

Super-Small Package PWM Control Step-up Switching Regulator

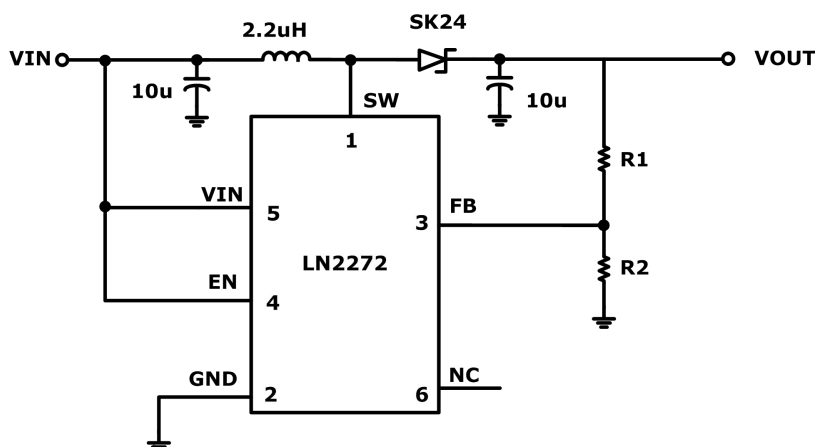
General Description

The LN2272 is a compact, high efficiency, step-up DC/DC converter with an Adaptive Current Mode PWM control loop, includes an error amplifier, ramp generator, comparator, switch pass element and driver in which providing a stable and high efficient operation over a wide range of load currents. It operates in stable waveforms without external compensation. The 80 μ A low quiescent current together with high efficiency maintains long battery lifetime.

Features

- 1.5MHz fixed switching frequency
- 90% efficiency

Typical Application Circuit



Ordering Information

LN2272P ①②③

Designator	Symbol	Description
①	A	Feedback voltage 0.6V
②	M	SOT23-6L package
③	R	Embossed Tape : Standard Feed
	S	Embossed Tape : Reverse Feed

- High supply capability to deliver 5V 1.2A with 1 Li-ion Cell
- 80 μ A supply current
- 0.01 μ A shutdown mode supply current

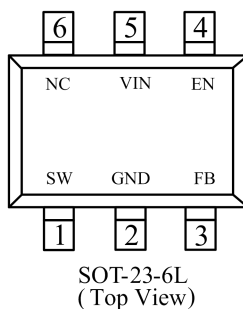
Applications

- PDA
- LCD panel
- Portable instrument
- Wireless equipment

Package

- SOT-23-6L

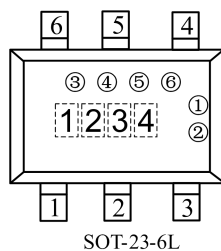
Pin Configuration



Pin Assignment

Pin Number	Pin Name	Function
1	SW	Pin for switching
2	GND	Ground
3	FB	Feedback input pin
4	EN	Chip enable
5	VIN	Input positive power pin
6	NC	Floating or connected to GND

Marking Rule



① Represents the product name

Symbol	Product Name
A	LN2272P***

② Represents the feedback voltage

Symbol	Description
A	Feedback voltage 0.6V

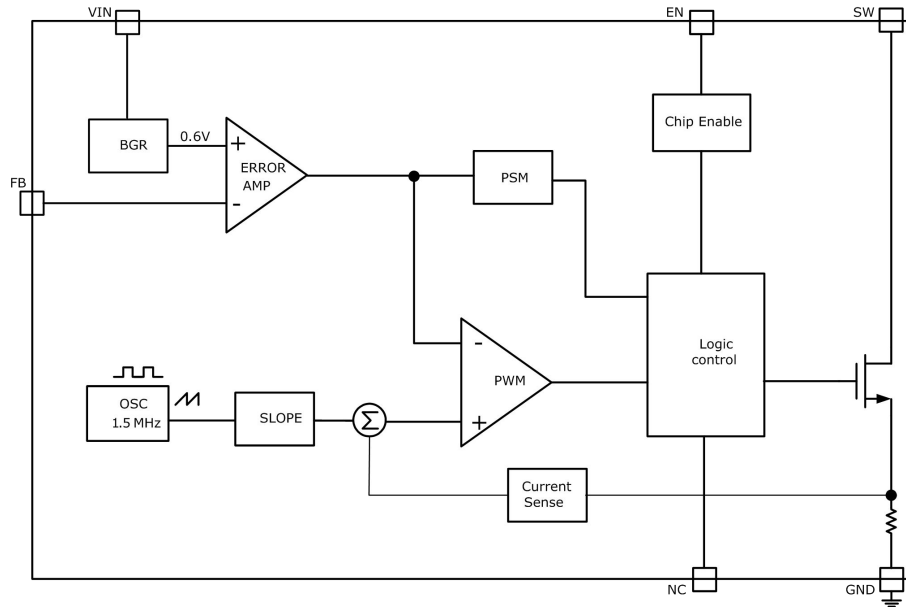
③ Represents the packaging information

Symbol	Package
6	SOT23-6L

④ Represents the assembly lot No.

