

Constant Voltage and Constant Current Controller

FEATURES

- ◆ Secondary Side Constant Voltage (CV) and Constant Current (CC) Control
- ◆ Wide VCC Operating Range (3.3V to 36V)
- ◆ Trimmed 1% Internal Voltage Reference
- ◆ Wired or Open-Drain Output Stages
- ◆ Low External Component Count
- ◆ Low Supply Current: 0.5mA
- ◆ Easy Frequency Compensation
- ◆ Operating Temperature Range: -40 to 125°C

APPLICATIONS

- ◆ Battery chargers
- ◆ Adaptors
- ◆ AC/DC LED lighting

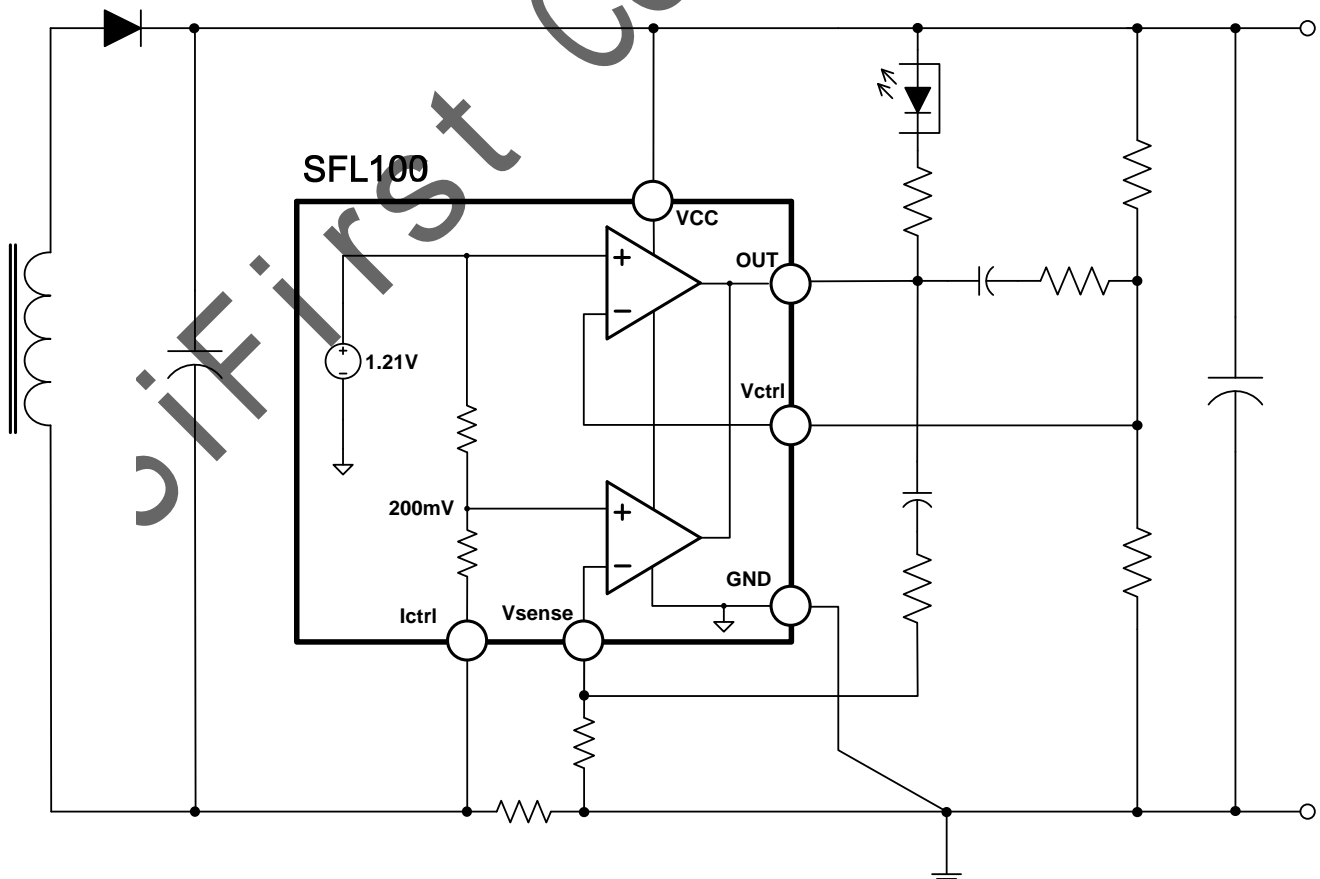
GENERAL DESCRIPTION

SFL100 is a highly integrated solution for SMPS applications requiring a dual control loop to perform CV (constant voltage) and CC (constant current) regulation.

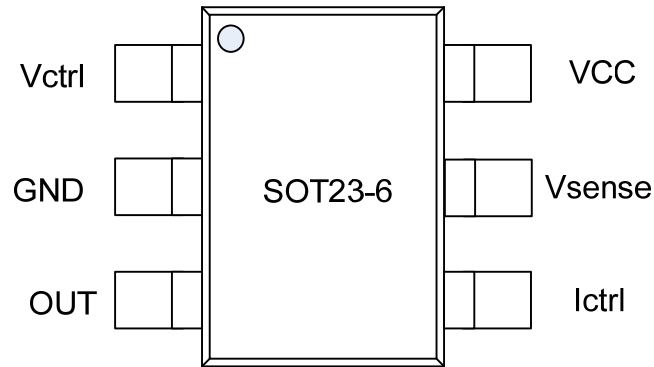
SFL100 has wide VCC operating range (3.3V to 36V). The IC integrates a 1.21V voltage reference with $\pm 1\%$ accuracy, two Op-Amps (with OR-d open drain outputs), and a low side current sensing circuit. The voltage reference, along with one Op-Amp, is the core of the voltage control loop; the current sensing circuit and the other Op-Amp make up the current control loop.

SFL100 is available in SOT23-6 packages.

TYPICAL APPLICATION



