To our customers,

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Renesas Electronics website: [http://www.renesas.com](http://www.renesas.com)

April 1\(^{st}\), 2010
Renesas Electronics Corporation

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

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Small Signal Transistor

Type Designation

1. Type Designation in Accordance with JIS and JEITA

This type designation applies to small signal transistor components, based on Japan Industry Standard (JIS C7012). The number of the basic type transistor should be registered in Electronic Device Registration Center (EDEREC) of Japan Electronics and Information Technology industries Association (JEITA).

(Example) 2SC 1213 A C

1st item 2nd item 3rd item 4th item

JEITA registered Renesas own supplements

1st item

The first item indicates the type of semiconductor devices.

It is prescribed in the following manner.

<table>
<thead>
<tr>
<th>1st item</th>
<th>Type of semiconductor</th>
</tr>
</thead>
<tbody>
<tr>
<td>2SA</td>
<td>PNP High frequency use bipolar transistor</td>
</tr>
<tr>
<td>2SB</td>
<td>PNP Low frequency use bipolar transistor</td>
</tr>
<tr>
<td>2SC</td>
<td>NPN High frequency use bipolar transistor</td>
</tr>
<tr>
<td>2SD</td>
<td>NPN Low frequency use bipolar transistor</td>
</tr>
<tr>
<td>2SJ</td>
<td>P channel Field Effect Transistor</td>
</tr>
<tr>
<td>2SK</td>
<td>N channel Field Effect Transistor</td>
</tr>
<tr>
<td>3SK</td>
<td>N channel Field Effect Transistor with two gates</td>
</tr>
</tbody>
</table>

2nd item

The second item has the digits of 11 or more, which are given according to the sequence of the registration with the EDEREC.

3rd item

The third item (letter) indicates a revision of the product originally named. To each revision, A, B, C etc., is added. Originally product can be functionally replaced by its revised types, but not vice versa.

Above is a brief summary of the nomenclature laid down in JIS C7012.

4th item

In case the item named needs further classification according to its own electrical characteristics, an appendix such as A, B, C etc., is put at back of its name.
2. Special type designation

To effectively indicate the types of small signal transistors for specific application.

2.1 Type Designation for BBFET (Build in Bias Resistance Dual Gate MOS FET)

(Example)       BB        504        C           DS-
1st item  2nd item  3rd item  4th item

1st item
The first item (BB) means BBFET IC.
BBFET is the registered trademark of Renesas.

2nd item
The second item (number) is given sequentially and it indicates its applicable frequency range shown below.

<table>
<thead>
<tr>
<th>Applicable Frequency Range</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>UHF</td>
<td>From 101</td>
</tr>
<tr>
<td>VHF</td>
<td>From 301</td>
</tr>
<tr>
<td>UHF/VHF</td>
<td>From 501</td>
</tr>
</tbody>
</table>

3rd item
The third item indicates its package code.
M: MPAK-4    C: CMPAK-4

4th item
The fourth item indicates its marking letters on its package face. This type indication method is to effectively indicate the types of small scaled transistor packages within a limited space.

2.2 Type Designation for Twin BBFET IC (Two BBFETs in One Package)

(Example)        TBB       1004       DM
1st item  2nd item  3rd item

1st item
The first item (TBB) means Twin BBFET IC.

2nd item
The second item has the digits of 1001 or more, which are given sequentially.

3rd item
The third item indicates its marking letters on its package face. This type indication method is to effectively indicate the types of small scaled transistor packages within a limited space.
# Revision Record

<table>
<thead>
<tr>
<th>Rev.</th>
<th>Date</th>
<th>Description</th>
<th>Page</th>
<th>Summary</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.00</td>
<td>Jun.18.04</td>
<td>—</td>
<td>—</td>
<td>First edition issued</td>
</tr>
</tbody>
</table>
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