0-9, A-Z; 0-9, A-Z mirror writing, repeated (G, I, J, O, Q, W exception)

Function Block Diagram

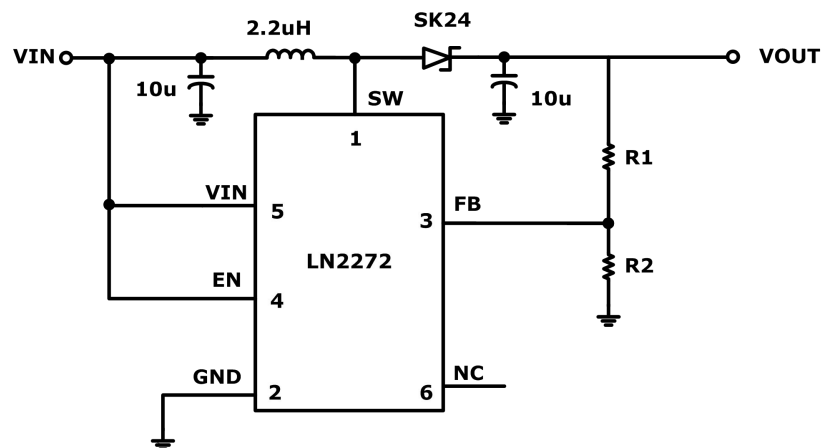


Absolute Maximum Ratings

Parameter	Symbol	Maximum Rating	Unit
Input voltage	VIN	$V_{SS}-0.3 \sim V_{SS}+6$	V
Output voltage	VOUT	$V_{SS}-0.3 \sim V_{SS}+6$	
	VSW	$V_{SS}-0.3 \sim V_{SS}+6$	
LX pin Switch Current	ISW	3.0	A
Power dissipation	PD	250	mW
Operating ambient temperature	Topr	$-40 \sim +80$	$^{\circ}\text{C}$
Storage ambient temperature	Tstg	$-40 \sim +125$	

Caution : The absolute maximum ratings are rated values exceeding which the product could suffer physical damage. These values must therefore not be exceeded under any conditions.

Typical Application Circuit



LN2272 Typical Application

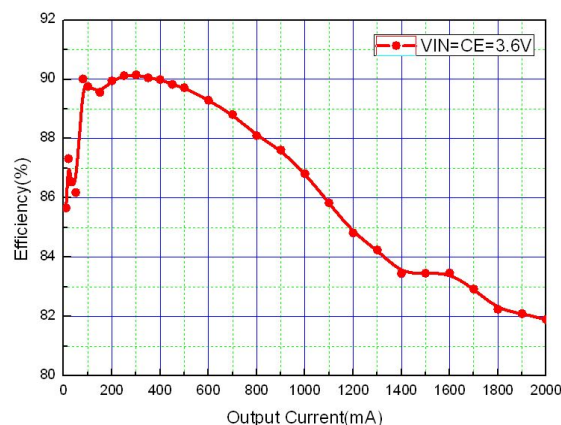
Electrical Characteristics

(VIN=1.5V, VDD=3.3V, I_{Load}=0, Ta=25°C, unless otherwise noted)

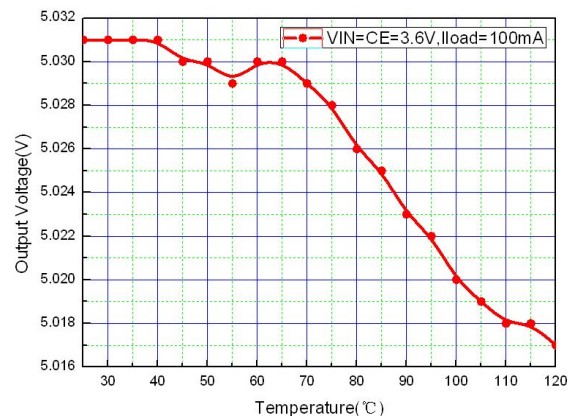
Item	Symbol	Condition	Min.	Typ.	Max.	Unit
Supply voltage	VIN	IOUT=1.2A	2.8	-	5	V
Output voltage	VOUT	-	VIN-0.2		6	
Shut down current	IOFF	VEN<VENL	-	0.01	1	μA
No load Current	IC	VIN=3.6V, VOUT=5V	-	80	-	μA
Feedback voltage	VR	VOUT=5V	588	600	612	mV
Switching frequency	FS	IOUT=1.2A	1.25	1.5	1.75	MHz
Maximum Duty	DMAX	VIN=3.6V	75	-	-	%
Current Limit	ISW	VIN=4.2V	3			A
Line Regulation	ΔVLINE	IOUT=1.2A, VIN=3V 到 4.2V	-	0.4	-	%
Load Regulation	ΔVLOAD	VIN=3.6V, IOUT=10mA 到 1.2A	-	0.45	-	%
CE " High" Voltage	VENH	VIN=3.6V	0.9	-	-	V
CE " Low" Voltage	VENL	VIN=3.6V	-	-	0.8	V
Over Temperature Shutdown	TSHD	VIN=3.6V, IOUT=100mA	-	146	-	°C

