LITIX™ Power
APPBOARD TLD5098EL V6 Manual

Boost to Battery with EMC filter

24.11.2017

ATV BP LI

www.infineon.com/litix

LITIX™ Power TLD5098EL
Topology: Boost To Battery - APPBOARD TLD5098EL V6

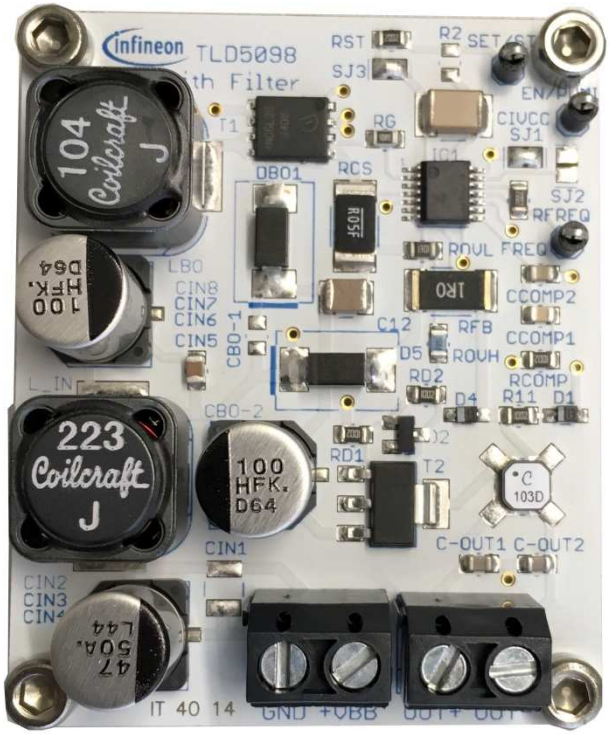
The APPBOARD TLD5098EL V6 uses the TLD5098D as a Boost to Battery (buck boost), constant current LED driver

Board Characteristics:

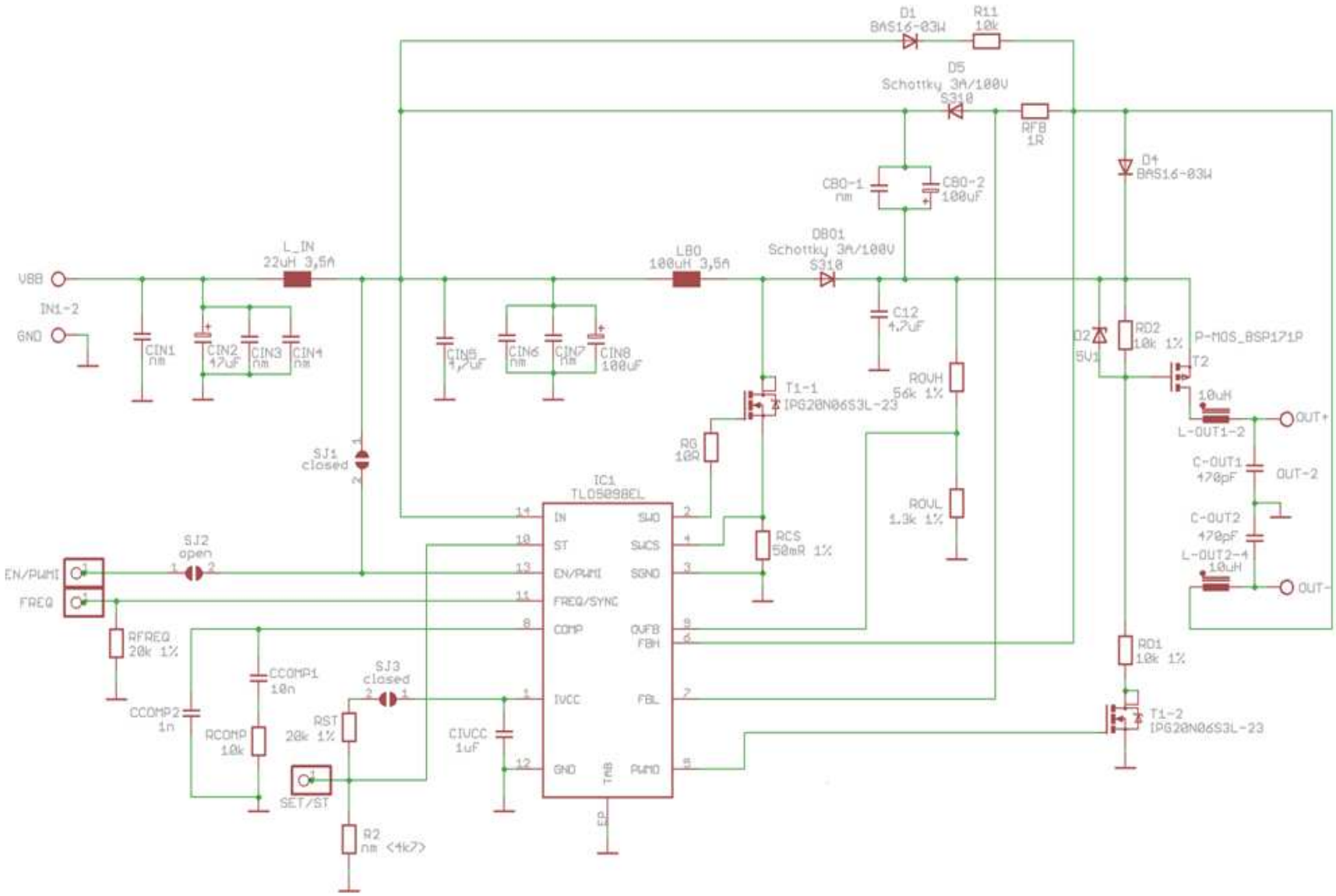
Input Voltage :
6V - 45V

Output Current Current:
300mA (Can be changed replacing RFB, up to 1,5A)

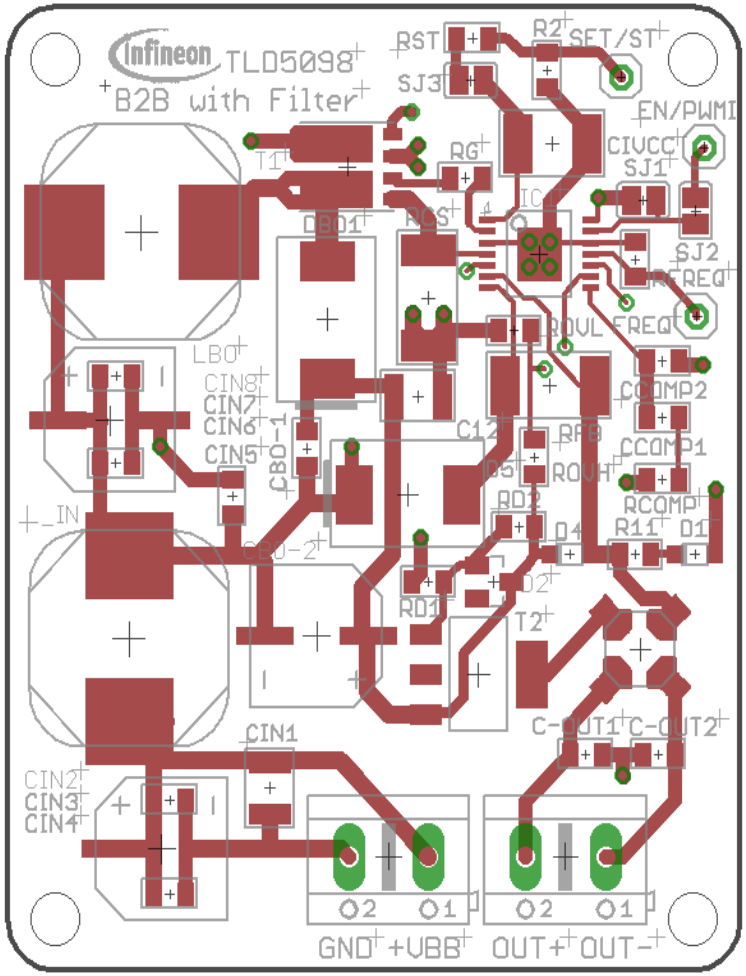
Switching Frequency:
300kHz (Can be changed replacing RFREQ)



