



Power Supply

FP-30

Technical Supplement

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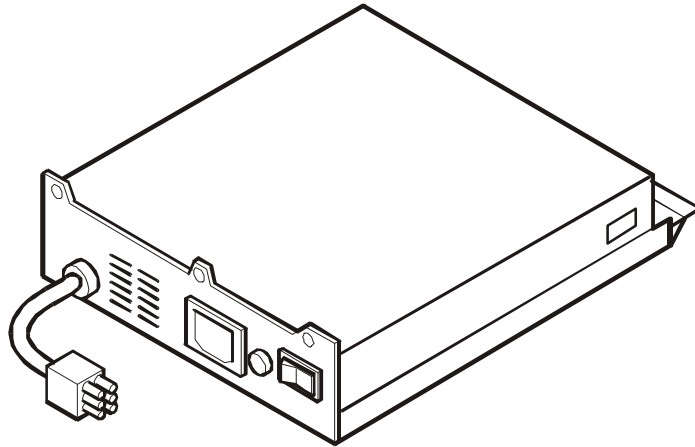
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Introduction

This manual provides technical information necessary for servicing the FP-30 Internal Power Supply.

Attempts by non-qualified persons to service this equipment may result in permanent damage not covered by the warranty, and may be illegal in some countries.

While we believe the technical information in this manual to be correct, VERTEX STANDARD assumes no liability for damage that may occur as a result of typographical or other errors that may be present. Your cooperation in pointing out any inconsistencies in the technical information would be appreciated.

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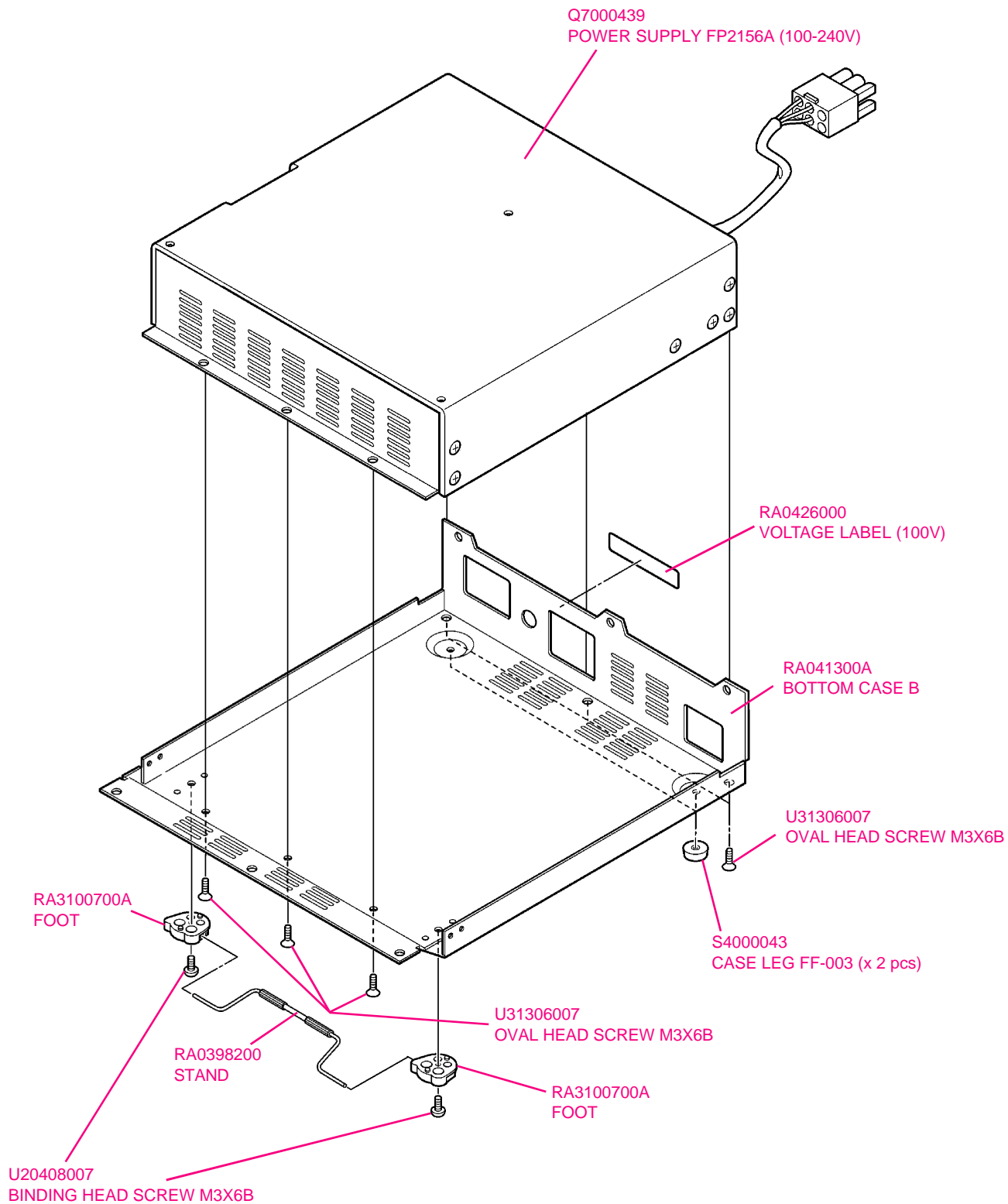
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Specifications