Typical Performance Characteristics

1. Efficiency vs. Output Current

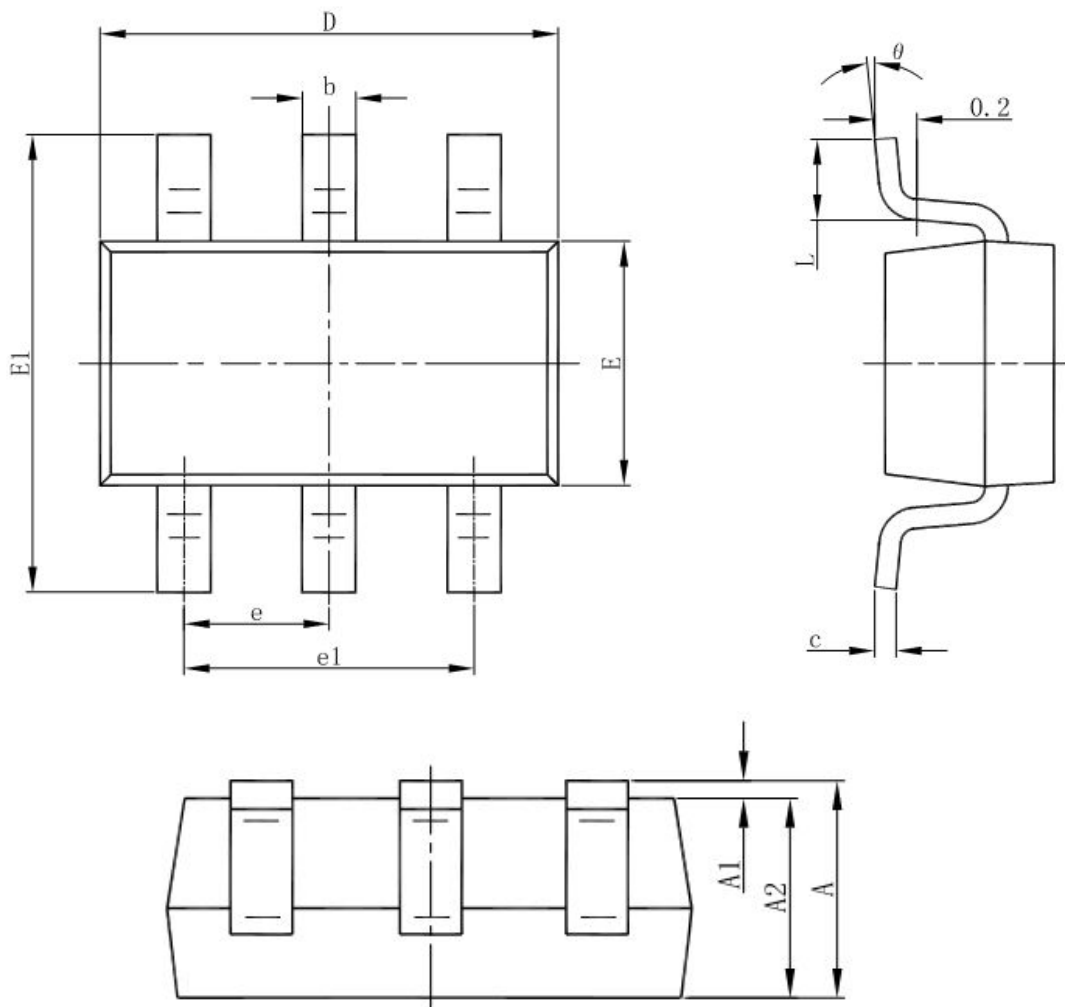


2. Supply Current vs. Input Voltage



Package Information

SOT-23-6L



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°