

## 0.6-3V<sub>IN</sub>, 1.8-3.6V<sub>OUT</sub>, 3.5μA, High-Efficiency Boost + Output Load Switch

### FEATURES

- ◆ Combines Low-power Boost + Output Load Switch
- ◆ Boost Regulator
  - Input Voltage: 0.6V- 3V
  - Output Voltage: 1.8V- 3.6V
  - Efficiency: Up to 84%
  - No-load Input Current: 3.5μA
  - Delivers >100mA at 1.8V<sub>BO</sub> from 1.2V<sub>BI</sub>
  - Boost Shutdown Control
  - No External Schottky Diode Required
- ◆ Anti-Crush Capability
  - Prevents Input Voltage Collapse when powered with Weak/High Impedance Power Sources
- ◆ Single-Inductor, Discontinuous Conduction Mode Scheme with Automatic Peak Current Adjustment
- ◆ 16-Pin, Low-Profile, Thermally-Enhanced 3mm x 3mm TQFN Package

### APPLICATIONS

Coin Cell-Powered Portable Equipment  
 Single Cell Li-ion or Alkaline Powered Equipment  
 Solar or Mechanical Energy Harvesting  
 Wireless Microphones  
 Wireless Remote Sensors  
 RFID Tags  
 Blood Glucose Meters  
 Personal Health-Monitoring Devices

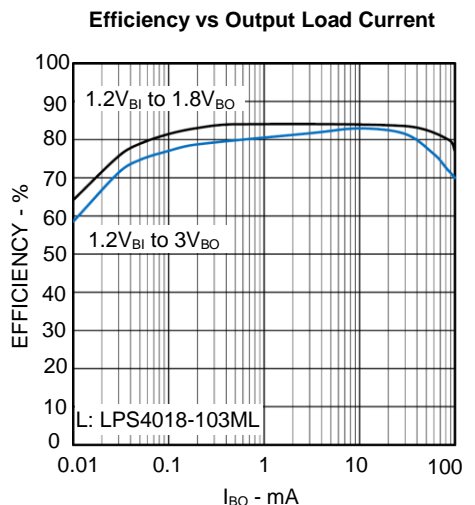
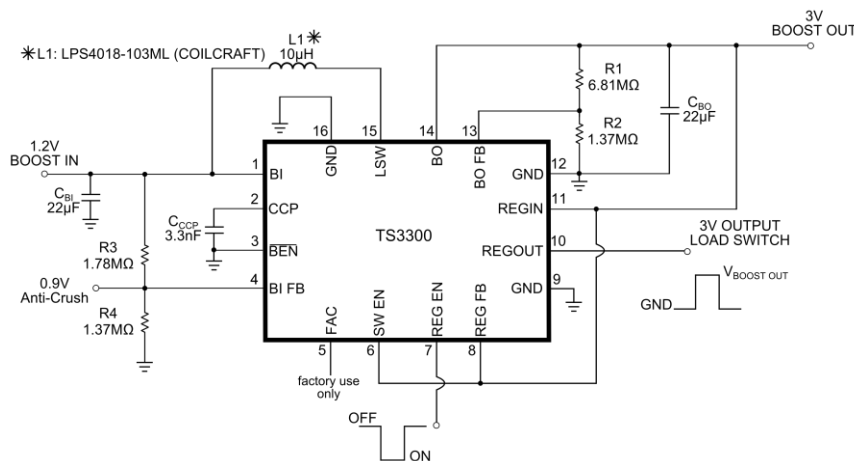
### DESCRIPTION

The TS3300 is a 1st-generation Touchstone Semi power management product that combines a high-efficiency boost regulator and an output load switch in one package. The boost regulator operates from a supply voltage as low as 0.6V and can deliver at least 75mA at 1.2V<sub>BI</sub> to 3V<sub>BO</sub>, an industry first.

The TS3300 includes an *anti-crush*<sup>TM</sup> feature to prevent the collapse of the input voltage to the boost regulator when the input is a weak (high impedance) source. If the input voltage drops below a determined voltage threshold (settable by a resistor divider), the boost regulator switching cycles are paused, effectively limiting the minimum input voltage. *Anti-crush*<sup>TM</sup> is useful in applications where a buffer capacitor at the boost's output can service burst loads, and the input source exhibits substantial source impedance (such as an old battery, or at cold temperatures).

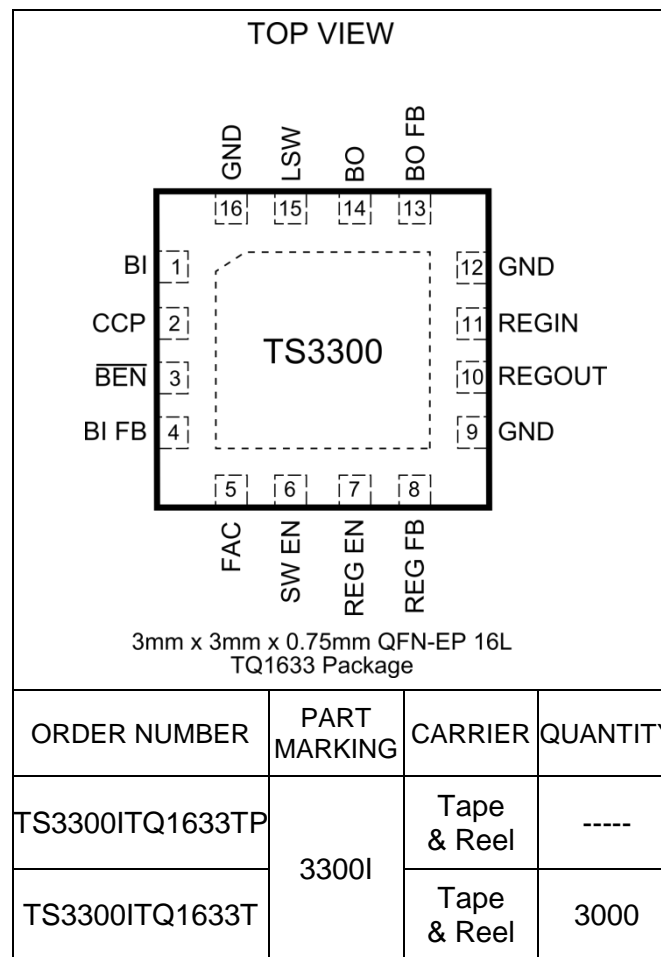
The TS3300 is fully specified over the -40°C to +85°C temperature range and is available in a low-profile, thermally-enhanced 16-pin 3x3mm TQFN package with an exposed back-side paddle. For best performance, solder the exposed back-side paddle to PCB ground.

### TYPICAL APPLICATION CIRCUIT



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## PACKAGE/ORDERING INFORMATION



**Lead-free Program:** Touchstone Semiconductor supplies only lead-free packaging.

Consult Touchstone Semiconductor for products specified with wider operating temperature ranges.

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