DC Output Voltage: 13.8 V
DC Output Current: 22 A
Input Voltage: AC 100-120 V~, 50-60 Hz
Case Size (W x H x D): 7.3 x 1.5 x 8.6 inches
(185 x 39 x 219 mm)
Weight (Approx.): 3.1 lbs (1.4 kg)

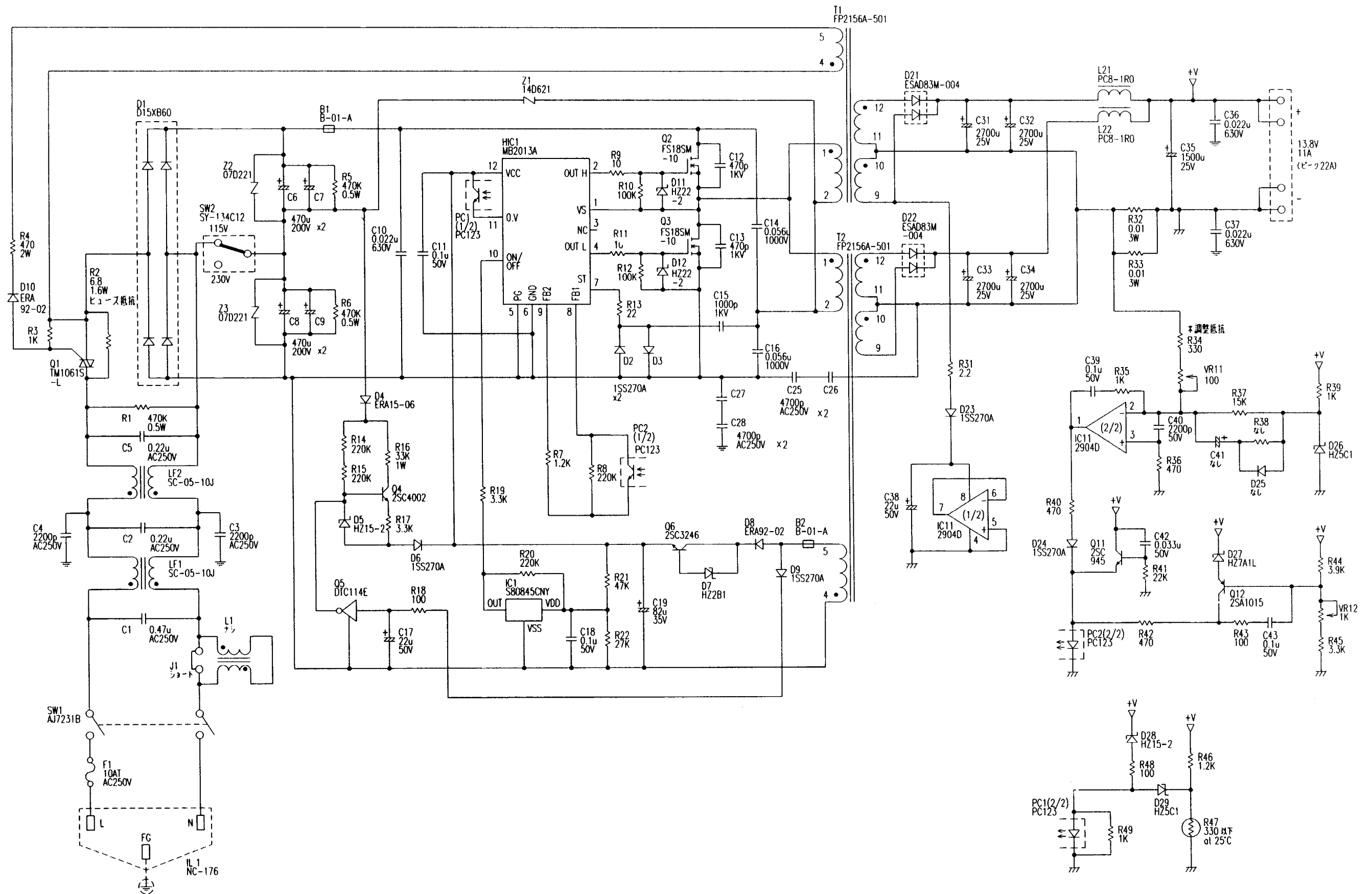
Specifications subject to change without notice of obligation.