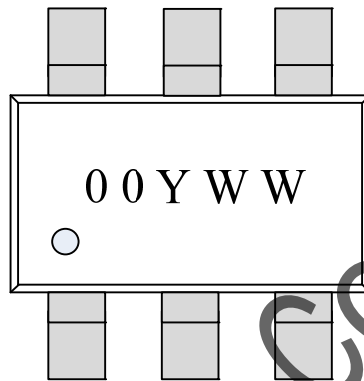
Pin Configuration



Ordering Information

Part Number	Top Mark	Package		Tape & Reel
SFL100LGT	.00YWW	SOT23-6	Green	Yes

Marking Information



Dot: Pin1 Mark
 00: Part number SFL100
 YWW: Year&Week Code

Pin Description

Pin Num	Pin Name	I/O	Description
1	Vctrl	I	Inverting input of the voltage loop Op-amp.
2	GND	P	IC ground.
3	OUT	O	Common open-drain output of the two internal Op-amps. This pin is able to sink current only, can be connected to the branch of the opto-coupler's photodiode to transmit the error signal to the primary side.
4	Ictrl	I	Non-inverting input of the current loop Op-amp.
5	Vsense	I	Inverting input of the current loop Op-amp.
6	VCC	P	IC power supply pin.

Absolute Maximum Ratings (Note 1)

Parameter	Value	Unit
VCC DC Supply Voltage	36	V
OUT voltage range	-0.3 to VCC	V
Vsense, Vctrl, Ictrl, voltage range	-0.3 to 18	V
Package Thermal Resistance (SOT-26)	250	°C/W
Maximum Junction Temperature	150	°C
Operating Temperature Range	-40 to 85	°C
Storage Temperature Range	-65 to 150	°C
Lead Temperature (Soldering, 10sec.)	260	°C
ESD Capability, HBM (Human Body Model)	3	kV
ESD Capability, MM (Machine Model)	250	V