Introduction

The current series of HOLTEK touch ICs are:

BS81 Series:
- 3-key: BS813A-1
- 4-key: BS814A-1, BS814A-2
- 6-key: BS816A-1
- 8-key: BS818A-2

BS82 Series:
- 16-key: BS82C16A-3
- 20-key: BS82D20A-3

BS83 Series:
- 4-key: BS83A04A-3/-4
- 8-key: BS83B08A-3/-4
- 12-key: BS83B12A-3/-4
- 16-key: BS83B16A-3/-4

BS84 Series:
- 8-key: BS84B08A-3
- 12-key: BS84C12A-3

Selection Table

The following table shows how the difference between the IC resources:

Note that the product package information provided here is for consultation purposes only. As this information may be updated at regular intervals users are reminded to consult the Holtek website for the latest version of the product information.

- Standard Touch Devices

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Touch Key</th>
<th>VDD</th>
<th>Standby Current</th>
<th>Key Output Type</th>
<th>Package</th>
<th>Serial Interface</th>
<th>Auto Calibration</th>
</tr>
</thead>
<tbody>
<tr>
<td>BS813A-1</td>
<td>3-Key</td>
<td>2.2V-5.5V</td>
<td>4.5μA at 3V/7μs</td>
<td>Active Low/High</td>
<td>SSOP</td>
<td>—</td>
<td>(</td>
</tr>
<tr>
<td>BS814A-1</td>
<td>4-Key</td>
<td>2.2V-5.5V</td>
<td>5μA at 3.6V/7μs</td>
<td>Active Low</td>
<td>SSOP</td>
<td>—</td>
<td>(</td>
</tr>
<tr>
<td>BS816A-1</td>
<td>6-Key</td>
<td>2.2V-5.5V</td>
<td>5μA at 3.6V/7μs</td>
<td>Active Low</td>
<td>SSOP</td>
<td>—</td>
<td>(</td>
</tr>
<tr>
<td>BS818A-2</td>
<td>8-Key</td>
<td>2.2V-5.5V</td>
<td>5μA at 3.6V/7μs</td>
<td>Active Low/High</td>
<td>SSOP</td>
<td>—</td>
<td>(</td>
</tr>
<tr>
<td>BS83A04A-3/-4</td>
<td>4-Key</td>
<td>2.2V-5.5V</td>
<td>12μA at 3.6V/7μs</td>
<td>5V/Binary</td>
<td>SSOP</td>
<td>—</td>
<td>(</td>
</tr>
<tr>
<td>BS83B08A-3/-4</td>
<td>8-Key</td>
<td>2.2V-5.5V</td>
<td>16μA at 3.0V/5μs</td>
<td>JTC</td>
<td>SSOP</td>
<td>—</td>
<td>(</td>
</tr>
<tr>
<td>BS83B12A-3/-4</td>
<td>12-Key</td>
<td>2.2V-5.5V</td>
<td>20μA at 3.0V/5μs</td>
<td>JTC</td>
<td>SSOP</td>
<td>—</td>
<td>(</td>
</tr>
<tr>
<td>BS83B16A-3/-4</td>
<td>16-Key</td>
<td>2.2V-5.5V</td>
<td>25μA at 3.0V/5μs</td>
<td>JTC</td>
<td>SSOP</td>
<td>—</td>
<td>(</td>
</tr>
</tbody>
</table>

Note: The 5V/Binary version devices have enhanced noise rejection performance.

D/N: HA0351E
Description

The following points should be taken into account.

1. For the standard class devices, part numbers with a "-1" and "-2" suffix show the difference between their output modes. The "-1" indicates a parallel output mode, which means that there is an individual logic output which indicates the touch key status. The "-2" suffix indicates a two-wire serial output mode. Part numbers with a "-3" and "-4" suffix indicate different LVR voltages. The "-3" suffix indicates an LVR voltage of 2.55V while the "-4" suffix indicates an LVR voltage of 2.10V.

2. When users only require a touch key function and when required number of keys are less than eight, it is recommended to use the standard BS81 series as applications will be simpler and more convenient to implement.

3. When users require touch key functions and also require accurate timing and an LED/LCD driver as well as a UART serial interface, it is recommended to use the BS82 series. The BS82 series can connect with an external RTC.

4. As the ROM space of the BS83 series is small, the BS83 series can be considered for use in simple product applications. The BS83B16A-3 has up to 16 touch keys. If larger ROM capacities are required, the BS82 series can be selected. The BS82D20A-3 has a maximum ROM size of 8K.

5. If users require a device touch key functions and also require an A/D converter, then the BS84B08A-3 device with 3K ROM capacity can be chosen or the BS84C12A-3 with 4K of ROM capacity. Both of these devices have a 12-bit resolution A/D converter.