Exploded View & Miscellaneous Parts



Note:

Circuit Diagram

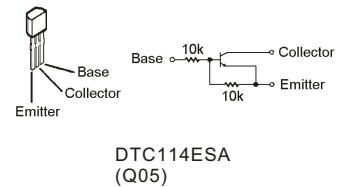
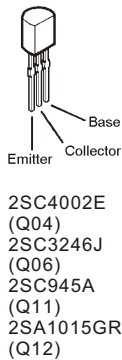
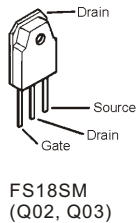
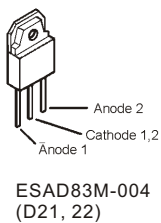
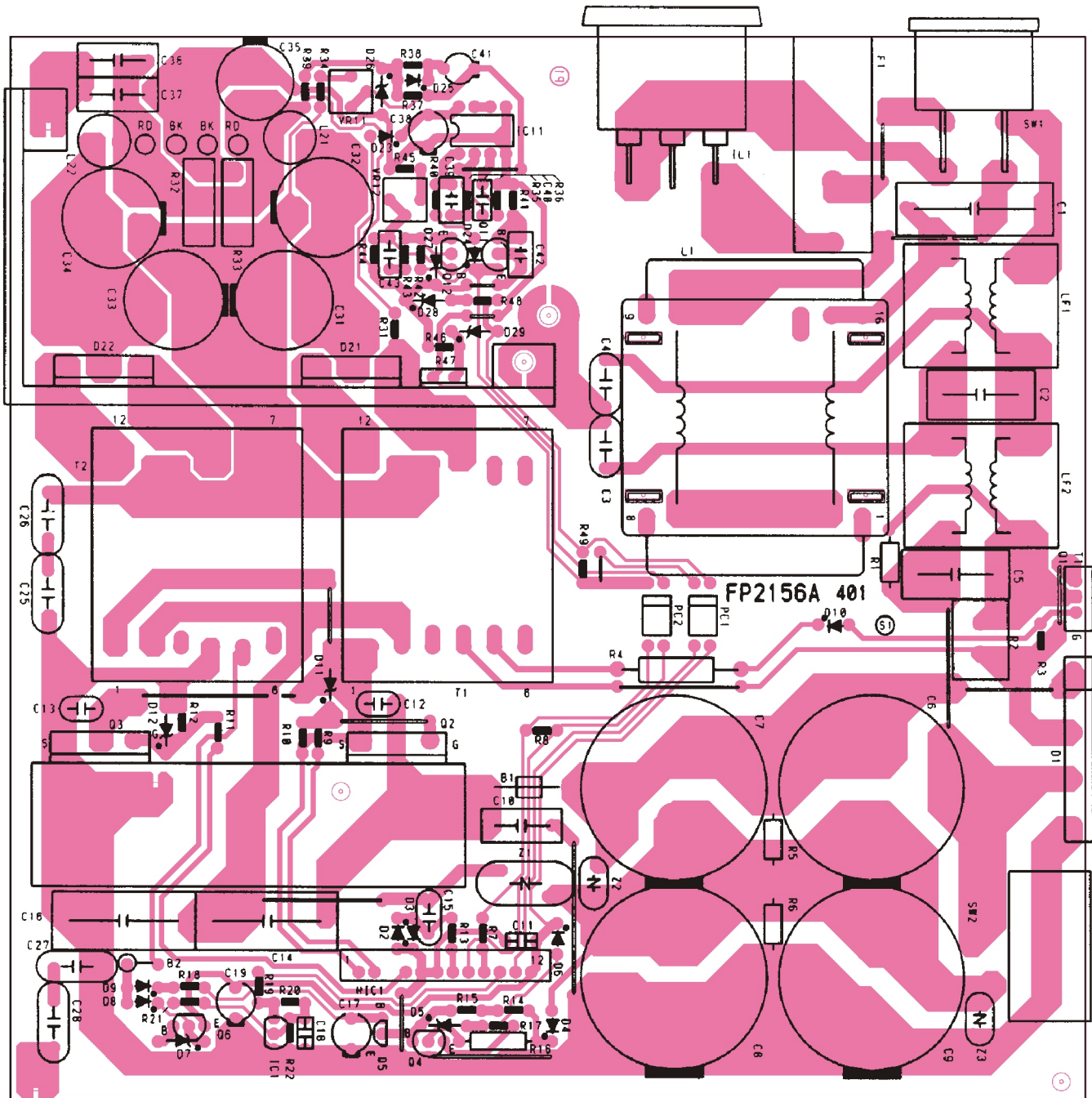


