

PWM Control Of Dual DC-DC Boost Controller

General Description

LN5072 series is a dual step-up DC / DC controller chips using current-mode PWM control mode, mainly for TFT and a number of digital products that can achieve multi-channel output, the output voltage is adjustable, off-chip ultra-low cases power.

Applications

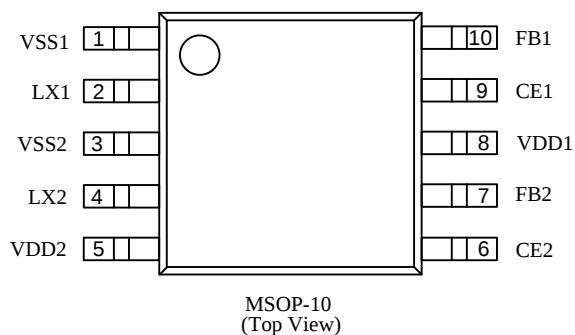
- TFT
- Battery pack
- Digital cameras

Ordering Information

LN5072 ①②③④⑤⑥

Designator	Symbol	Description
①	B	Without over-voltage protection function; oscillator frequency 1.5MHZ
②③④	010-149	FB voltage eg: ② =0 ③=2 ④=0 represents 0.20V ②=1 ③=2 ④=3 represents 1.23V
⑤	M	Package type:MSOP-10
⑥	R	Embossed Tape : Standard Feed
	L	Embossed Tape : Reverse Feed

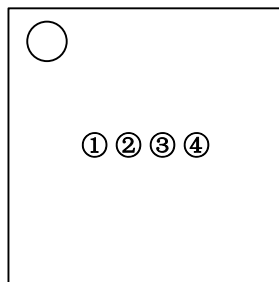
Pin Configuration



Pin Number	Pin Name	Function Description
1	VSS1	Ground of channel1
2	LX1	Switch of channel1
3	VSS2	Ground of channel2
4	LX2	Switch of channel2
5	VDD2	Input voltage of channel 2
6	CE2	Enable of channel 2
7	FB2	Feedback of channel 2
8	VDD1	Input voltage of channel 1
9	CE1	Enable of channel 1
10	FB1	Feedback of channel 1

■ Marking Rule

● MSOP-10



MSOP-10
(Top View)

① Represents the product name

Symbol	Product Code
R	LN5072◆◆◆◆◆◆◆◆◆◆

② Represents the feedback mode

symbol	FB pin voltage (V)	Part code
S	0.050-0.195	LN5072◆◆◆◆◆◆◆◆◆◆
L	0.20-0.49	LN5072◆◆◆◆◆◆◆◆◆◆
H	1.20-1.49	LN5072◆◆◆◆◆◆◆◆◆◆

③ Represents the package type

Symbol	FB pin voltage (V)			Symbol	FB pin voltage (V)		
0	0.20	0.050	1.20	F	0.35	0.125	1.35
1	0.21	0.055	1.21	H	0.36	0.130	1.36
2	0.22	0.060	1.22	K	0.37	0.135	1.37
3	0.23	0.065	1.23	L	0.38	0.140	1.38
4	0.24	0.070	1.24	M	0.39	0.145	1.39
5	0.25	0.075	1.25	N	0.40	0.150	1.40
6	0.26	0.080	1.26	P	0.41	0.155	1.41
7	0.27	0.085	1.27	R	0.42	0.160	1.42
8	0.28	0.090	1.28	S	0.43	0.165	1.43
9	0.29	0.095	1.29	T	0.44	0.170	1.44
A	0.30	0.100	1.30	U	0.45	0.175	1.45
B	0.31	0.105	1.31	V	0.46	0.180	1.46
C	0.32	0.110	1.32	X	0.47	0.185	1.47
D	0.33	0.115	1.33	Y	0.48	0.190	1.48
E	0.34	0.120	1.34	Z	0.49	0.195	1.49

