APPLICATION NOTE 1162
A 3.3V Input Step-Down Converter for CPU Cores
Mar 01, 2001

Abstract: As I/O moves from 5V to 3.3V in microprocessor systems, there is a need for power conversion from 3.3V to a lower core voltage such as 1.8V at appreciable current. Without a higher voltage available, this requires a controller that will operate on less than 3.3V and FETs that are specified at a sub-logic-level gate voltage.

As I/O moves from 5V to 3.3V in microprocessor systems, there is a need for power conversion from 3.3V to a lower core voltage such as 1.8V at appreciable current. Without a higher voltage available, this requires a controller that will operate on less than 3.3V and FETs that are specified at a sub-logic-level gate voltage.

The MAX1637 step-down controller (shown below) is guaranteed to operate with Vcc from 3.15V to 5.5V. The IRF7401 is specified with Vgs = 2.7V. In addition, the inductor is the tallest part at 4.5mm (max).
### Related Parts

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Description</th>
<th>Free Samples</th>
</tr>
</thead>
<tbody>
<tr>
<td>MAX1637</td>
<td>Miniature, Low-Voltage, Precision Step-Down Controller</td>
<td></td>
</tr>
</tbody>
</table>

### More Information

For Technical Support: [http://www.maximintegrated.com/support](http://www.maximintegrated.com/support)

For Samples: [http://www.maximintegrated.com/samples](http://www.maximintegrated.com/samples)

Other Questions and Comments: [http://www.maximintegrated.com/contact](http://www.maximintegrated.com/contact)

Application Note 1162: [http://www.maximintegrated.com/an1162](http://www.maximintegrated.com/an1162)

APPLICATION NOTE 1162, AN1162, AN 1162, APP1162, Appnote1162, Appnote 1162

Copyright © by Maxim Integrated Products