK1	DACK0	MD3/CE2A#	AUDATA1	AUDCK	MD0/SCK2	MD8/RTS2#	RXD	RDY#	BACK#/BSREQ#	TRST#	VSS-RTC	VDDQ	IRL3#	B																																					
C	TDI	CS0#	VSS-PLL1	TDO	DREQ1#	DREQ0#	VDDQ	DACK1	MD4/CE2B#	AUDATA2	VSS	MD7/CTS2#	SCK	VDDQ	TXD	BREQ#/BSACK#	MRESET#	CA	IRL2#	IRL1#	C																																					
D	CS1#	CS4#	CS5#	VSS	VSS	VDDQ	VDD	VSS	VDDQ	VSS	VDD	VDDQ	VSS	VDD	VDDQ	VSS	VSS	IRL0#	AD0	AD1	D																																					
E	CS6#	BS#	WE0#/REG#	VSS	<div style="border: 1px solid black; padding: 20px; text-align: center;"> <h3>TOP P-FBGA1717-292</h3> <table border="1" style="margin: auto; text-align: center;"> <tr><td>VSS</td><td>VSS</td><td>VSS</td><td>VSS</td><td>VSS</td><td>VSS</td></tr> <tr><td>VSS</td><td>VSS</td><td>VSS</td><td>VSS</td><td>VSS</td><td>VSS</td></tr> <tr><td>VSS</td><td>VSS</td><td>VSS</td><td>VSS</td><td>VSS</td><td>VSS</td></tr> <tr><td>VSS</td><td>VSS</td><td>VSS</td><td>VSS</td><td>VSS</td><td>VSS</td></tr> <tr><td>VSS</td><td>VSS</td><td>VSS</td><td>VSS</td><td>VSS</td><td>VSS</td></tr> <tr><td>VSS</td><td>VSS</td><td>VSS</td><td>VSS</td><td>VSS</td><td>VSS</td></tr> </table> </div>													VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	AD2	AD3	AD4	E
VSS	VSS	VSS	VSS	VSS														VSS																																								
VSS	VSS	VSS	VSS	VSS														VSS																																								
VSS	VSS	VSS	VSS	VSS														VSS																																								
VSS	VSS	VSS	VSS	VSS														VSS																																								
VSS	VSS	VSS	VSS	VSS														VSS																																								
VSS	VSS	VSS	VSS	VSS														VSS																																								
F	WE1#	D0	D1	VDDQ														VDDQ	AD5	AD6	AD7	F																																				
G	D2	D3	VDDQ	VDD														VDD	VDDQ	C/BE0#	AD8	G																																				
H	D4	D5	D6	VSS														VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	AD9	AD10	AD11	H																								
J	D7	D8	D9	VDDQ	VDDQ	VDDQ	AD12	AD13	AD14	J																																																
K	D10	D11	D12	VDD	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	AD15	C/BE1#	PAR	K																																					
L	D13	D14	D15	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VDD	PERR#	PCLOCK#	PCISTOP#	L																																				
M	CAS0#/DQM0	CAS1#/DQM1	RD/WR#	VDDQ	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VDDQ	DEVSEL#	TRDY#	IRDY#	M																																				
N	CKIO	RD#/CASS#/FRAME#	CKE	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	C/BE2#	PCIFRAME#	AD16	N																																				
P	RAS#	CS2#	VDDQ	VDD	VDD	VDDQ	AD17	AD18	P																																																	
R	CS3#	A0	A1	VDDQ	VDDQ	VDDQ	AD19	AD20	AD21	R																																																
T	A2	A3	A4	VSS	VSS	VSS	AD23	AD22	C/BE3#	T																																																
U	A5	A6	A7	VSS	VSS	VDDQ	VDD	VSS	VDDQ	VDD	VSS	VDDQ	VSS	VDD	VDDQ	VSS	VSS	AD24	AD25	AD26	U																																					
V	A8	A9	A10	CAS3#/DQM3	D18	D21	VDDQ	D26	D29	VSS	A20	A23	WE2#/ICIOR#	VDDQ	PCIGNT2#	PCIREQ2#/MD9	PCIRST#	PCIREQ1#/GNTIN#	AD27	AD28	V																																					
W	A11	A12	A16	CAS2#/DQM2	D17	D20	D23	D25	D28	D31	A19	A22	A25	SLEEP#	PCIGNT3#	PCIREQ3#/MD10	INTA#	PCIGNT1#/REQOUT#	AD29	AD30	W																																					
Y	A13	A14	A15	A17	D16	D19	D22	D24	D27	D30	A18	A21	A24	WE3#/ICIOR#	PCIGNT4#	PCIREQ4#	IDSEL	PCICLK	SERR#	AD31	Y																																					
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20																																						