FP-30 Internal Power Supply

Note:

FP-30 Internal Power Supply

Parts Layout



FP-30 Internal Power Supply

Note:

FP-30 Internal Power Supply

Parts List

REF.	DESCRIPTION	VALUE	WV	TOL.	MFR'S DESIG	VXSTD P/N	VERS.	LOT.	SIDE	LAY ADR.
PCB with Component										
Printed Circuit Board										
								1-		
C01	FILM CAP.	0.047uF	AC250V		ECQU2A474MV	K52240010		1-		
C02	FILM CAP.	0.022uF	AC250V		ECQU2A224MV	K52240009		1-		
C03	CERAMIC CAP.	2200pF	AC250V		DE2E3KH222MA3B	S8101269		1-		
C04	CERAMIC CAP.	2200pF	AC250V		DE2E3KH222MA3B	S8101269		1-		
C05	FILM CAP.	0.022uF	AC250V		ECQU2A224ML	K52240009		1-		
C06	AL.ELECTRO.CAP.	470uF	200V		KMH200VNSN470M30A	S8101282		1-		
C07	AL.ELECTRO.CAP.	470uF	200V		KMH200VNSN470M30A	S8101282		1-		
C08	AL.ELECTRO.CAP.	470uF	200V		KMH200VNSN470M30A	S8101282		1-		
C09	AL.ELECTRO.CAP.	470uF	200V		KMH200VNSN470M30A	S8101282		1-		
C10	FILM CAP.	0.022uF	630V		MMCF0630K223-0100	S8101286		1-		
C11	CERAMIC CAP.	0.1uF	50V		RPEF11H104Z2K1A01	S8101294		1-		
C12	CERAMIC CAP.	470pF	1000V		DEH33A471KA2B	S8101271		1-		
C13	CERAMIC CAP.	470pF	1000V		DEH33A471KA2B	S8101271		1-		
C14	FILM CAP.	0.056uF	1000V		ECWH10563JV	S8101273		1-		
C15	CERAMIC CAP.	1000pF	1000V		DEHR33A102KA2B	S8101272		1-		
C16	FILM CAP.	0.056uF	1000V		ECWH10563JV	S8101273		1-		
C17	AL.ELECTRO.CAP.	22uF	50V		UPV1H220MFH-1AA	S8101298		1-		
C18	CERAMIC CAP.	0.1uF	50V		RPEF11H104Z2K1A01	S8101294		1-		
C19	AL.ELECTRO.CAP.	82uF	35V		LXY35VB82MF15	S8101283		1-		
C25	CERAMIC CAP.	4700pF	AC250V		DE2E3KH472MA3B	S8101270		1-		
C26	CERAMIC CAP.	4700pF	AC250V		DE2E3KH472MA3B	S8101270		1-		
C27	CERAMIC CAP.	4700pF	AC250V		DE2E3KH472MA3B	S8101270		1-		
C28	CERAMIC CAP.	4700pF	AC250V		DE2E3KH472MA3B	S8101270		1-		
C31	AL.ELECTRO.CAP.	2700uF	25V		LXZ25VB2700ML25	S8101285		1-		
C32	AL.ELECTRO.CAP.	2700uF	25V		LXZ25VB2700ML25	S8101285		1-		
C33	AL.ELECTRO.CAP.	2700uF	25V		LXZ25VB2700ML25	S8101285		1-		
C34	AL.ELECTRO.CAP.	2700uF	25V		LXZ25VB2700ML25	S8101285		1-		
C35	AL.ELECTRO.CAP.	1500uF	25V		LXZ25VB1500MK25	S8101284		1-		
C36	FILM CAP.	0.022uF	630V		MMCF0630K223-0100	S8101286		1-		
C37	FILM CAP.	0.022uF	630V		MMCF0630K223-0100	S8101286		1-		
C38	AL.ELECTRO.CAP.	22uF	50V		UPV1H220MFH-1AA	S8101298		1-		
C39	FILM CAP	0.1uF	50V		ECQV1H104JL	K52170020		1-		
C40	FILM CAP	2200pF	50V		ECQB1H222KF	K52170022		1-		
C42	FILM CAP.	0.033uF	50V		ECQB1H333KFW	K50170108		1-		
C43	FILM CAP.	0.1uF	50V		ECQV1H104JLW	K52170020		1-		
D01	DIODE				RBV1506	G2090774		1-		
D02	DIODE				1SS270A	G2090754		1-		
D03	DIODE				1SS270A	G2090754		1-		
D04	DIODE				ERA15-06	G2090769		1-		
D05	DIODE				HZ15-2	G2090406		1-		
D06	DIODE				1SS270A	G2090754		1-		
D07	DIODE				HZ2B1	G2090755		1-		
D08	DIODE				ERA92-02	G2090770		1-		
D09	DIODE				1SS270A	G2090754		1-		
D10	DIODE				ERA92-02	G2090770		1-		
D11	DIODE				HZ22-2	S8101281		1-		
D12	DIODE				HZ22-2	S8101281		1-		
D21	DIODE				ESAD83M-004	S8101275		1-		
D22	DIODE				ESAD83M-004	S8101275		1-		
D23	DIODE				1SS270A	G2090754		1-		
D24	DIODE				1SS270A	G2090754		1-		
D26	DIODE				HZ5C1	G2090188		1-		
D27	DIODE				HZ7A1L	G2090757		1-		
D28	DIODE				HZ15-2	G2090406		1-		
D29	DIODE				HZ5C1	G2090188		1-		