④ Represents the product lot

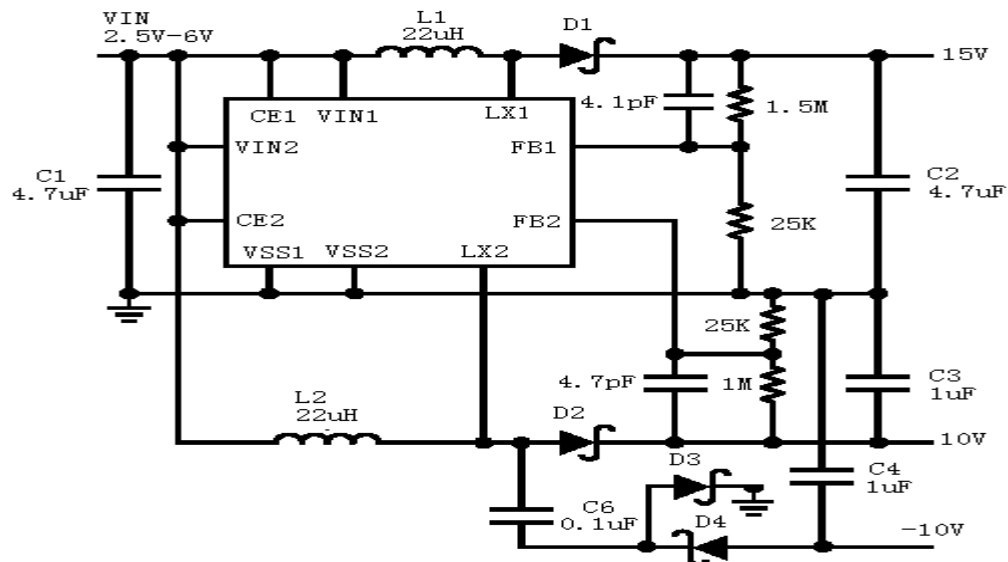
Numbers 0-9, A-Z, to write down numbers 0-9, A-Z, and then repeat (except G, I, J, O, Q, W)

■ Electrical Characteristics

(Ta=25°C, unless otherwise noted)

