Supply Voltage Divided Output, 5.5V Input, 100mA, 0.5μA Super Low Current Consumption

CMOS VOLTAGE REGULATOR

S-1740/1741 Series

- An industry first! Possible to divide and output voltage by a built-in supply voltage divided output
- Carries out voltage monitoring without any external parts when using a low voltage microcontroller
- Achieves world top class super low current consumption operation of 0.5μA!!

Battery voltage monitoring by supply voltage divided output

- Single chip utilization
- Internal high-accuracy division circuit

Also possible to easily carry out voltage monitoring using a low voltage microcontroller

Applications

- Headset
- Glass-like device
- Hearing aid
- Digital SLR camera
- Digital audio player
- Smartwatch
- Beacon
- Activity meter band

Using the 1740/1741 Series...

- Possible to monitor battery voltage with a high degree of accuracy
- Ensures long battery life due to super low current consumption
- No need for external parts for voltage division
- Enables fine control through analog output

Specifications

<table>
<thead>
<tr>
<th>Item</th>
<th>S-1740 Series</th>
<th>S-1741 Series</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product type</td>
<td>A type</td>
<td>G type</td>
</tr>
<tr>
<td>Output voltage</td>
<td>1.0 to 3.5V</td>
<td>(selectable in 0.05V steps)</td>
</tr>
<tr>
<td>Input voltage</td>
<td>1.5 to 5.5V</td>
<td></td>
</tr>
<tr>
<td>Output voltage accuracy</td>
<td>±1.0% (1.0 to 1.45V output product ±15mV(Ta=+25°C))</td>
<td></td>
</tr>
<tr>
<td>Dropout voltage</td>
<td>20mV typ: IOUT=10mA VOUT 2V (Ta=+25°C)</td>
<td></td>
</tr>
<tr>
<td>Output current</td>
<td>100mA</td>
<td></td>
</tr>
<tr>
<td>Output offset voltage</td>
<td>±30mV VOUT=3.6V, ±10μA ΔIDIV=10μA</td>
<td></td>
</tr>
<tr>
<td>Built-in enable circuit</td>
<td>Active “H”</td>
<td>Active “L”</td>
</tr>
<tr>
<td>Current consumption during operation</td>
<td>Without PMEN pin</td>
<td>Active “H”</td>
</tr>
<tr>
<td>Overall</td>
<td>0.5μA typ. (Ta=+25°C)</td>
<td>Active “L”</td>
</tr>
<tr>
<td>Operation temperature range</td>
<td>T= −40 to +85°C</td>
<td>Without PMEN pin</td>
</tr>
<tr>
<td>Package</td>
<td>HSNT-6(1212),SOT-23-5</td>
<td>HSNT-4(1010)</td>
</tr>
</tbody>
</table>

VIN/OUT output

Read by microcontroller A/D converter

Operation modes are switchable according to the battery voltage!
Super low current consumption

Achieves even lower current consumption with a PMEN pin
Outputs signals from a PMOUT pin only during voltage monitoring

Regulator current consumption is only 0.35 μA(typ.)
when supply voltage divided output is OFF (A type, C type only)

Current consumption

Conventional product
Conventional product

Supply voltage divider block
Regulator block

Single function regulator (S-1317 Series) with current consumption of 0.35 μA(typ.) is also added to the lineup.

Block diagrams

S-1740/1741 Series A type, C type

S-1740/1741 Series G type

Packages

(Unit : mm)

<table>
<thead>
<tr>
<th>Package</th>
<th>Dimensions</th>
</tr>
</thead>
<tbody>
<tr>
<td>HSNT-6(1212)</td>
<td>1.2 × 1.2 × 0.4 (max.)</td>
</tr>
<tr>
<td>SOT-23-5</td>
<td>2.8 × 2.9 × 1.3 (max.)</td>
</tr>
<tr>
<td>HSNT-4(1010)</td>
<td>1.0 × 1.0 × 0.4 (max.)</td>
</tr>
</tbody>
</table>

Specifications are subject to change without notice.
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Contact us