

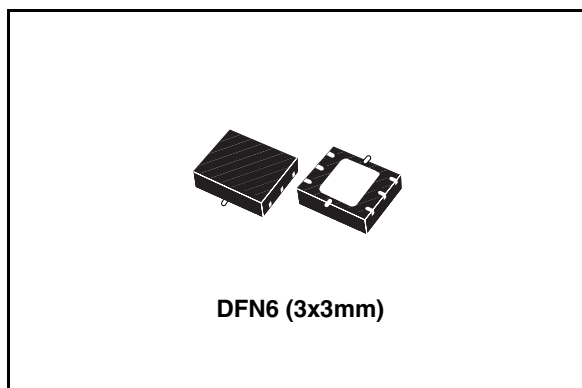
1.5A, 1.5 MHz adjustable, step-down switching regulator in DFN6

Features

- Step-down current mode PWM (1.5MHz) DC-DC converter
- 2% DC output voltage tolerance
- Internal soft start for START-UP current limitation and power on delay of 50-100µs
- Typical efficiency: > 70% over all operating conditions
- 1.5A Output current capability
- Not switching quiescent current: max 2.5mA over temperature range
- Switch V_{DS} : max 350mV @ $I_{SW}=750mA$
- Uses tiny capacitors and inductors
- Available in DFN 3x3 exposed pad

Description

The ST1S03 is a step down DC-DC converter optimized for powering low-voltage digital core in HDD applications and, generally, to replace the high current linear solution when the power dissipation may cause an high heating of the application environment. It provides up to 1.5A



over an input voltage range of 3V to 16V. An high switching frequency (1.5MHz) allows the use of tiny surface-mount components: as well as the resistor divider to set the output voltage value, only an inductor, a schottky diode and two capacitors are required. Besides, a low output ripple is guaranteed by the current mode PWM topology and by the use of low E.S.R. SMD ceramic capacitors. The device is thermal protected and current limited to prevent damages due to accidental short circuit. The ST1S03 is available in DFN6.

Order codes

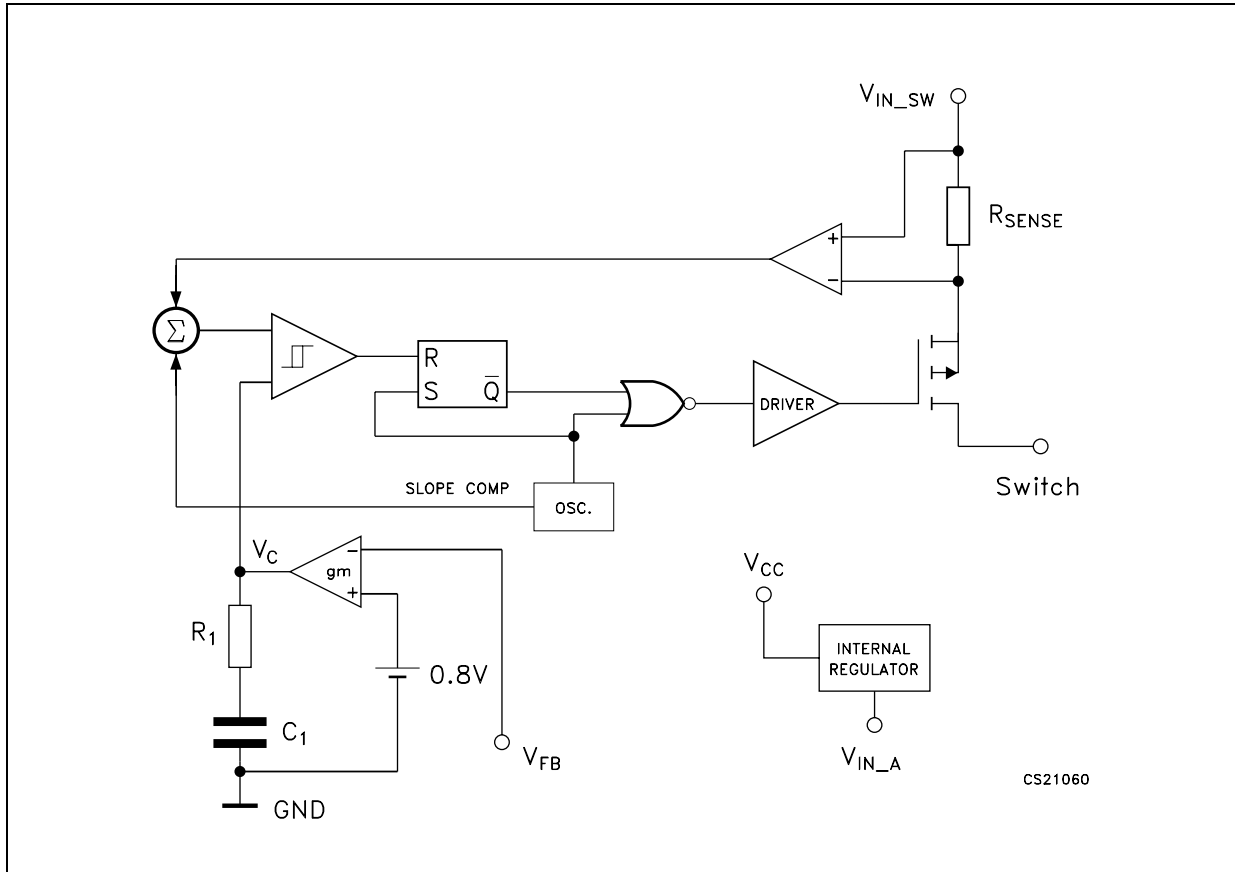
Part number	Packaging	Package
ST1S03PM	ST1S03PMR	DFN6 (3x3 mm)
ST1S03PU	ST1S03PUR	DFN6D (3x3 mm)