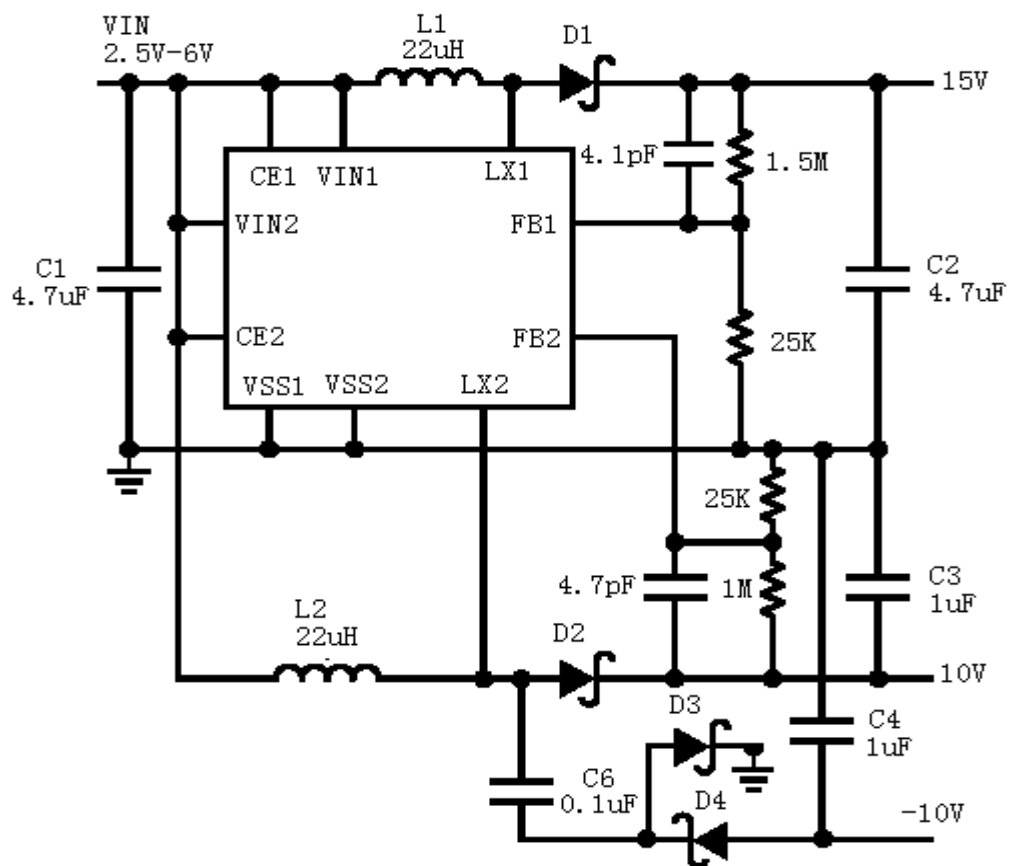
Parameter	Symbol	Conditions	Min	Typ	Max	Units	Test Circuits
Feedback Voltage Voltage	VFB	-	Vfbt*0.95	Vfbt	Vfbt*1.05	V	1
Output voltage	VOUT	-	VIN	-	25		
LX pin voltage	VLX		-	-	25		
Input Voltage Range	VIN		2.5	-	6		
Stand-by Current	ISTB	VCE=0V、VLX=5V	—		1	μA	3
Operating current 1	IDD1			1500		μA	2
Operating current 2	IDD2	VIN=VLX、VFB=0.4V	—	400			3
Oscillation Frequency	FOSC		1.2	1.5	1.8	MHz	2
Maximum Duty Circle	MAXDTY	VCONT=0.4V	86	92	98	%	2
Efficiency	EFFI	VIN=3.6V;RLED=20Ω	—	88	—	%	1
Output Current Limit	ILIM	VIN=3.6		600		mA	4
LX resistance		VIN=3.6V、VLX=0.4V		1		Ω	2
LX leakage current	ILXL			0	1	μA	3
CE Pin Input Voltage High	VCEH		0.65			V	2
CE Pin Input Voltage Low	VCEL				0.2	V	2
CE pin high current	ICEH	IDD2			0.1	μA	3
CE pin low current	ICEL	ISTB			-0.1	μA	3
FB pin high current	ICEH	IDD2			0.1	μA	3
FB pin low current	ICEL	ISTB			-0.1	μA	3