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REF.	DESCRIPTION	VALUE	WV	TOL.	MFR'S DESIG	VXSTD P/N	VERS.	LOT.	SIDE.	LAY ADR.
Q01	TRIAC				TM1061S-L	S8101297		1-		
Q02	FET				FS18SM	S8101279		1-		
Q03	FET				FS18SM	S8101279		1-		
Q04	TRANSISTOR				2SC4002E	G3340020E		1-		
Q05	TRANSISTOR				DTC114ESA	G3090130		1-		
Q06	TRANSISTOR				2SC3246J	G3332460J		1-		
Q11	TRANSISTOR				2SC945A	G3309451K		1-		
Q12	TRANSISTOR				2SA1015GR	G3110150G		1-		
R01	CARBON FILM RES.	470K	1/2W	5%	RD50SS-470K-OHM J	S8100947		1-		
R02	FUSE RES.	6.8	1.6W	10%	ERU5TAK6R8	S8101274		1-		
R03	CARBON FILM RES.	1K	1/4W	5%	RD16S-1K-OHM J	S8100936		1-		
R04	METAL FILM RES.	470	2W	5%	ERG2SJ-471	J22339007		1-		
R05	CARBON FILM RES.	470K	1/2W	5%	RD50SS-470K-OHM J	S8100947		1-		
R06	CARBON FILM RES.	470K	1/2W	5%	RD50SS-470K-OHM J	S8100947		1-		
R07	CARBON FILM RES.	1.2K	1/4W	5%	RD16S-1.2K-OHM J	S8101289		1-		
R08	CARBON FILM RES.	220K	1/4W	5%	RD16S-220K-OHM J	S8100940		1-		
R09	CARBON FILM RES.	10	1/4W	5%	RD16S-10-OHM J	S8100930		1-		
R10	CARBON FILM RES.	100K	1/4W	5%	RD16S-100K-OHM J	S8100932		1-		
R11	CARBON FILM RES.	10	1/4W	5%	RD16S-10-OHM J	S8100930		1-		
R12	CARBON FILM RES.	100K	1/4W	5%	RD16S-100K-OHM J	S8100932		1-		
R13	CARBON FILM RES.	22	1/4W	5%	RD16S-22-OHM J	S8100938		1-		
R14	CARBON FILM RES.	220K	1/4W	5%	RD16S-220K-OHM J	S8100940		1-		
R15	CARBON FILM RES.	220K	1/4W	5%	RD16S-220K-OHM J	S8100940		1-		
R16	METAL FILM RES.	33K	1W	5%	ERG-1SJ333	J22305390		1-		
R17	CARBON FILM RES.	3.3K	1/4W	5%	RD16S-3.3K-OHM J	S8100942		1-		
R18	CARBON FILM RES.	100	1/4W	5%	RD16S-100-OHM J	S8100931		1-		
R19	CARBON FILM RES.	3.3K	1/4W	5%	RD16S-3.3K-OHM J	S8100942		1-		
R20	CARBON FILM RES.	220K	1/4W	5%	RD16S-220K-OHM J	S8100940		1-		
