To our customers,

Old Company Name in Catalogs and Other Documents

On April 1st, 2010, NEC Electronics Corporation merged with Renesas Technology Corporation, and Renesas Electronics Corporation took over all the business of both companies. Therefore, although the old company name remains in this document, it is a valid Renesas Electronics document. We appreciate your understanding.

Renesas Electronics website: http://www.renesas.com

April 1st, 2010
Renesas Electronics Corporation

Issued by: Renesas Electronics Corporation (http://www.renesas.com)

Send any inquiries to http://www.renesas.com/inquiry.

RENESAS

Date: May.22.2007

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-A609A/E	Rev.	1.00
Title	Discontinuance of HD6417641BP100, and transition to R4S76410D100BG (V)		Information Category	Product Generation Change		
Applicable Product	HD6417641BP100	Lot No. All lots	Reference Document	SH7641 Hardware Manual (HD6417641) REJ09B0023-0400 SH7641 Hardware Manual (R4S76410) REJ09B0346-0200		

We would like to inform valued customers of the discontinuance of SH7641 series as follows.

-Note-

1. Discontinuance in uniforming the series.

The HD6417641BP100 in the mass-production, has BGA package with Pb(SnPb).

This time, Renesas would like to discontinue the HD6417641BP100 and uniform to R4S76410D100BG(V) series, which is developed as a PbFree & Pb(SnPb) version.

R4S76410D100BG(V) have small differences such as ball shapes, but basically same size and same pin numbers as before. Please accept the transition to R4S76410D100BG(V) from HD6417641BP100.

Table. Differences between current and new version.

Item	Current version (HD6417641BP100)	New version (R4S76410D100BG (V))
Chip(Silicon)	HD6417641	Same.
Function/ Operation Temperature/ Electrical characteristics	—	Same.
JEITA PKG code	P-LFBGA256-17x17-0.80	Same.
Pb free version	none	Yes as a type name with suffix “V”. (PbSn without “V”)
Package dimensions	Refer following sections.	Refer following sections. (New version differs in the ball diameter.)
Mark specification	Refer following sections.	Refer following sections.
Soldering condition	Only for PbSn	Off course PbSn and PbFree have different condition, PbSn has same one between current and new version.
Notes	No more mass production. (Current stocks only)	—