Typical Application Circuit



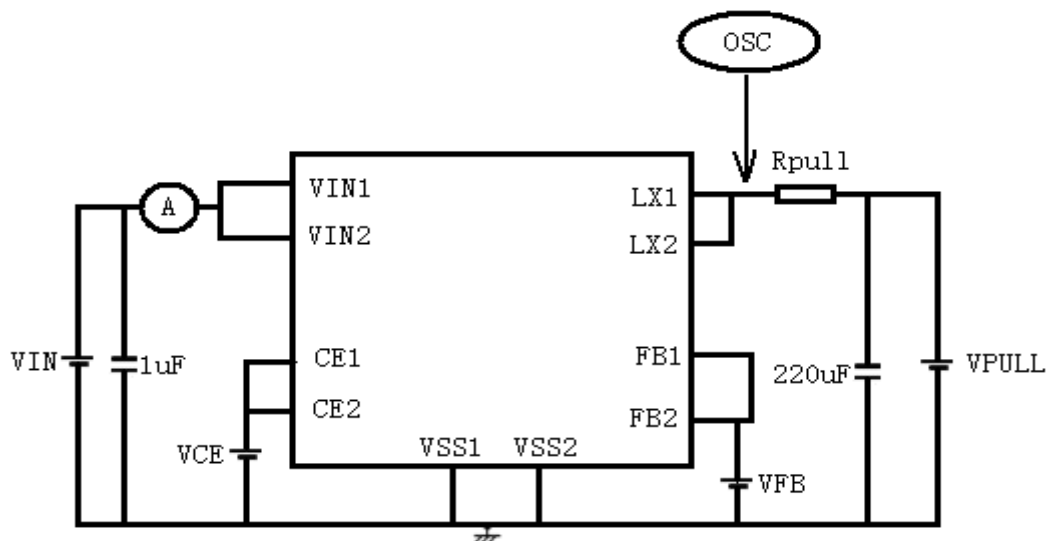
Test Circuit

Circuit 1

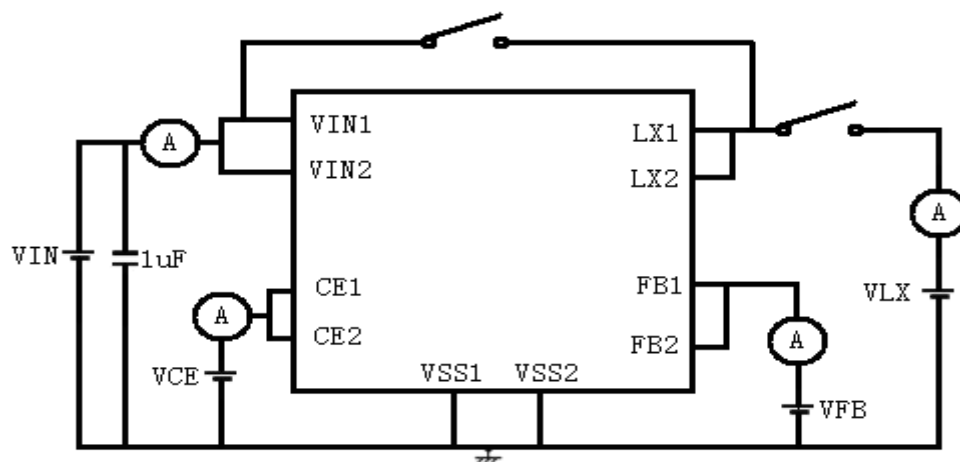


Note: The circuit is application of FB voltage is 0.25V

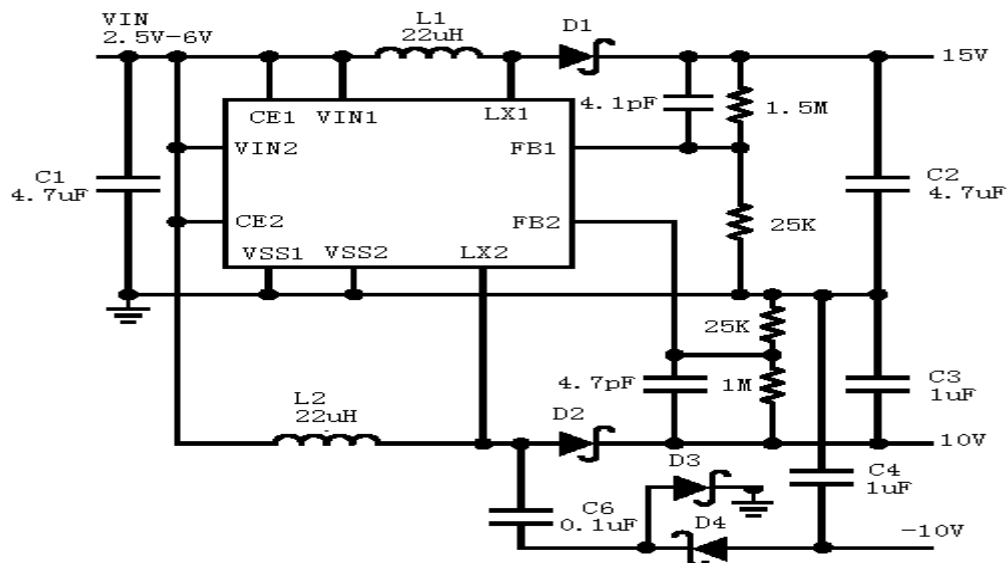
Circuit 2



Circuit 3

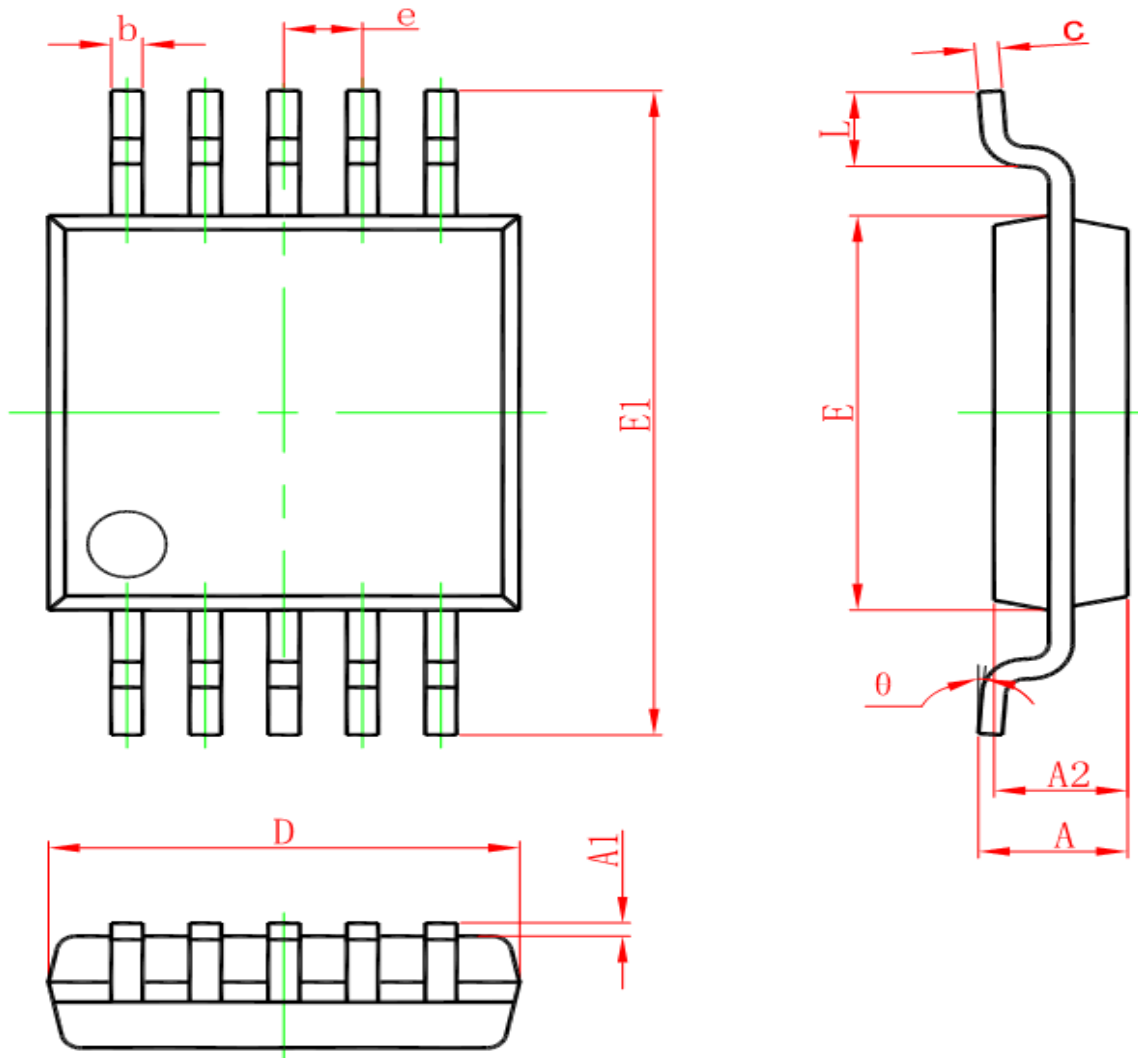


Circuit 4



■ Package Information

● MSOP-10



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	0.820	1.100	0.032	0.043
A1	0.020	0.150	0.001	0.006
A2	0.750	0.950	0.030	0.037
b	0.180	0.280	0.007	0.011
c	0.090	0.230	0.004	0.009
D	2.900	3.100	0.114	0.122
e	0.50(BSC)		0.020(BSC)	
E	2.900	3.100	0.114	0.122
E1	4.750	5.050	0.187	0.199
L	0.400	0.800	0.016	0.031
θ	0°	6°	0°	6°