Appendix 2 17mm x 17mm (PRBG0292GA-A) Pin arrangement

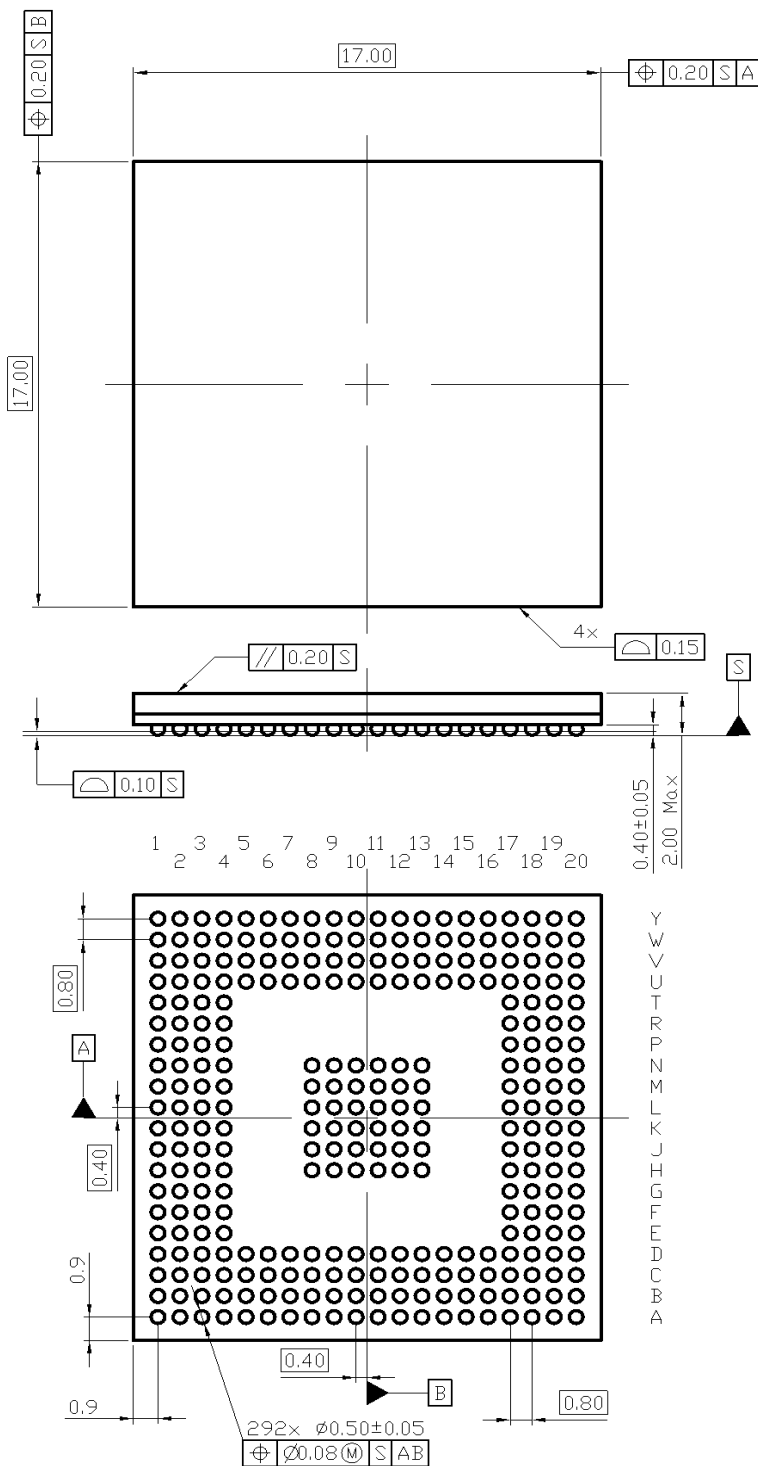
No.	Pin No.	Pin Name
1	A1	EXTAL
2	B1	TMS
3	C1	TDI
4	D1	CS1#
5	E1	CS6#
6	F1	WE1#
7	G1	D2
8	H1	D4
9	J1	D7
10	K1	D10
11	L1	D13
12	M1	CAS0#/DQM0
13	N1	CKIO
14	P1	RAS#
15	R1	CS3#
16	T1	A2
17	U1	A5
18	V1	A8
19	W1	A11
20	Y1	A13
21	Y2	A14
22	Y3	A15
23	Y4	A17
24	Y5	D16
25	Y6	D19
26	Y7	D22
27	Y8	D24
28	Y9	D27
29	Y10	D30
30	Y11	A18
31	Y12	A21
32	Y13	A24
33	Y14	WE3#/ICLOWR#
34	Y15	PCIGNT4#
35	Y16	PCIREQ4#
36	Y17	IDSEL
37	Y18	PCICLK
38	Y19	SERR#
39	Y20	AD31
40	W20	AD30
41	V20	AD28
42	U20	AD26
43	T20	C/BE3#
44	R20	AD21
45	P20	AD18
46	N20	AD16
47	M20	IRDY#
48	L20	PCISTOP#
49	K20	PAR
50	J20	AD14
51	H20	AD11
52	G20	AD8
53	F20	AD7
54	E20	AD4
55	D20	AD1
56	C20	IRL1#
57	B20	IRL3#
58	A20	XTAL2
59	A19	EXTAL2
60	A18	VDD-RTC
61	A17	RESET#
62	A16	NMI
63	A15	MD6/IOIS16#
64	A14	MD2/RXD2
65	A13	TCLK
66	A12	MD1/TXD2
67	A11	AUDSYNC
68	A10	AUDATA0
69	A9	AUDATA3
70	A8	MD5
71	A7	DRAK0
72	A6	STATUS0
73	A5	VDD-PLL2
74	A4	VDD-PLL1
75	A3	VSS-CPG