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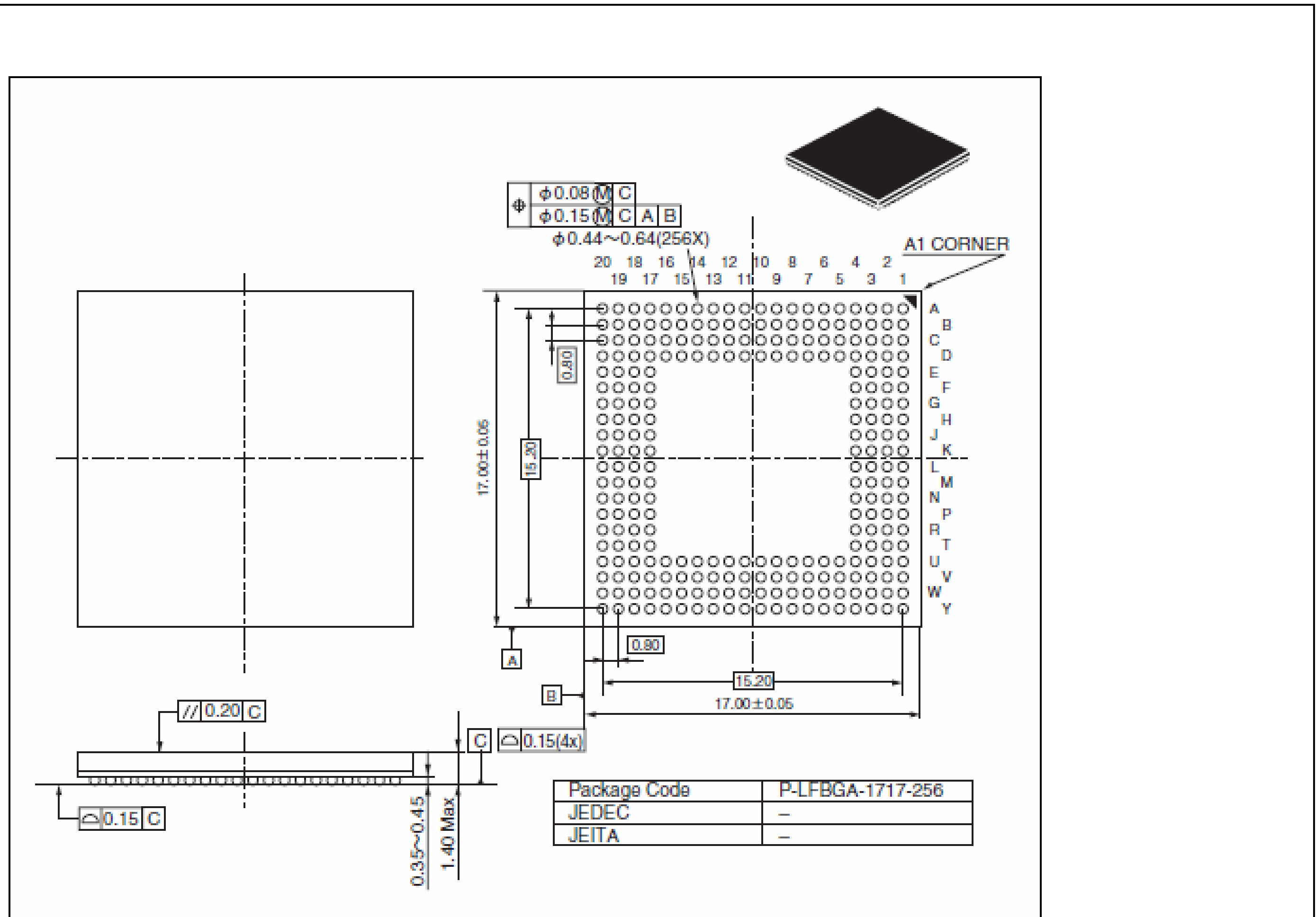
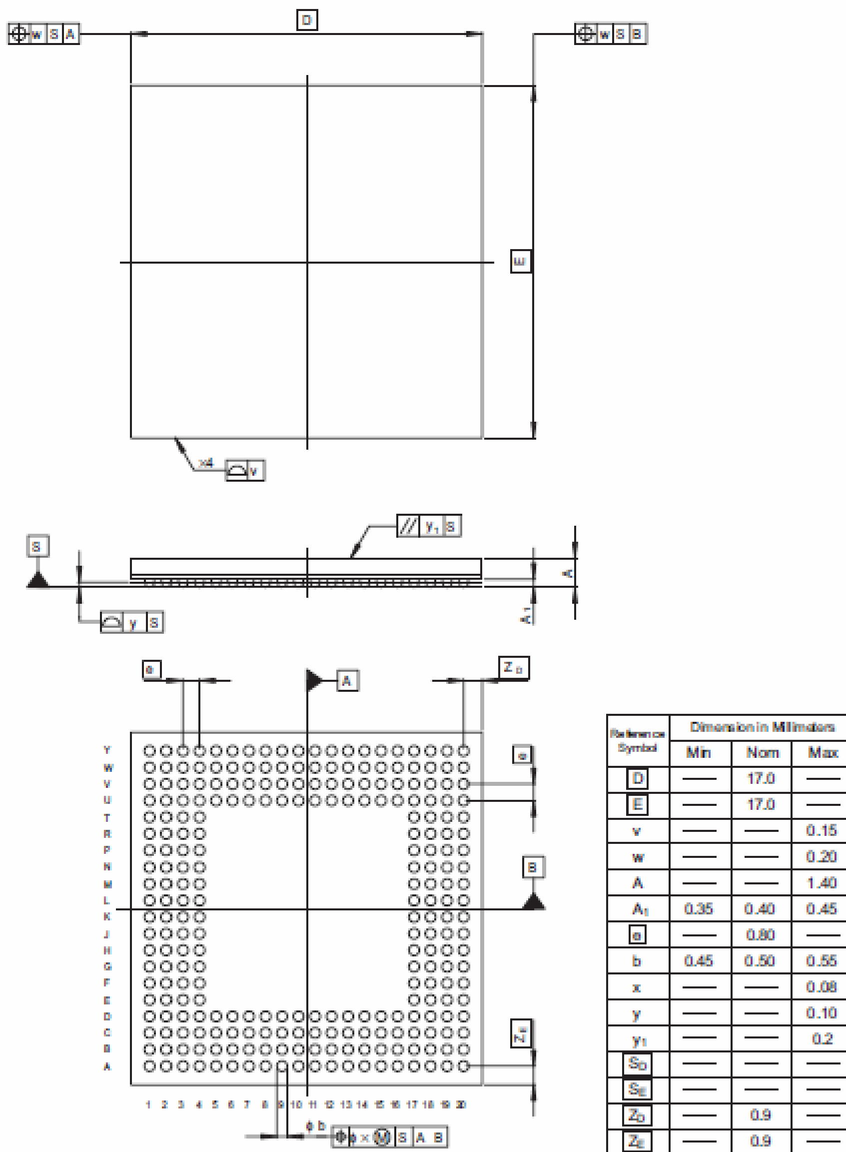


