

# Bill of Materials

## Protection

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Total Components: 42

Reference	Value	Footprint	Quantity	Rating/Spec
C10	100p	Capacitor_THT:C_Disc_D5.0mm_W2.5mm_P5.00mm	1	50V
C9	1n	Capacitor_THT:C_Disc_D5.0mm_W2.5mm_P5.00mm	1	50V
C8	10n	Capacitor_THT:C_Disc_D5.0mm_W2.5mm_P5.00mm	1	50V
C1,C2,C7,C11,C13,C15	100n	Capacitor_THT:C_Disc_D5.0mm_W2.5mm_P5.00mm	6	50V
C6	1u	Capacitor_THT:C_Disc_D5.0mm_W2.5mm_P5.00mm	1	50V
C14	100u	Capacitor_THT:CP_Radial_D5.0mm_P2.50mm	1	25V
C3	330u	Capacitor_THT:CP_Radial_D10.0mm_P5.00mm	1	50V
C4,C5	470u	Capacitor_THT:C_Radial_D10.0mm_H20.0mm_P5.00mm	2	50V
J3	5V_IN	Connector_JST:JST_XH_B2B-XH-A_1x02_P2.50mm_Vertical	1	
F1	10A	TerminalBlock_Phoenix:TerminalBlock_Phoenix_PT-1,5-2-5.0-H_1x02_P5.00mm_Horizontal	1	
R19,R21	10	Resistor_THT:R_Axial_DIN0207_L6.3mm_D2.5mm_P10.16mm_Horizontal	2	
D3,D5	15V	Diode_THT:D_D0-41_SOD81_P10.16mm_Horizontal	2	
R11	120	Resistor_THT:R_Axial_DIN0207_L6.3mm_D2.5mm_P10.16mm_Horizontal	1	
R20	270	Resistor_THT:R_Axial_DIN0207_L6.3mm_D2.5mm_P10.16mm_Horizontal	1	
R1,R6,R10,R12,R13,R15,R17	1k	Resistor_THT:R_Axial_DIN0207_L6.3mm_D2.5mm_P10.16mm_Horizontal	7	
R7,R8	10k	Resistor_THT:R_Axial_DIN0207_L6.3mm_D2.5mm_P10.16mm_Horizontal	2	%1
R14,R16,R22,R24	10k	Resistor_THT:R_Axial_DIN0207_L6.3mm_D2.5mm_P10.16mm_Horizontal	4	
R9,R18	47k	Resistor_THT:R_Axial_DIN0207_L6.3mm_D2.5mm_P10.16mm_Horizontal	2	
R23	100k	Resistor_THT:R_Axial_DIN0207_L6.3mm_D2.5mm_P10.16mm_Horizontal	1	
R5	150k/150k/100k/47k	Resistor_THT:R_Axial_DIN0207_L6.3mm_D2.5mm_P10.16mm_Horizontal	1	%1
R2	150k/150k/130k/33k	Resistor_THT:R_Axial_DIN0207_L6.3mm_D2.5mm_P10.16mm_Horizontal	1	%1
Q1,Q3-Q5	2N3904	PCM_Package_T0_S0T_THT_AKL:T0-92_Inline_Wide_EBC	4	
D4	3.9V/5.6V/13V/27V	Diode_THT:D_D0-41_SOD81_P10.16mm_Horizontal	1	
R4	30k/120k/330k/360k	Resistor_THT:R_Axial_DIN0207_L6.3mm_D2.5mm_P10.16mm_Horizontal	1	%1
C12	4u7	Capacitor_SMD:C_1206_3216Metric_Pad1.33x1.80mm_HandSolder	1	50V

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Reference	Value	Footprint	Quantity	Rating/Spec
L1	4u7	Inductor_SMD:L_12x12mm_H8mm	1	15A
R3	68k/180k/560k/330k	Resistor_THT:R_Axial_DIN0207_L6.3mm_D2.5mm_P10.16mm_Horizontal	1	%1
Q2	BT152-800R	PCM_Package_T0_S0T_THT_AKL:T0-220-3_Veritical_KAG	1	
HS1,HS2	Heatsink	Power_Module_Library:T0-220_Heatsink	2	
Q6,Q8	IRF1404/IRFB4110	PCM_Package_T0_S0T_THT_AKL:T0-220-3_Veritical_GDS	2	
J2,J6	JST_02	Connector_JST:JST_EH_B2B-EH-A_1x02_P2.50mm_Veritical	2	
J5	JST_07	Connector_JST:JST_XH_B7B-XH-A_1x07_P2.50mm_Veritical	1	
U2	LM393	PCM_Package_DIP_AKL:DIP-8_W7.62mm_Socket	1	
D2	MBR1045	PCM_Package_T0_S0T_THT_AKL:T0-220-2_Veritical_KA	1	
PS1	ROE-0515S	Isolation_Trafo:CONV_ROE-0515S	1	
D1	SMAJ5.0A/6.0A/13.0A/26A	PCM_Diode_SMD_AKL:D_SMA	1	
D6	SMAJ5.0A/6.0A/18.0A/30A	PCM_Diode_SMD_AKL:D_SMA	1	
D7	SMAJ5.0A/6.0A/18.0A/33A	PCM_Diode_SMD_AKL:D_SMA	1	
U1	TL431LP	Package_T0_S0T_THT:T0-92_Inline	1	
U3	TLP250	Package_DIP:DIP-8_W7.62mm	1	
J1	V_IN	TerminalBlock_Phoenix:TerminalBlock_Phoenix_PT-1,5-2-5.0-H_1x02_P5.00mm_Horizontal	1	
J4	V_OUT	TerminalBlock_Phoenix:TerminalBlock_Phoenix_PT-1,5-2-5.0-H_1x02_P5.00mm_Horizontal	1	

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