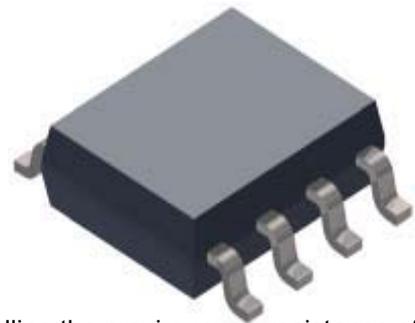




SI-8005Q Step-Down Switching Regulator with Current-Mode Control

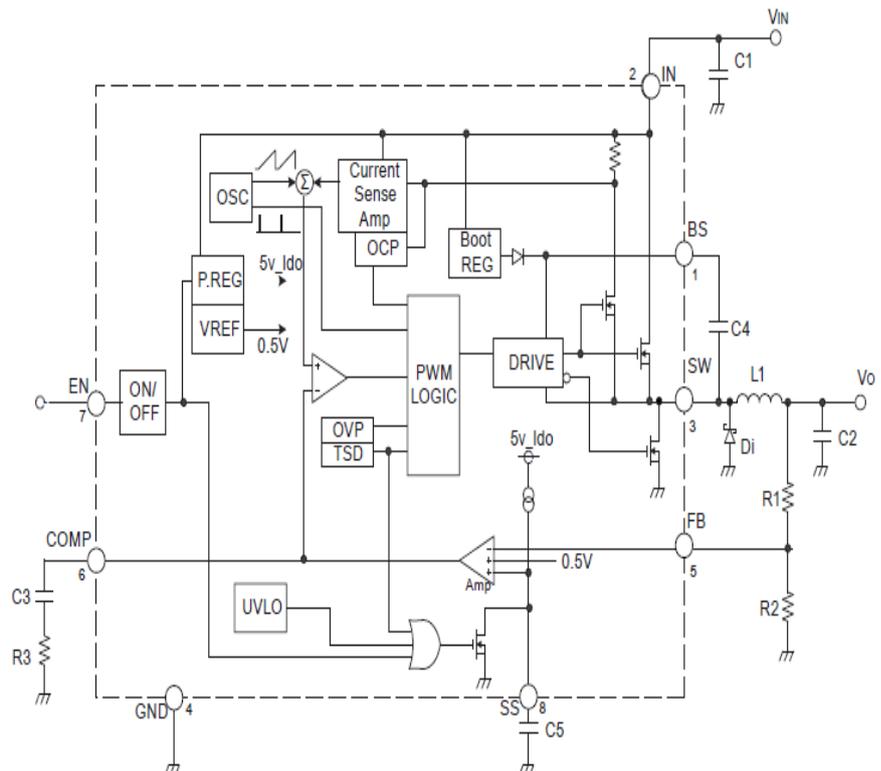
General Description:

The SI-8005Q is a step-down switching regulator IC, designed as an output voltage regulator at the secondary stage of switch mode power supplies. The current-mode control system permits small ceramic capacitors to be used as output capacitors. Together with the compact HSOP8 package, this allows reduction of regulator circuitry area on the PCB by approximately 50% in comparison with conventional topologies.



Designed to save power, losses in the SI-8005Q are reduced by controlling the maximum on-resistance of a built-in output MOSFET to as low as 165 mΩ. Furthermore, die miniaturization has been accomplished through a proprietary BCD process.

The SI-8005Q supplies an output current of 3.5 A and an output voltage that is variable from 0.5 to 24 V, which is easily set to a voltage compatible with the diverse reduced power supply voltages required by signal processing ICs. Accepting a wide input voltage range, from 4.75 to 28 V, the SI-8005Q can be driven directly by a 24 V power supply



Key Features:

- Current-mode control system employed
- Excellent line regulation (60 mV maximum)
- 165 mΩ maximum on-resistance of built-in MOSFET
- Output current 3.5 A
- Wide range of input voltages (4.75 to 28 V), supports 24 V Direct drive
- Output voltage 0.5 to 24 V, compatible with various IC power supply voltages, through low VREF of 0.5 V.
- High efficiency, 94% maximum at VIN = 8 V, VO = 5 V, and IO = 0.5 A
- Operating frequency 500 kHz, supports downsizing of smoothing choke coil
- Soft start and output on/off functions built-in
- Built-in protection
 - Drooping overcurrent protection
 - Overtemperature protection
 - Undervoltage lockout (UVLO)

Applications:

- Power supplies for signal processing
- ICs for memories
- Microcomputers used in plasma display panel (PDP) TVs, liquid crystal display (LCD) TVs, computer hard drives, and DVD recorders

Related Products Information:

Mfr Part #	Farnell #	Newark #	Description
SI8005Q-TL	1791398	11N9747	Step-Down Switching Regulator with Current-Mode Control- HSOP8 surface mount with exposed thermal pad