Package Code	P-LFBGA-1717-256
JEDEC	–
JEITA	–

Fig. Package dimensions of Current version（ＨＤ６４１７６４１）

JEITA Package Code	RENESAS Code	Previous Code	MASS[Typ.]
P-LFBGA256-17x17-0.80	PLBG0256GA-A	BP-256H/BP-256HV	0.6g



Reference Symbol	Dimension in Millimeters		
	Min	Nom	Max
D	—	17.0	—
E	—	17.0	—
v	—	—	0.15
w	—	—	0.20
A	—	—	1.40
A_1	0.35	0.40	0.45
e	—	0.80	—
b	0.45	0.50	0.55
x	—	—	0.08
y	—	—	0.10
y_1	—	—	0.2
S_D	—	—	—
S_E	—	—	—
Z_D	—	0.9	—
Z_E	—	0.9	—

Fig. Package dimensions of new version(Ｒ４Ｓ７６４１０Ｄ１００ＢＧ(Ｖ))

3．Mark specifications

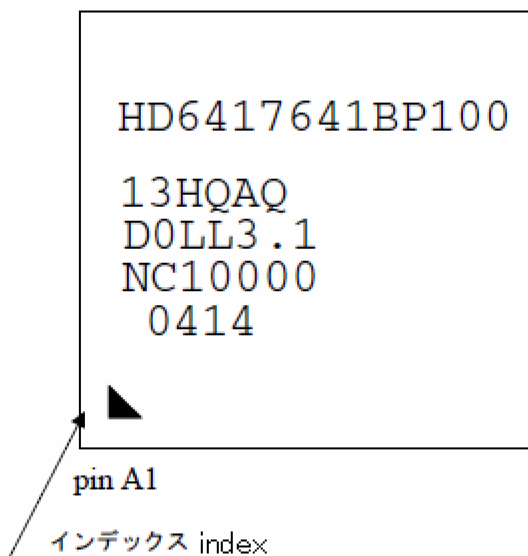
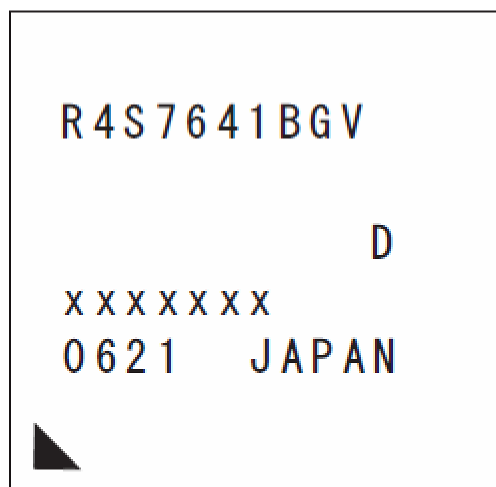


