关注公众号

TP6819S5
1.0MHz, 2A Synchronous Step-Down Converter

Features

- High Efficiency: Up to 96%(@3.3V)
- 1.0MHz Constant Frequency Operation
- 2A Output Current
- No Schottky Diode Required
- 2.3V to 6V Input Voltage Range
- Output Voltage as Low as 0.6V
- PFM Mode for High Efficiency in Light Load
- 100% Duty Cycle in Dropout Operation
- Low Quiescent Current: 40μA
- Short Circuit Protection
- Thermal Fault Protection
- Inrush Current Limit and Soft Start
- Input over voltage protection(OVP)
- <1μA Shutdown Current
- SOT23-5 package

Applications

- LCD TV
- Set Top Box
- Net PC
- Mini-Notebook PC
- Access Point Router

TYPICAL APPLICATION

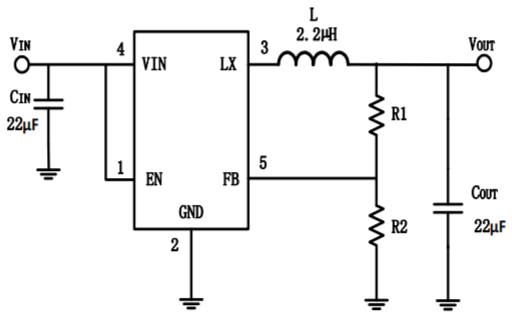
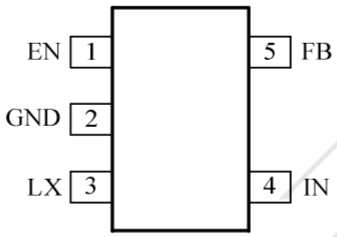


Figure 1. Basic Application Circuit

PIN CONFIGURATION



Pin	Name	Function
1	EN	Chip Enable Pin. Drive EN above 1.5V to turn on the part. Drive EN below 0.3V to turn it off. Do not leave EN floating.
2	GND	Ground pin.
3	LX	Power Switch Output. It is the switch node connection to Inductor. This pin connects to the drains of the internal P-ch and N-ch MOSFET switches.
4	VIN	Power supply input pin.
5	FB	Output Voltage Feedback Pin.

ABSOLUTE MAXIMUM RATINGS

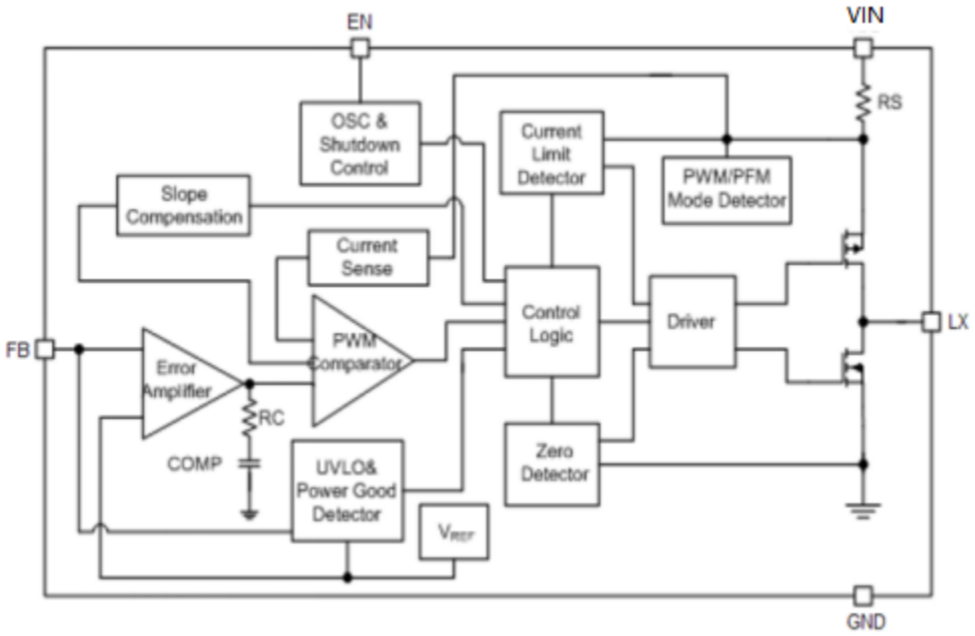
Parameter	Value	Unit
Input Supply Voltage	-0.3~6.5	V
LX Voltages	-0.3~6.5	V
EN,FB Voltage	-0.3~6.5	V
Storage Temperature Range	-65~150	°C
Junction Temperature(Note2)	160	°C
Power Dissipation	600	mW
Lead Temperature(Soldering,10s)	260	°C
Peak Current Limit	2.5	A

Electrical Characteristics (T_A=25 C unless otherwise noted)

(V_{IN}=V_{EN}=3.6V ,V_{OUT}=1.8V , T_A = 25°C, unless otherwise noted.)

