

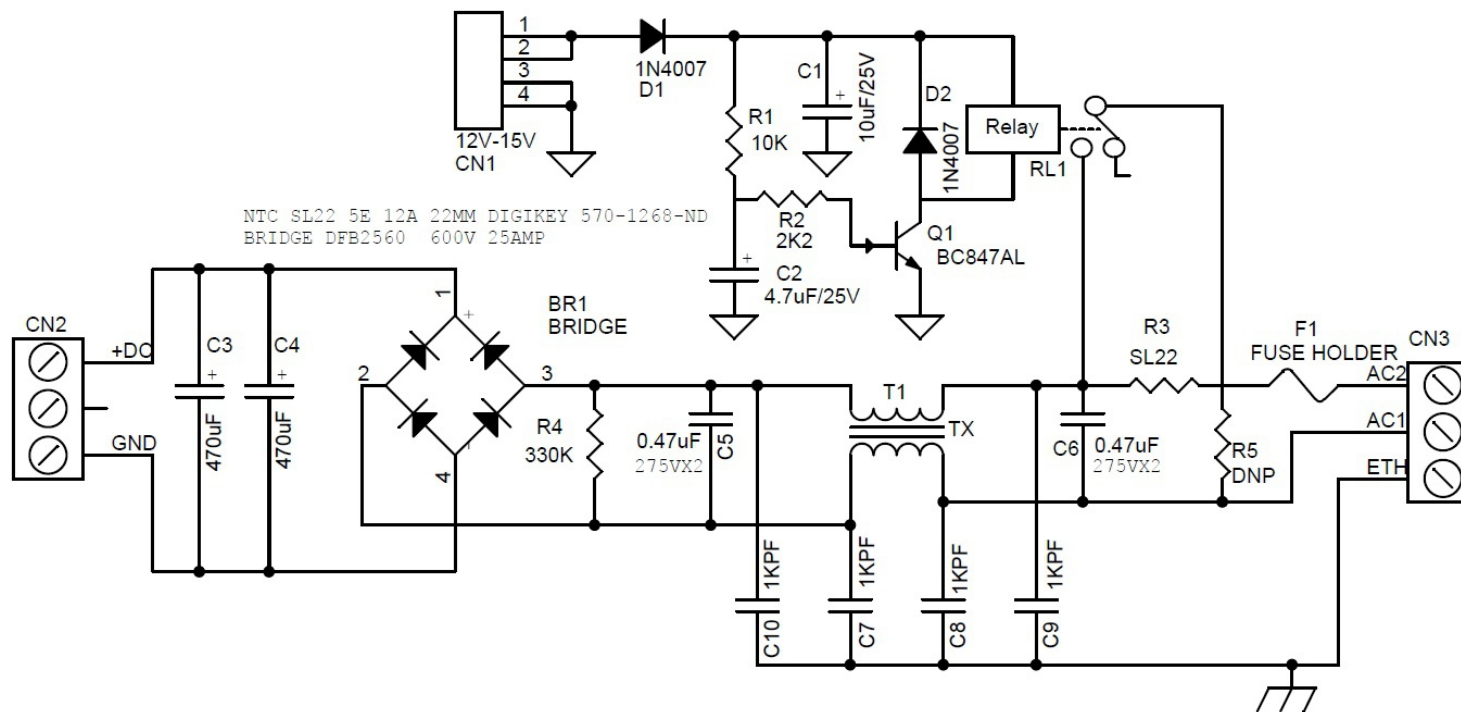
High Voltage DC Power Supply for intelligent Power Modules

Although the power supply design is specific to the Intelligent Power Modules (IPM), the concepts and circuit design may be used for any power supply that requires high voltage output up to 400V DC and 6 A. It is an unregulated power supply, DC output is dependent on AC input. The circuitry includes a passive EMI filter consisting of elements C5, C6, C7, C8, C9, C10, T1, and a BR1 25 A/600V rectifier block, R3 NTC for inrush current protection, and a relay RL1 for soft powering up and reducing conduction losses in steady-state operation. 2 x electrolytic capacitors C3, C4 are used for buffering the rectified DC bus voltage. It is advisable to use a heatsink on the bridge rectifier. Inrush current circuit requires 12-15V DC @ 50mA power supply. Choose appropriate fuse as per current requirement.

Features

- Nominal Input Voltage 220V-240V AC
- Output 330V DC (Approx.)
- Output Current Continues 3Amps (Maximum 6 Amps)
- On Board EMI Filter
- On Board NTC for inrush Current
- On Board Relay for soft powering up and reducing Power Losses
- On Board Fuse for Short Circuit/Over Current Protection
- Screw Terminals for Easy Connections
- PCB dimensions: 98.50 x 85.88 mm