Fig. Mark specification(Current version)



PbFree

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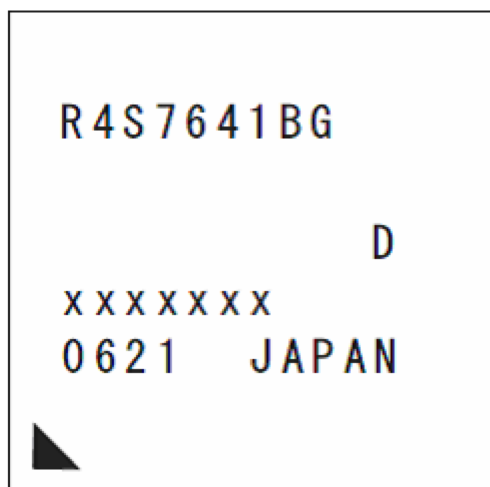

SnPb

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R4S7641BGV :製品型名
Type Code
D :工程コード
Process Code
XXXXXXX : トレースコード
Product Assembling Lot Code
0621 : 生産ロットコード(EIAコード)(4桁)
Product Lot Code(EIA code)(max 4 letters)

R4S7641BG :製品型名
Type Code
D :工程コード
Process Code
XXXXXXX : トレースコード
Product Assembling Lot Code
0621 : 生産ロットコード(EIAコード)(4桁)
Product Lot Code(EIA code)(max 4 letters)

Fig. Mark specification (New versions)

4．Soldering condition

4．１．SnPb (HD6417641BP100 and R4S76410D100BG)

リフロー法推奨条件
Recommended Reflow Soldering Conditions

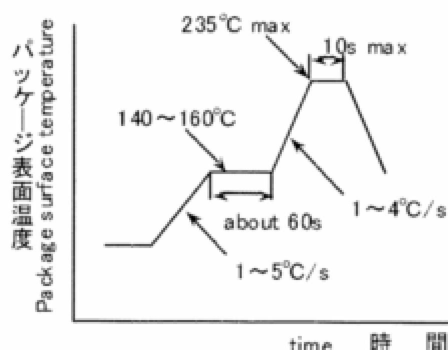
防湿包装開封後は再吸湿を避けるため、防湿包装開封後の保管条件以内にリフロー実装して下さい。
またそれ以上経過した場合はベーク条件の示すベークを行って下さい。

After opening the moisture proof packing, parts must be installed at the condition, the keeping condition after opening dry packing against re-moisturized.
If the device has been stored longer than the specified time after opening packing parts must be baked at the condition of the baking condition.

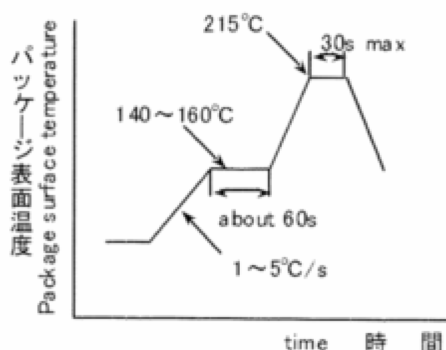
(1) 部品耐熱性　Parts capacity of heat proof

1. IR(赤外線) ,エア, N2リフロー　:パッケージ表面温度 =235°C max, 時間 = 10秒 max
IR (Infrared rays), Air ,N2 reflowing : Package surface temperature =235°C max, time = 10s max