R21	CARBON FILM RES.	47K	1/4W	5%	RD16S-47K-OHM J	S8100944		1-		
R22	CARBON FILM RES.	27K	1/4W	5%	RD16S-27K-OHM J	S8100941		1-		
R31	CARBON FILM RES.	2.2	1/4W	5%	RD16S-2.2-OHM J	R8100937		1-		
R32	CEMENT RES.	0.01	3W	10%	MPC75-0.01-OHM K	J30379003		1-		
R33	CEMENT RES.	0.01	3W	10%	MPC75-0.01-OHM K	J30379003		1-		
R34	CARBON FILM RES.	330	1/4W	5%	RD16S-330-OHM J	S8101292		1-		
R35	CARBON FILM RES.	1K	1/4W	5%	RD16S-1K-OHM J	S8100936		1-		
R36	CARBON FILM RES.	470	1/4W	5%	RD16S-470-OHM J	S8101293		1-		
R37	CARBON FILM RES.	15K	1/4W	5%	RD16S-15K-OHM J	S8100935		1-		
R39	CARBON FILM RES.	1K	1/4W	5%	RD16S-1K-OHM J	S8100936		1-		
R40	CARBON FILM RES.	470	1/4W	5%	RD16S-470-OHM J	S8101293		1-		
R41	CARBON FILM RES.	22K	1/4W	5%	RD16S-22K-OHM J	S8101290		1-		
R42	CARBON FILM RES.	470	1/4W	5%	RD16S-470-OHM J	S8101293		1-		
R43	CARBON FILM RES.	100	1/4W	5%	RD16S-100-OHM J	S8100931		1-		
R44	CARBON FILM RES.	3.9K	1/4W	5%	RD16S-3.9K-OHM J	S8101291		1-		
R45	CARBON FILM RES.	3.3K	1/4W	5%	RD16S-3.3K-OHM J	S8100942		1-		
R46	CARBON FILM RES.	1.2K	1/4W	5%	RD16S-1.2K-OHM J	S8101289		1-		
R47	POSISTOR				PTH9M04BD222TS2F333	G9090083		1-		
R48	CARBON FILM RES.	100	1/4W	5%	RD16S-100-OHM J	S8100931		1-		
R49	CARBON FILM RES.	1K	1/4W	5%	RD16S-1K-OHM J	S8100936		1-		
B1	FERRITE BEADS				B-01-A	L1190386		1-		
B2	FERRITE BEADS				B-01-A	L1190386		1-		
F1	FUSE	6.3AT	AC250V		21506.3	S8101267	CE ON	1-		
F1	FUSE	10AT	AC250V		215010	Q0000099	CE OFF	1-		
SW1	SWITCH				AJ7231B	S8101268		1-		
SW2	AC SELECTOR				SY-134C12	S8100924	CE OFF	1-		
IL1	AC INLET				NC-176-L2-1.0	S8101287		1-		
T1	CONVERTER TRANS				FP2156A-501	S8101277		1-		
T2	CONVERTER TRANS				FP2156A-501	S8101277		1-		