Boost to Battery (**B2B**) – Topology "**BUCK / BOOST**" Schematic



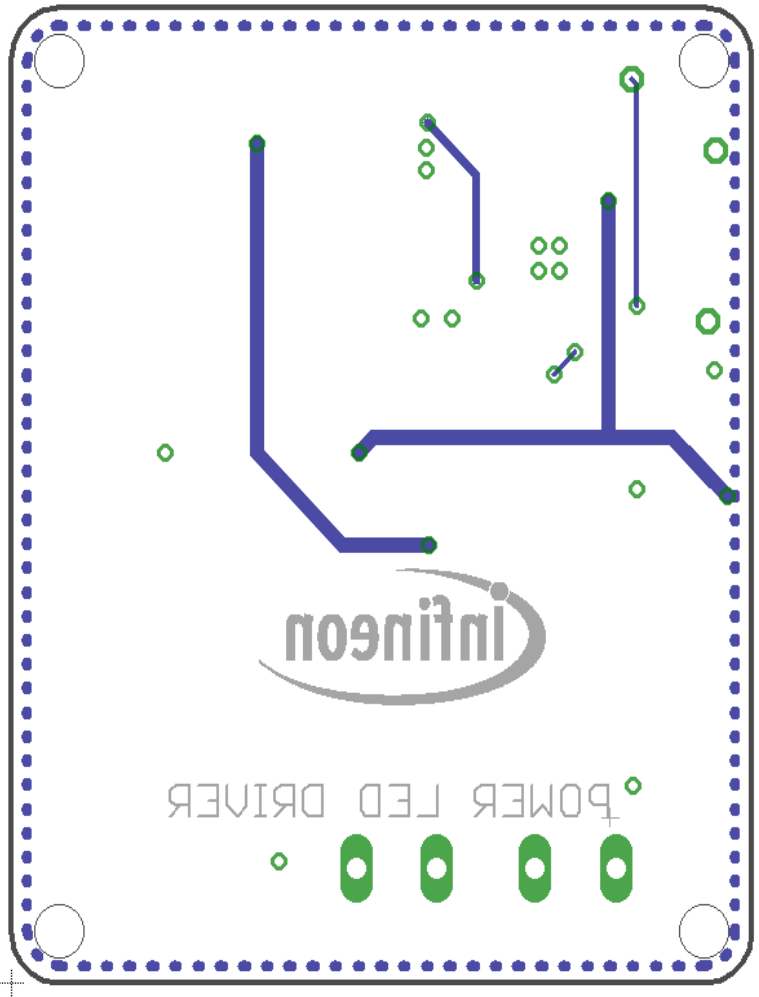
Boost to Battery (**B2B**) – Topology "**BUCK / BOOST**" Board (TOP)

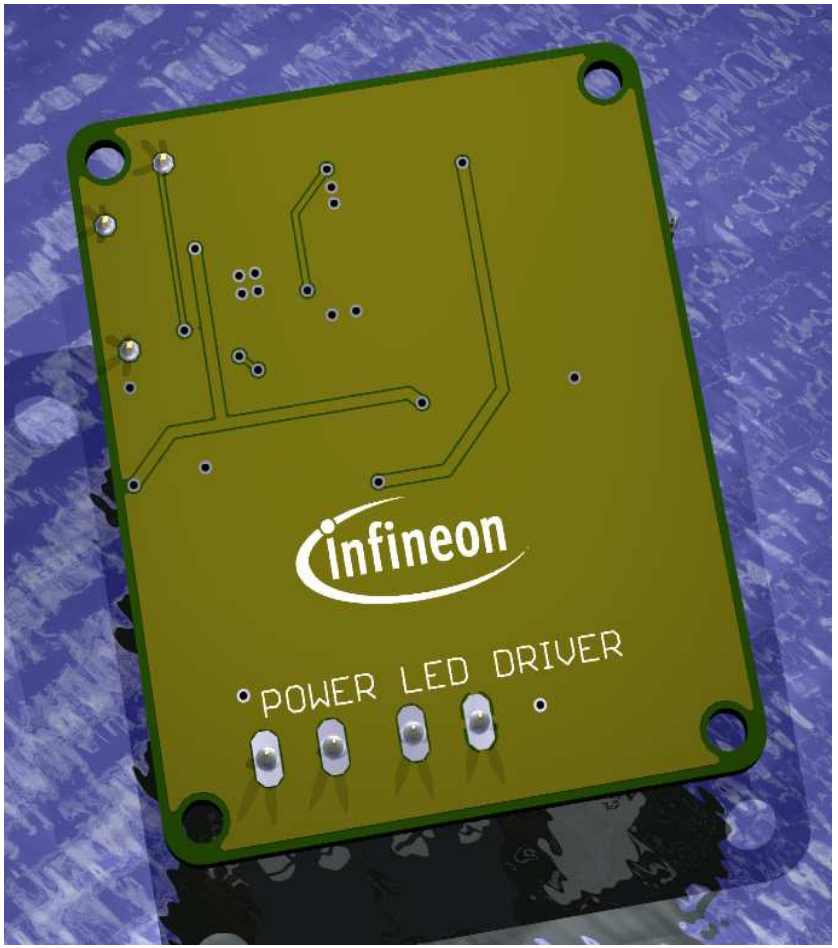


56mm

46mm

Boost to Battery (**B2B**) – Topology "**BUCK / BOOST**" Board (BOTTOM)





Boost to Battery (**B2B**) – Topology "**BUCK / BOOST**" Bill of Material (BOM)

