

General Description

The TCS4655 device is high-efficiency, synchronous step-down DC/DC regulators. With a wide input range, it is suitable for a wide range of applications, such as power conditioning from unregulated sources. It features a low $R_{DS(ON)}$ (500m Ω /300m Ω typical) internal switch for maximum efficiency (92% typical). Supports PSM mode, the operating frequency is fixed at 850kHz, allowing the use of small external components while still being able to have low output voltage ripple. With OVP function, the IC can stand off input voltage as high as 55V. The TCS4655 supports 600mA continuous output current, and it has a 0.8V nominal feedback voltage.

Additional features include: thermal shutdown, V_{IN} undervoltage lockout, and gate drive undervoltage lockout. The TCS4655 is available in a low-profile SOT23-6 package.

Features

- Wide 4.5V to 45V Operating Input Range
- Standoff Voltage: 55V
- 600mA Continuous Output Current
- 850KHz Switching Frequency
- Short Protection with Foldback-Mode
- Built-in Over Current Limit
- Built-in Over Voltage Protection
- PSM Mode for High Efficiency in Light Load
- Internal Soft-Start

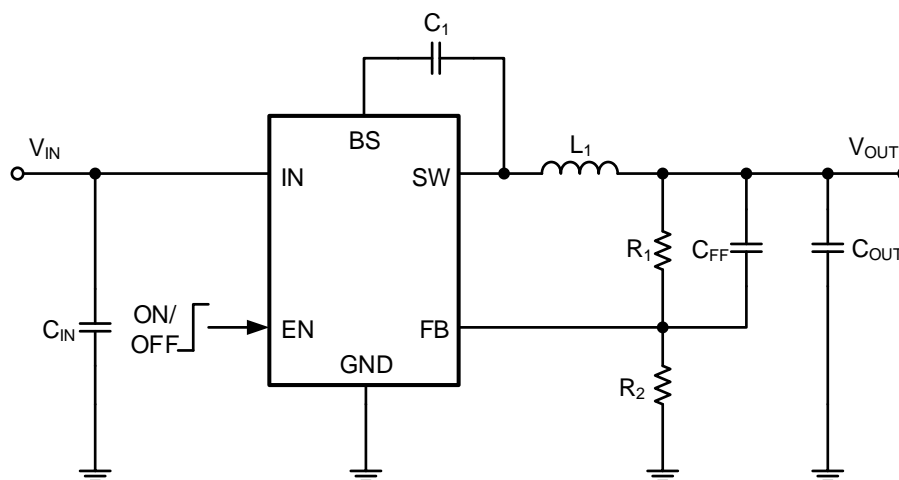
- 500m Ω /300m Ω Low $R_{DS(ON)}$ Internal Power MOSFETs
- Output Adjustable from 0.8
- No Schottky Diode Required
- Integrated internal compensation
- Thermal Shutdown
- Available in SOT23-6 Package
- 40°C to +85°C Temperature Range

Applications

- Battery-Powered Equipment
- Portable Media Players

- Industrial Distributed Power Applications
- Portable Hand-Held Instruments

Typical Application Circuit



Basic Application Circuit