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1 Diagram

Figure 1. Schematic diagram



2 Pin configuration

Figure 2. Pin connections (top view)

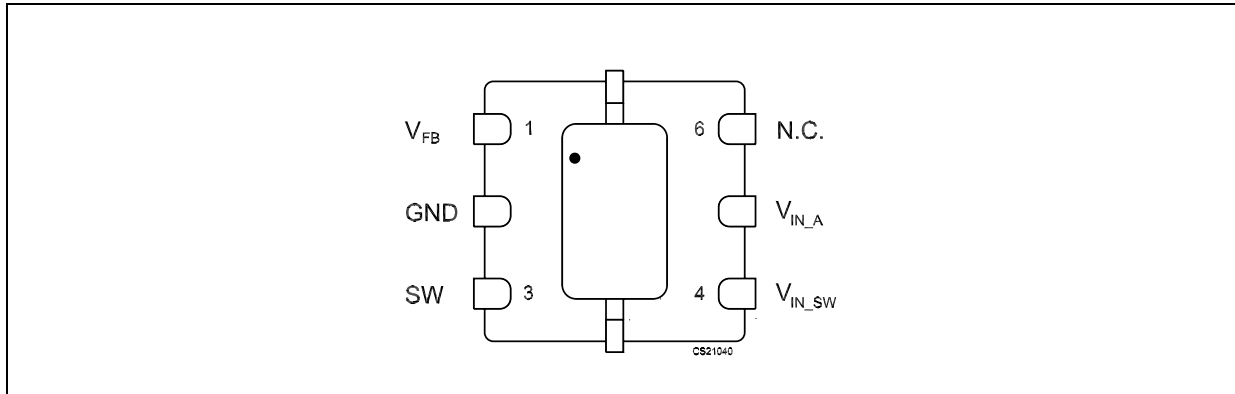


Table 1. Pin description

Pin N°	Symbol	Name and function
1	V_{FB}	Voltage of Feedback
2	GND	System Ground
3	SW	Output of the internal Power Switch
4	V_{IN_SW}	Power Supply for the MOSFET Switch
5	V_{IN_A}	Power Supply for the Analog Circuit
6	N.C.	Not Connected

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