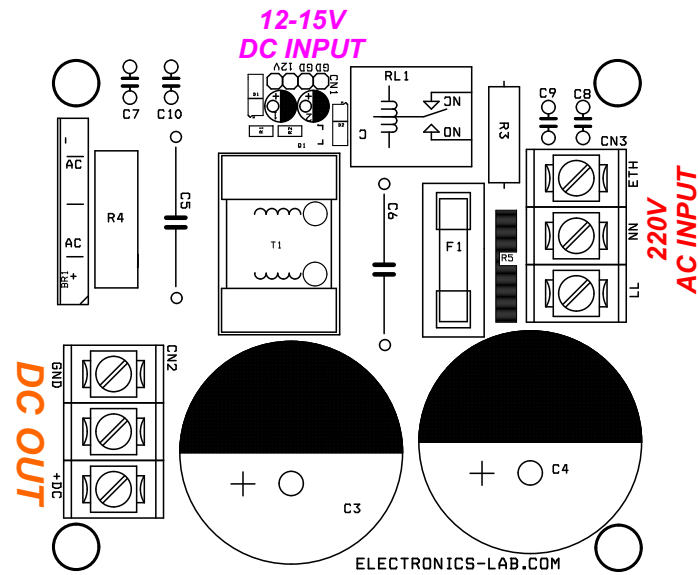


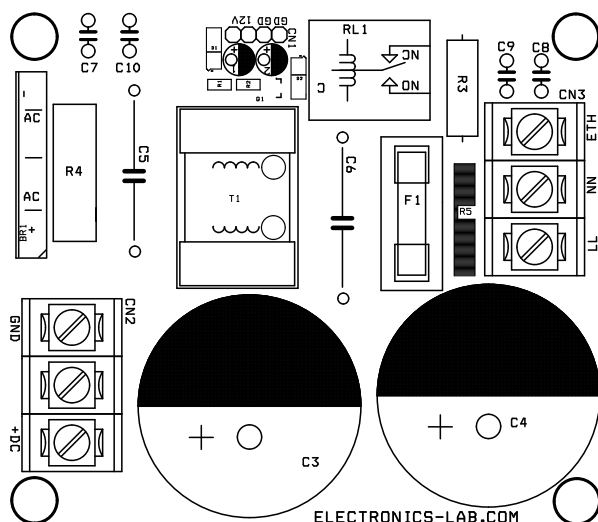




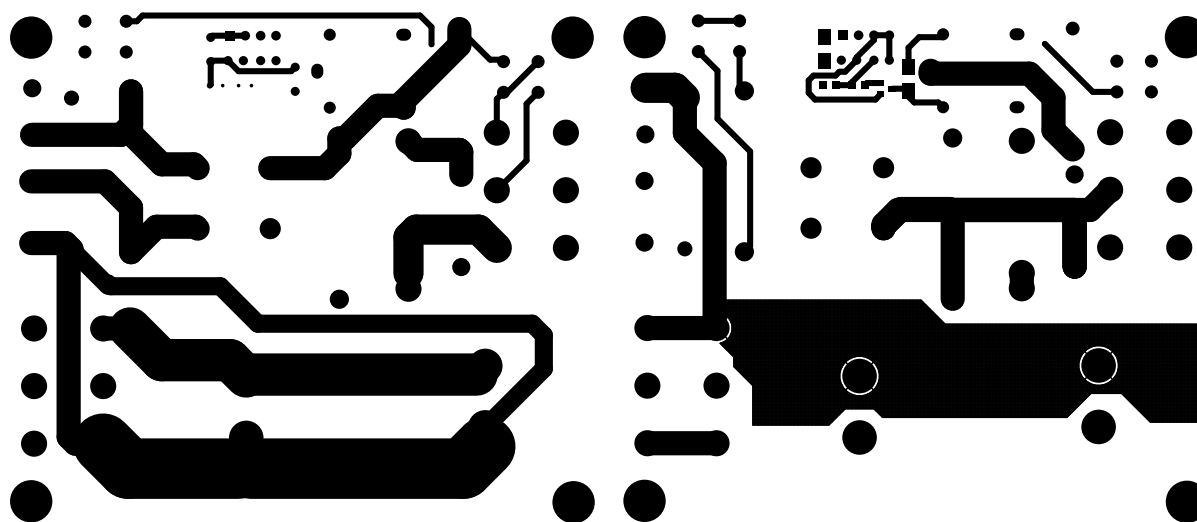
BOM						
NO.	QNTY.	REF.	DESC	MANUFACTURER	SUPPLIER	SUPPLIER PART NO
1	1	BR1	BRIDGE DFB2560	ON SEMI	DIGIKEY	DFB2560-ND
2	1	CN1	4 PIN MALE HEADER 2.54MM PITCH	WURTH	DIGIKEY	732-5317-ND
3	2	CN2,CN3	3 X 2 PIN BARRIER STRIP	TE CONNECTIVITY	DIGIKEY	A113421-ND
4	1	C1	10uF/25V	NICHICON	DIGIKEY	493-17428-3-ND
5	1	C2	4.7uF/25V	NICHICON	DIGIKEY	493-11353-3-ND
6	2	C3,C4	470uF/450V	NICHICON	DIGIKEY	493-3239-ND
7	2	C5,C6	0.47uF/275V X 2	KEMET	DIGIKEY	399-12744-ND
8	4	C7,C8,C9,C10	1KPF/2KV	TDK	DIGIKEY	445-175190-3-ND
9	2	D1,D2	1N4007	SMC DIODE	DIGIKEY	1655-1N4007FLTR-ND
10	1	F1	FUSE HOLDER	WURTH	DIGIKEY	732-11376-ND
11	1	F1	FUSE HOLDER CLIP COVER	WURTH	DIGIKEY	732-11379-ND
12	1	F1	FUSE	WURTH	DIGIKEY	507-1270-ND
13	1	Q1	BC847AL	NEXPERIA	DIGIKEY	1727-2924-2-ND
14	1	RL1	Relay	TE CONNECTIVITY	DIGIKEY	PB2531-ND
15	1	R1	10K 5% SMD SIZE 0805	MURATA/YAGEO	DIGIKEY	
16	1	R2	2K2 5% SMD SIZE 0805	MURATA/YAGEO	DIGIKEY	
17	1	R3	NTC5D/20	AMTHERM	DIGIKEY	570-1268-ND
18	1	R4	330K 5% 3W	TE CONNECTIVITY	DIGIKEY	A131571CT-ND
19	1	R5	DNP			OMIT
20	1	T1	TX	WURTH	DIGIKEY	732-1449-ND







SILK SCREEN TOP



BOTTOM LAYER

TOP LAYER

PCB Dimensions 98.50MM X 85.88MM