

## CHARGE PUMP WITH ULP LUDICROUS MODE

### Features

- Fast response Charge Pump
- Output current up to 100mA
- *Ludicrous Low Power Mode*
- Low quiescent
- Low ripple
- Power good comparator and flag
- Soft start and over-current protection
- Programmable output range, from 0.56V to 0.90V
- Large input voltage range, from 1.80V to 5.50V

### Applications

- Portable applications
- *IoT*

### Applications Diagram

### General Description

*SGC40100\_01\_GF\_22FDSOI* is a fast response *Charge Pump (CP)* buck regulator. Making use of advanced control techniques, it offers soft start-up, instantaneous over-current protection, ultra-fast load transient response and low ripple. Additionally, it provides an innovative *Ludicrous Ultra Low Power Mode* that guarantees a reduction to virtually "0" quiescent. Designed for *SoC* integration, the regulator operates with just one 1 $\mu$ F flying capacitor, without requiring any output coils. Additionally, it is stable with any type of output capacitor. Designed to achieve 4% overall accuracy (over Load / Line / Temp), it is specified from T<sub>J</sub> = -40°C to +125°C.

### Quick Reference

SYMBOL	DESCRIPTION	MIN	TYP	MAX	UNIT
V <sub>IN</sub>	Input Sup.	1.80	—	5.50	V
V <sub>DVDD</sub>	Digital Sup.	0.50	—	1.20	V
V <sub>O</sub>	Normal Vout	0.56	0.80	0.90	V
V <sub>O</sub>	ULP Vout	0.50	—	0.90	V
I <sub>O</sub>	Out Current	0	—	100	mA