

ESBT Auxiliary SMPS for 150W Revised: Monday, February 21, 2005

Petr Lidak Revision: 1,0

Item	Quantity	Reference	Part	Description
Capacitors:				
1	2	C1,C2	220uF	electrolytic capacitor, EPCOS, LL, B43504-A5227-M, 400V
2	1	C3	10nF	ceramic capacitor, 50V, -55...125°C
3	2	C4,C17	100nF	ceramic capacitor, 50V, -55...125°C
4	1	C5	3.3nF	ceramic capacitor, 50V, -55...125°C
5	2	C6,R14	NU	ceramic capacitor, 50V, -55...125°C
6	3	C7,C11,C16	47uF	electrolytic capacitor, 25V
7	1	C8	470pF	ceramic capacitor, 50V, -55...125°C
8	1	C9	6.8nF/1250V	foil capacitor, EPCOS, B32652A7682J
9	1	C10	0.22uF	stacked film polyester capacitor, EPCOS, B32560J1224J
10	1	C12	1nF/Y1	class Y1 capacitor, metallised paper, PME294RB4100M, Revox RIFA
11	1	C13	1nF	ceramic capacitor, 50V, -55...125°C
12	2	C14,C15	1000uF/50V	electrolytic capacitor, Panasonic EEUFC1H102, Nichicon UPM1H102MHH
13	1	C18	150nF	ceramic capacitor, 50V, -55...125°C
Diodes:				
14	2	D1,D4	1N4148	diode, 75V, 0.15A, DO-35
15	1	D2	BZX85V3.9	diode, zener, 3.9V, 1.3W, DO-41
16	3	D3,D8,D10	STTH102	<b>STMicroelectronics, diode, high voltage ultrafast, 200V, 1A, DO-41</b>
17	1	D5	1.5KE400A	<b>transil, 400V, 1.5kW, DO-201</b>
18	2	D6,D7	STTH108	<b>STMicroelectronics, diode, high voltage ultrafast, 800V, 1A, DO-41</b>
19	1	D9	STTH3002CT	<b>STMicroelectronics, diode, high efficiency ultrafast diode, 200V, 30A, TO-220AC</b>
Mechanical parts:				
20	1	F1	T1A	fuse and fuseholder, 1A slow, 250VAC
21	2	H1,H2	6298b	heatsink, AAVID THERMALLOY, 6298b, 529801b02500, Rthjc = 3.7°C/W
22	1	J1	CONAC2	
23	2	J2,J3	CON2	
Transistors:				
24	1	Q1	STC08DE150HV	<b>STMicroelectronics, Emitter Switched Bipolar Transistor, 5A, 1500V, TO-247 4 leads</b>
25	1	Q2	PN2222A	<b>STMicroelectronics, small signal bipolar transistor, NPN, 40V, 0.6A, 330mW, TO-92, 150°C</b>
Resistors:				
26	1	R1	10/3.7A	inrush current limiter, EPCOS, B57237S0100M000, 10 Ohms @ 25°C, 3.7A
27	4	R2,R3,R9,R10	240k	resistor, size 0207, metal film, 350V, 0.6W, 1%
28	3	R4,R5,R6	910k	resistor, size 0204, metal film, 250V, 0.185W, 1%
29	2	R7,R8	820k	resistor, size 0204, metal film, 250V, 0.185W, 1%
30	1	R11	56k	resistor, size 0204, metal film, 250V, 0.185W, 1%
31	1	R12	470	resistor, size 0204, metal film, 250V, 0.185W, 1%
32	2	R13,R17	6k8	resistor, size 0204, metal film, 250V, 0.185W, 1%
33	1	R15	5k6	resistor, size 0204, metal film, 250V, 0.185W, 1%
34	1	R16	12k	resistor, size 0204, metal film, 250V, 0.185W, 1%
35	1	R18	8k2	resistor, size 0204, metal film, 250V, 0.185W, 1%
36	3	R19,R23	22	resistor, size 0204, metal film, 250V, 0.185W, 1%
37	1	R27	22	resistor, size 0207, metal film, 350V, 0.6W, 1%
38	2	R20,R21	47k	resistor, size 0414, metal film, 500V, 2W, 5%
39	1	R22	0.56	resistor, size 0207, metal film, 350V, 0.6W, 1%
40	2	R25,R26	1	resistor, size 0207, metal film, 350V, 0.6W, 1%
41	1	R24	1k	resistor, size 0204, metal film, 250V, 0.185W, 1%
42	1	R28	4k7	resistor, size 0204, metal film, 250V, 0.185W, 1%
43	1	R29	18k	resistor, size 0204, metal film, 250V, 0.185W, 1%
44	1	R30	2k7	resistor, size 0204, metal film, 250V, 0.185W, 1%
45	1	R31	24k	resistor, size 0204, metal film, 250V, 0.185W, 1%

Transformers:				
46	1	T1	CSM 39-071B	Cramer Coil & Transformer Co., Inc., Power transformer, ETD39
47	1	T2	T34836	Cramer Coil & Transformer Co., Inc., Current transformer, Toroid 12.5mm
Control ICs:				
48	1	U1	L5991A	<b>STMicroelectronics, PWM SMPS controller, DIP-16</b>
49	1	U2	PC817	Optocoupler, SHARP, Viso = 5kV, CTR = 50..600% @ IF = 5mA, DIP-4
50	1	U3	L78L05	<b>STMicroelectronics, linear regulator, 5V, 100mA, TO-92</b>
51	1	U4	TL431AI	<b>STMicroelectronics, shunt Reference, 2.5V, 1mA...100mA, 2%, TO-91, -40...105°C</b>