No.	Pin No.	Pin Name
76	A2	XTAL
77	B2	TCK
78	C2	CS0#
79	D2	CS4#
80	E2	BS#
81	F2	D0
82	G2	D3
83	H2	D5
84	J2	D8
85	K2	D11
86	L2	D14
87	M2	CAS1#/DQM1
88	N2	RD#/CASS#/FRAME#
89	P2	CS2#
90	R2	A0
91	T2	A3
92	U2	A6
93	V2	A9
94	W2	A12
95	W3	A16
96	W4	CAS2#/DQM2
97	W5	D17
98	W6	D20
99	W7	D23
100	W8	D25
101	W9	D28
102	W10	D31
103	W11	A19
104	W12	A22
105	W13	A25
106	W14	SLEEP#
107	W15	PCIGNT3#
108	W16	PCIREQ3#/MD10
109	W17	INTA#
110	W18	PCIGNT1#/REQOUT#
111	W19	AD29
112	V19	AD27
113	U19	AD25
114	T19	AD22
115	R19	AD20
116	P19	AD17
117	N19	PCIFRAME#
118	M19	TRDY#
119	L19	PCICLK#
120	K19	C/BE1#
121	J19	AD13
122	H19	AD10
123	G19	C/BE0#
124	F19	AD6
125	E19	AD3
126	D19	AD0
127	C19	IRL2#
128	B19	VDDQ
129	B18	VSS-RTC
130	B17	TRST#
131	B16	BACK#/BSREQ#
132	B15	RDY#
133	B14	RXD
134	B13	MD8/RTS2#
135	B12	MD0/SCK2
136	B11	AUDCK
137	B10	AUDATA1
138	B9	MD3/CE2A#
139	B8	DACK0
140	B7	DRAK1
141	B6	STATUS1
142	B5	ASEBRK#/BRKACK
143	B4	VSS-PLL2
144	B3	VDD-CPG
145	C3	VSS-PLL1
146	D3	CS5#
147	E3	WE0#/REG#
148	F3	D1
149	G3	VDDQ
150	H3	D6

No.	Pin No.	Pin Name
151	J3	D9
152	K3	D12
153	L3	D15
154	M3	RD/WR#
155	N3	CKE
156	P3	VDDQ
157	R3	A1
158	T3	A4
159	U3	A7
160	V3	A10
161	V4	CAS3#/DQM3
162	V5	D18
163	V6	D21
164	V7	VDDQ
165	V8	D26
166	V9	D29
167	V10	VSS
168	V11	A20
169	V12	A23
170	V13	WE2#/ICLORD#
171	V14	VDDQ
172	V15	PCIGNT2#
173	V16	PCIREQ2#/MD9
174	V17	PCIRST#
175	V18	PCIREQ1#/GNTIN#
176	U18	AD24
177	T18	AD23
178	R18	AD19
179	P18	VDDQ
180	N18	C/BE2#
181	M18	DEVSEL#
182	L18	PERR#
183	K18	AD15
184	J18	AD12
185	H18	AD9
186	G18	VDDQ
187	F18	AD5
188	E18	AD2
189	D18	IRL0#
190	C18	CA
191	C17	MRESET#
192	C16	BREQ#/BSACK#
193	C15	TXD
194	C14	VDDQ
195	C13	SCK
196	C12	MD7/CTS2#
197	C11	VSS
198	C10	AUDATA2
199	C9	MD4/CE2B#
200	C8	DACK1
201	C7	VDDQ
202	C6	DREQ0#
203	C5	DREQ1#
204	C4	TDO
205	D4	VSS
206	E4	VSS
207	F4	VDDQ
208	G4	VDD
209	H4	VSS
210	J4	VDDQ
211	K4	VDD
212	L4	VSS
213	M4	VDDQ
214	N4	VSS
215	P4	VDD
216	R4	VDDQ
217	T4	VSS
218	U4	VSS
219	U5	VSS
220	U6	VDDQ
221	U7	VDD
222	U8	VSS
223	U9	VDDQ
224	U10	VDD
225	U11	VSS