2. VPSリフロー　:パッケージ表面温度 =215°C max, 時間 =30秒 max
VPS reflowing　:Package surface temperature =215°C max, time =30s max



<The condition of IRAirN2 reflowing>
<赤外線,エア,N2リフロー推奨条件>



<The condition of VPS reflowing>
<ベーパーフェーズリフロー推奨条件>

(2) リフロー回数 ： 3回　(防湿包装開封後の保管条件以内)
Reflowing times ： 3times　(While The keeping condition after opening dry packing)

４．２．PbFree（R4S76410D100BGV）

リフロー法推奨条件　(小型パッケージ)
Recommended Reflow Soldering Conditions

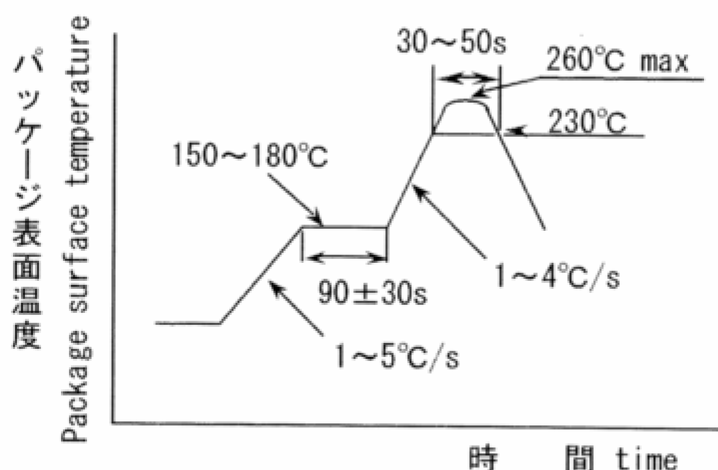
防湿包装開封後は再吸湿を避けるため、防湿包装開封後の保管条件以内にリフロー実装して下さい。
またそれ以上経過した場合はベーク条件の示すベークを行って下さい。

After opening the moisture proof packing, parts must be installed at the condition , the keeping condition after opening dry packing, against re- moisturized.
If the device has been stored longer than the specified time after opening packing, parts must be baked at the condition of the baking condition.

(1)　部品耐熱性　　Parts capacity of heat proof

エアリフロー、N２リフロー　：パッケージ表面温度 =260℃ max,
230℃以上の時間 =30～50秒

Air reflowing ,N2 reflowing　:Package surface temperature =260℃ max,
Over 230℃ time=30～50s



<The condition of Air reflowing, N2 reflowing>

<小型パッケージのエアリフロー、N2リフロー推奨条件>

(2)　リフロー回数　：　３回　　　(防湿包装開封後の保管条件以内)

Reflowing times :　3times　　(While the keeping condition after opening dry packing)

鉛フリーボール製品における実装上の注意点
Notes and Cautions in Reflow Soldering the Devices with the Lead-free Balls

鉛フリーボール製品を実装する場合、リフロー温度プロファイル設定にあたっては、
以下の項目に留意して、ピーク温度を設定願います。
The reflow soldering temperature profile, especially the peak temperature, for the devices with the lead-free balls should be set after taking the following into consideration :

(1) 製品の表面温度が耐熱温度以下になっていること。
(2) ボール部温度が実装用はんだの融点以上になっていること。

(1) The surface temperature of the devices to be mounted must be less than the thermal resistant temperature of those devices.
(2) The temperature at the balls must be higher than the solder melting point.

特にSn-Ag-Cuボール製品を実装する場合、ボールの融点が215～220℃となっているため，220℃以上での実装を推奨します。それ以下の温度で実装される場合は、ボールの溶融に十分注意して条件出しをされるようお願いします。
It is recommended that the peak temperature for the devices with the Sn-Ag-Cu balls should be 220℃ and above (higher than the melting point of the solder ball, which is 215 to 220℃ for Sn-Ag-Cu solder). When the peak temperature is below 220℃, it should be confirmed that the solder balls adequately melt.

-End of Report-