Parameter	Conditions	Min	Typ	Max	Unit
Input Voltage Range		2.3		6	V
OVP Threshold			6.5		V
UVLO Threshold		1.7	1.9	2.1	V
Quiescent Current	V_{EN}=2.0V, I_{OUT}=0， V_{FB}=V_{REF}*105%		40	75	μA
Shutdown Current	V_{EN} =0V		0.1	1.0	μA
Regulated Feedback Voltage VFB	T_A = 25°C	0.588	0.600	0.612	V
	T_A = 0°C ≤ T_A ≤ 85°C	0.586	0.600	0.613	V
	T_A = -40°C ≤ T_A ≤ 85°C	0.585	0.600	0.615	V
Reference Voltage Line Regulation	V_{IN}=2.5V to 5.5V		0.1		%/V
Output Voltage Accuracy	V_{IN} = 2.5V to 5.5V, I_{OUT}=10mA to 2000mA	-3		+3	%
Output Voltage Load Regulation	I_{OUT}=10mA to 2000mA		0.2		%/A
Oscillation Frequency	V_{OUT}=100%		1.0		MHz
	V_{OUT}=0V		300		kHz
On Resistance of PMOS	I_{LX}=100mA		150		mΩ
On Resistance of NMOS	I_{LX}=-100mA		70		mΩ
Peak Current Limit	V_{IN}= 5V, V_{OUT}=90%		2.5		A
EN Threshold		0.30	1.0	1.50	V
EN Leakage Current			±0.01	±1.0	μA
LX Leakage Current	V_{EN}=0V,V_{IN}=V_{LX}=5V		±0.01	±1.0	μA

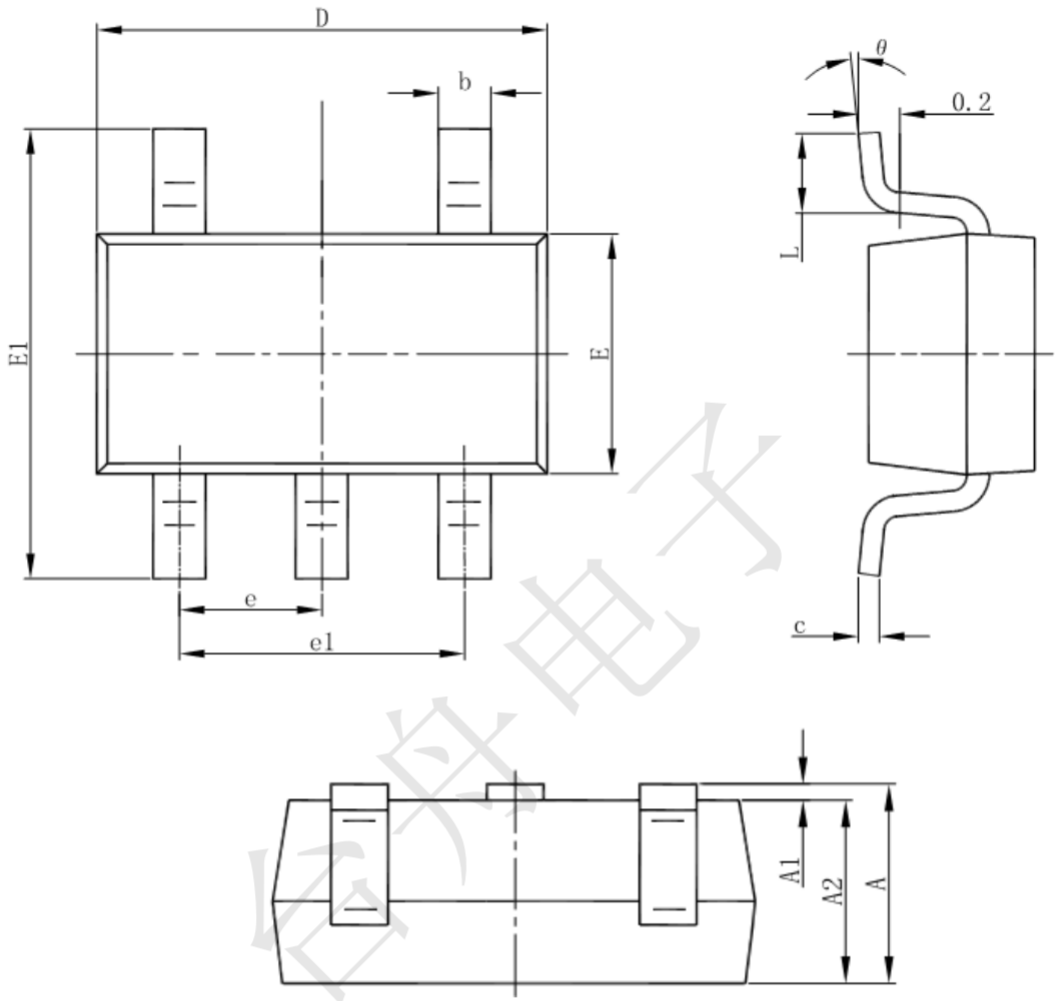
BLOCK DIAGRAM



Package information

WWW.SOT23.COM.TW

SOT23-5



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	1.050	1.250	0.041	0.049
A1	0.000	0.100	0.000	0.004
A2	1.050	1.150	0.041	0.045
b	0.300	0.500	0.012	0.020
c	0.100	0.200	0.004	0.008
D	2.820	3.020	0.111	0.119
E	1.500	1.700	0.059	0.067
E1	2.650	2.950	0.104	0.116
e	0.950(BSC)		0.037(BSC)	
e1	1.800	2.000	0.071	0.079
L	0.300	0.600	0.012	0.024
θ	0°	8°	0°	8°