Part	Value	Package	Device	Quantity
T1	IPG20N06S3L-23	PG-TDSON-8-4	Transistor	1
T2	P-MOS_BSP171P	SOT223	Transistor	1
SJ1, SJ3	closed	Solderjumper	Jumper	2
SJ2	open	Solderjumper	Jumper	1
IC1	TLD5098EL	PG-SSOP-14-1-EP	Chip	1
EN/PWMI , FREQ, SET/ST		Meassurement - Point		3
L-OUT	10uH	LPD4012	Coil	1
LBO	100uH 3,5A	MSS1278	Coil	1
L_IN	22uH 3,5A	MSS1278	Coil	1
IN1, OUT		AK500/2	Connection	2
D1, D4	BAS16-03W	SOD323	Diode	2
D5, DBO1	Schottky 3A/100V	DO214AB	Diode	2
D2	Zener Diodem 5,1V	SOT23	Diode	1
C-OUT1, C-OUT2	470pF	0805	Capacitor	2
C12	4.7uF	1210	Capacitor	1
CIN1	nm	1210	Capacitor	1
CIN3, CIN4, CIN6, CIN7	nm	0805	Capacitor	4
CIN5	4,7uF	0805	Capacitor	1
CIN2	47uF	PANASONIK_FK_SIZE-F	Capacitor	1
CIN8	100uF	PANASONIK_FK_SIZE-F	Capacitor	1

Boost to Battery (**B2B**) – Topology "**BUCK / BOOST**" Bill of Material (BOM)

CCOMP1	10n	0805	Capacitor	1
CCOMP2	1n	0805	Capacitor	1
CBO-1	nm	0805	Capacitor	1
CBO-2	100uF	PANASONIK_FK_SIZE-F	Capacitor	1
CIVCC	1uF	1812	Capacitor	1
R2	nm	0805	Resistor	1
R11, RCOMP, RD1, RD2	10k	0805	Resistor	4
RCS	50mR 1%	2512	Resistor	1
RFB	1R	2512	Resistor	1
RFREQ	20k 1%	0805	Resistor	1
RG	10R	0805	Resistor	1
ROVH	56k 1%	0805	Resistor	1
ROVL	1.3k 1%	0805	Resistor	1
RST	20k 1%	0805	Resistor	1
Distance		M3x15mm	Distance	4
Bolt		M3x6mm		4

LITIX™ Power
Design In Support Material

Available Appboards

Sales Name of Demoboard	SP Number	Description
APPBOARD TLD5098EL VER1	SP000954242	Constant Voltage Mode
APPBOARD TLD5098EL VER2	SP000954244	Boost to Ground Configuration w/ short to ground protection
APPBOARD TLD5098EL VER3	SP000954246	Boost to Battery Configuration
APPBOARD TLD5098EL VER4	SP000954248	SEPIC Configuration
APPBOARD TLD5098EL V5	SP000984908	Boost to Ground Configuration w/ short to ground protection & EMC filter
APPBOARD TLD5098EL V6	SP000984910	Boost to Battery Configuration with EMC filter
APPBOARD TLD5098EL V7	SP000984912	SEPIC Configuration with EMC filter
BOARD TLD5097 B2B	SP001157588	Boost to Battery Configuration
BOARD TLD5097 B2G	SP001157586	Boost to Ground Configuration
BOARD TLD5097 SEPIC	SP001157590	SEPIC Configuration

http://www.infineon.com/LITIX-power-appboards

LITIX™ Power
Design In Support Material

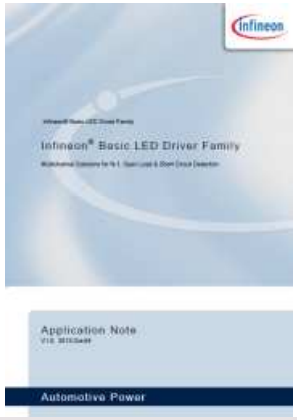
Available Demoboards

Sales Name of Demoboard	SP Number	Description
Demoboard TLD5045EJ	SP000924382	Buck mode
Demoboard TLD5095EL Ver1	SP000760364	Boost to GND (default), Sepic & Constant Voltage Mode possible
Demoboard TLD5095EL Ver2	SP000845642	Boost to Battery (default), Constant Voltage Mode possible

www.infineon.com/litix-power-demoboards

Other design in support material

- Data Sheets & Application Note
- Simulation Models
- EMC Test Reports
- Excel Calculation Tool for TLD509xEL available on request



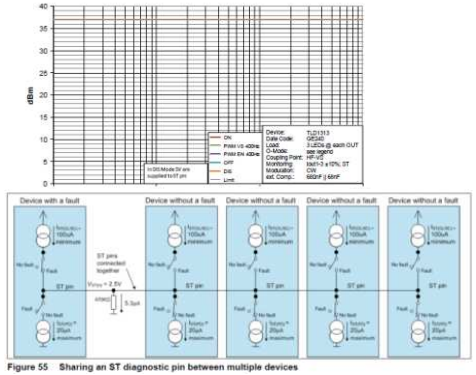


Figure 55 Sharing an ST diagnostic pin between multiple devices

Part of your life. Part of tomorrow.

Infineon