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REF.	DESCRIPTION	VALUE	WV	TOL.	MFR'S DESIG	VXSTD P/N	VERS.	LOT.	SIDE	LAY ADR.
FL1	LINE FILTER				SC-05-10J	L2190047		1-		
LF2	LINE FILTER				SC-05-10J	L2190047		1-		
L21	RFC				PC8-1R0-FU	S8101288		1-		
L22	RFC				PC8-1R0-FU	S8101288		1-		
PC1	PHOTO COUPLER				PC123FY2	G0090036		1-		
PC2	PHOTO COUPLER				PC123FY2	G0090036		1-		
HIC1	IC				MB2013A	S8100824		1-		
IC1	IC				S-80845CNY	S8101295		1-		
IC11	IC				NJM2904D	G1090539		1-		
VR11	POT.				FT-6P-100-OHM	S8100926		1-		
VR12	POT.				FT-6P-1K-OHM	S8101280		1-		
Z1	SURGE ABSORBER				ERZV14D621	Q9000762		1-		
Z2	SURGE ABSORBER				ERZV07D221	Q9000599		1-		
Z3	SURGE ABSORBER				ERZV07D221	Q9000599		1-		
L1					YDL1-103H272	S8101299	CE ON	1-		
	ALP t=2.0mm				FP2156A-601	S8002016		1-		
	ALP t=3.0mm				FP2156A-602	S8002017		1-		
	AL				FP2156A-603	S8002018		1-		
	SPCC t=1.0mm				FP2156A-604	S8002019		1-		
	SPCC t=1.0mm				FP2156A-605	S8002020		1-		
	SPCC t=1.0mm				FP2157A-601	S8002022	CE ON	1-		
	CEM-3 t=1.6mm				FP2156A-401R1		CE OFF	1-		
	CEM-3 t=1.6mm				FP2156A-401()		CE ON	1-		
					SR-6N3-4	S8002024		1-		
	FITTING				FR309A	S8002023		1-		
	FITTING				F9052	S8002014		1-		
					FP2156A-801	S8101278		1-		
					SK1026A-060	S8101296		1-		
					FP2156A-701	S8002021		1-		
					FB446(55X34)	S8002015		1-		
					TC30A(TO-3P)	S8002025		1-		
					HCV 9.0			1-		
					FH-B13HA	S8101276		1-		
A					FLAT HEAD SCREW M3X6NI	U30306002		1-		
B					SEMS SCREW HSM3X6	U04306001		1-		
C					FLAT HEAD SCREW M3X12NI	S8002026		1-		
D					TAPPING SCREW 3X5UC	S8002027		1-		
E					SEMS SCREW HSM3X10	U04310001		1-		
F					HEX HEAD BOLT M3X6NI	S8002028		1-		
F					BINDING HEAD SCREW M4X8NI	U20408002		1-		
G					TOOTHED LOCK WASHER OW4	U72004001		1-		



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