No.	Pin No.	Pin Name
226	U12	VDDQ
227	U13	VSS
228	U14	VDD
229	U15	VDDQ
230	U16	VSS
231	U17	VSS
232	T17	VSS
233	R17	VDDQ
234	P17	VDD
235	N17	VSS
236	M17	VDDQ
237	L17	VDD
238	K17	VSS
239	J17	VDDQ
240	H17	VSS
241	G17	VDD
242	F17	VDDQ
243	E17	VSS
244	D17	VSS
245	D16	VSS
246	D15	VDDQ
247	D14	VDD
248	D13	VSS
249	D12	VDDQ
250	D11	VDD
251	D10	VSS
252	D9	VDDQ
253	D8	VSS
254	D7	VDD
255	D6	VDDQ
256	D5	VSS
257	H8	VSS
258	J8	VSS
259	K8	VSS
260	L8	VSS
261	M8	VSS
262	N8	VSS
263	N9	VSS
264	N10	VSS
265	N11	VSS
266	N12	VSS
267	N13	VSS
268	M13	VSS
269	L13	VSS
270	K13	VSS
271	J13	VSS
272	H13	VSS
273	H12	VSS
274	H11	VSS
275	H10	VSS
276	H9	VSS
277	J9	VSS
278	K9	VSS
279	L9	VSS
280	M9	VSS
281	M10	VSS
282	M11	VSS
283	M12	VSS
284	L12	VSS
285	K12	VSS
286	J12	VSS
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289	K10	VSS
290	L10	VSS
291	L11	VSS
292	K11	VSS

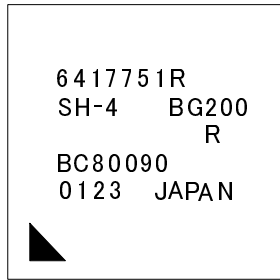
Appendix 3 17mm×17mm (PRBG0292GA-A) Package dimension



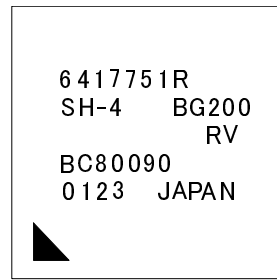
単位 : mm (Unit : mm)

パッケージコード (Package CODE)	PRBG0292GA-A
JEDECコード (JEDEC CODE)	—
JEITAコード (JEITA CODE)	EDR-7316A準拠
質量(g) (Mass)	0.9

Appendix 4 Mark example



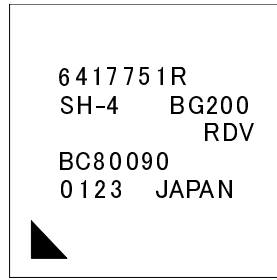
HD6417751RBG200 Mark example



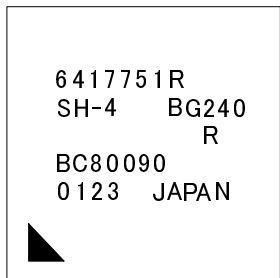
HD6417751RBG200V Mark example



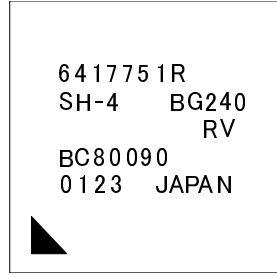
HD6417751RBG200D Mark example



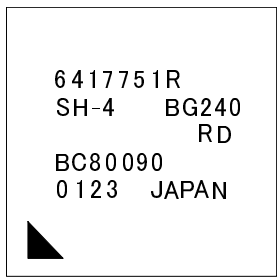
HD6417751RBG200DV Mark example



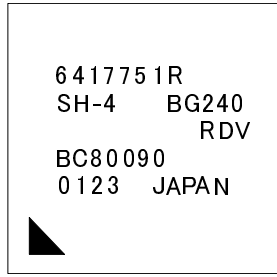
HD6417751RBG240 Mark example



HD6417751RBG240V Mark example



HD6417751RBG240D Mark example



HD6417751RBG240DV Mark example