



LED Driver Demo Board

Input 180-265VAC // Output 700mA, 30V (21W)

General Description

The AN9910B demo board is a high-brightness LED driver employing the peak current control scheme.

The AN9910BDB2 LED driver features tight regulation of the LED current within a few milliamps over the entire range of the input AC line and the output LED string voltage.

The AN9910BDB2 can supply a output current of 700mA to drive 20-30V LED strings from a wide input voltage - 180 to 265VAC, 50/60Hz.

Design is suited for using it as part of the LED lamps T8 type.

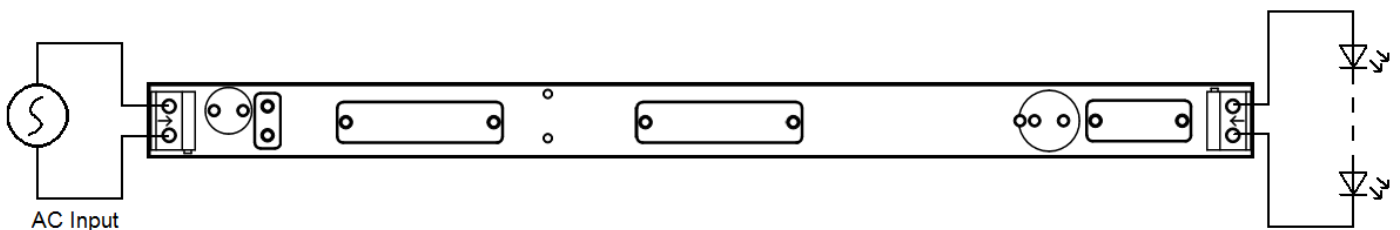
Specifications	
Input AC Voltage	180 to 265V, 50/60Hz
Output Voltage	20 to 30V
Output Current	700mA +/-10%
Power Factor	> 60%
Efficiency	> 82%
100 Hz Output Current Ripple	< 5%
Output short circuit protection	Yes
Output overvoltage, open circuit protection	Yes
Constant Off-time	15us
Switching Frequency	About 60kHz (depends on the input and output voltage)
Operating Temperature	0 ... +50 °C
Board Material	Aluminum
Dimensions	190 x 12 x 25 mm

Warning!

Working with this board can cause serious bodily harm or death. Connecting the board to a source of line voltage will result in the presence of hazardous voltage throughout the system including the LED load.

The board should only be handled by persons well aware of the dangers involved with working on live electrical equipment. Extreme care should be taken to protect against electric shock. Disconnect the board before attempting to make any changes to the system configuration. Always work with another person nearby who can offer assistance in case of an emergency. Wear safety glasses for eye protection.

Board Connections

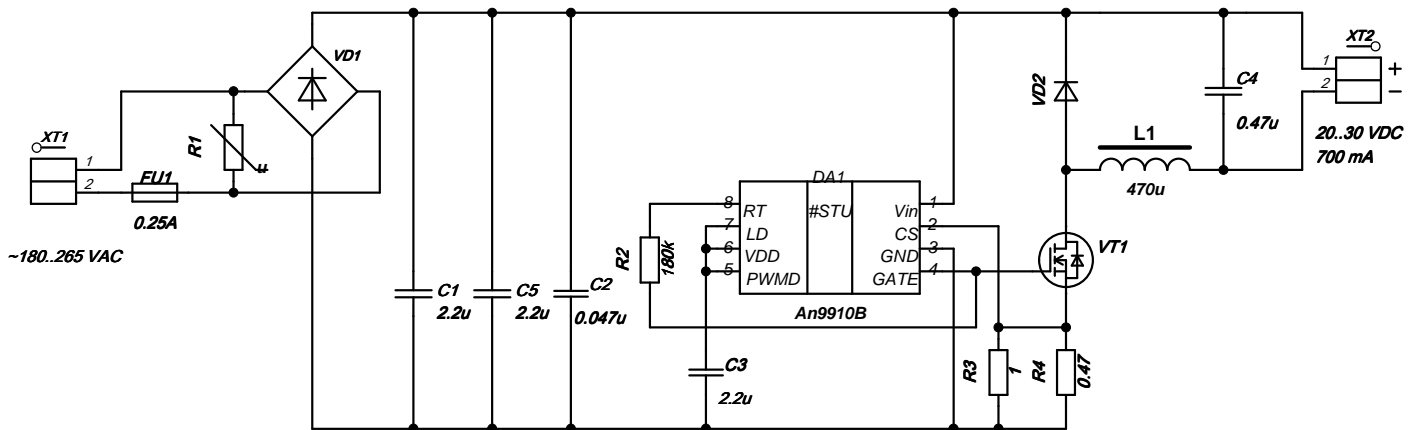




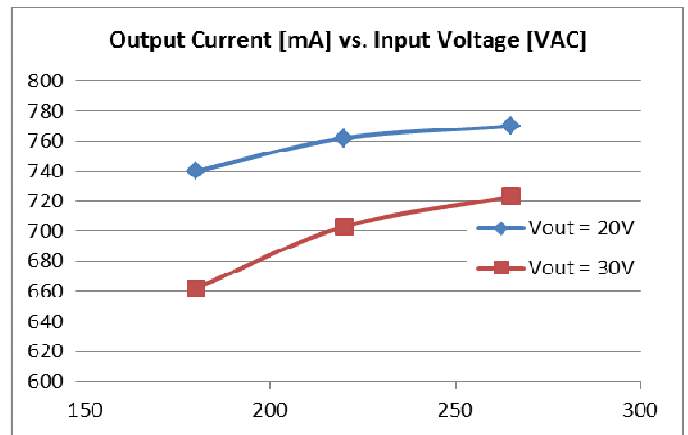
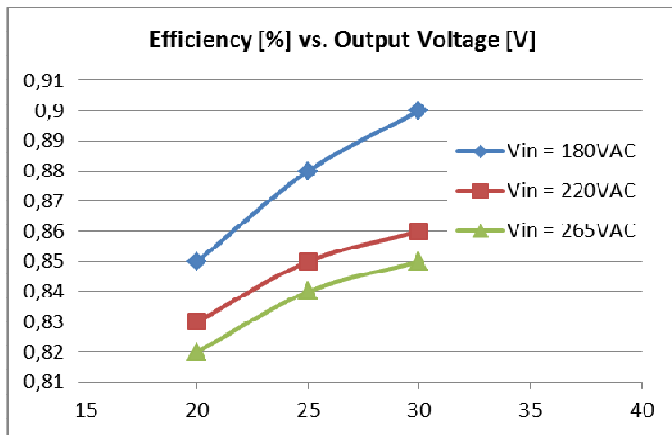
Connection Instructions

1. Carefully inspect the board for shipping damage, loose components, etc, before making connections.
2. Connect the board to the line and load as shown in the diagram. Be sure to check for correct polarity when connecting the LED string to avoid damage to the string. The LED string voltage can be anything between 20 and 30V.
3. Energize the mains supply.

Schematic Diagram

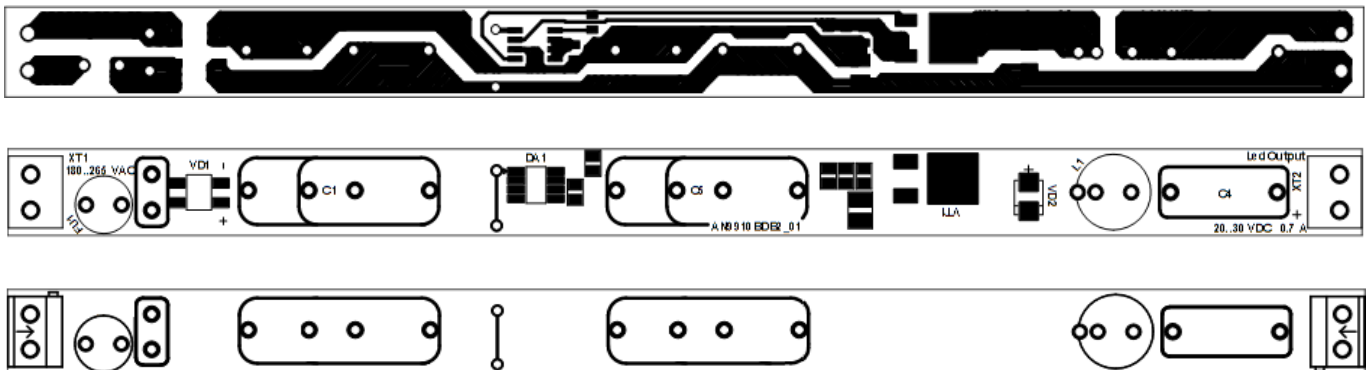


Typical Characteristics





PCB Layout



Bill of Materials

Qty	REF	Description	Manufacturer	Product Number
2	C1, C5	Cap MEF 2,2uF 400V	Shengxin	CL21-2.2uF-400V
1	C2	Cap X7R 1210 0,047uF 630V	-	-
1	C3	Cap X7R 0805 2,2uF 25V	-	-
1	C4	Cap MEF 0,47uF 400V	Shengxin	K73-17-0,47uF-400V
1	DA1	IC LED Driver	Angstrom	An9910B
1	FU1	Fuse 250VAC 0.3A	Conquer	MET 0.3
1	L1	Inductor 0,47mH 0,84A	Sumida	RCH114NP-122KB
1	R1	Sur Absorber 5mm 430V 600A ZNR	Panasonic	ERZV05D431
1	R2	Res 0805 180kOhm 1%	-	-
1	R3	Res 0805 1Ohm 1%	-	-
1	R4	Res 0805 0,47Ohm 1%	-	-
1	VD1	Rect Bridge MiniDIL 600V 0.5A	Diotec	S250
1	VD2	Diode UltraFast 600V 1A	ST	STTH1R06U
1	VT1	Transistor N-MOS 650V 1.4Ohm 12 nC	Infineon	SPD03N60C3
2	XP1, XP2	Terminal Block 250VAC 1A	Ningbo Xinya M&E	300-021-12