



# Parts List

HPN9033 Power Supply, Electrical

PL-991009-O

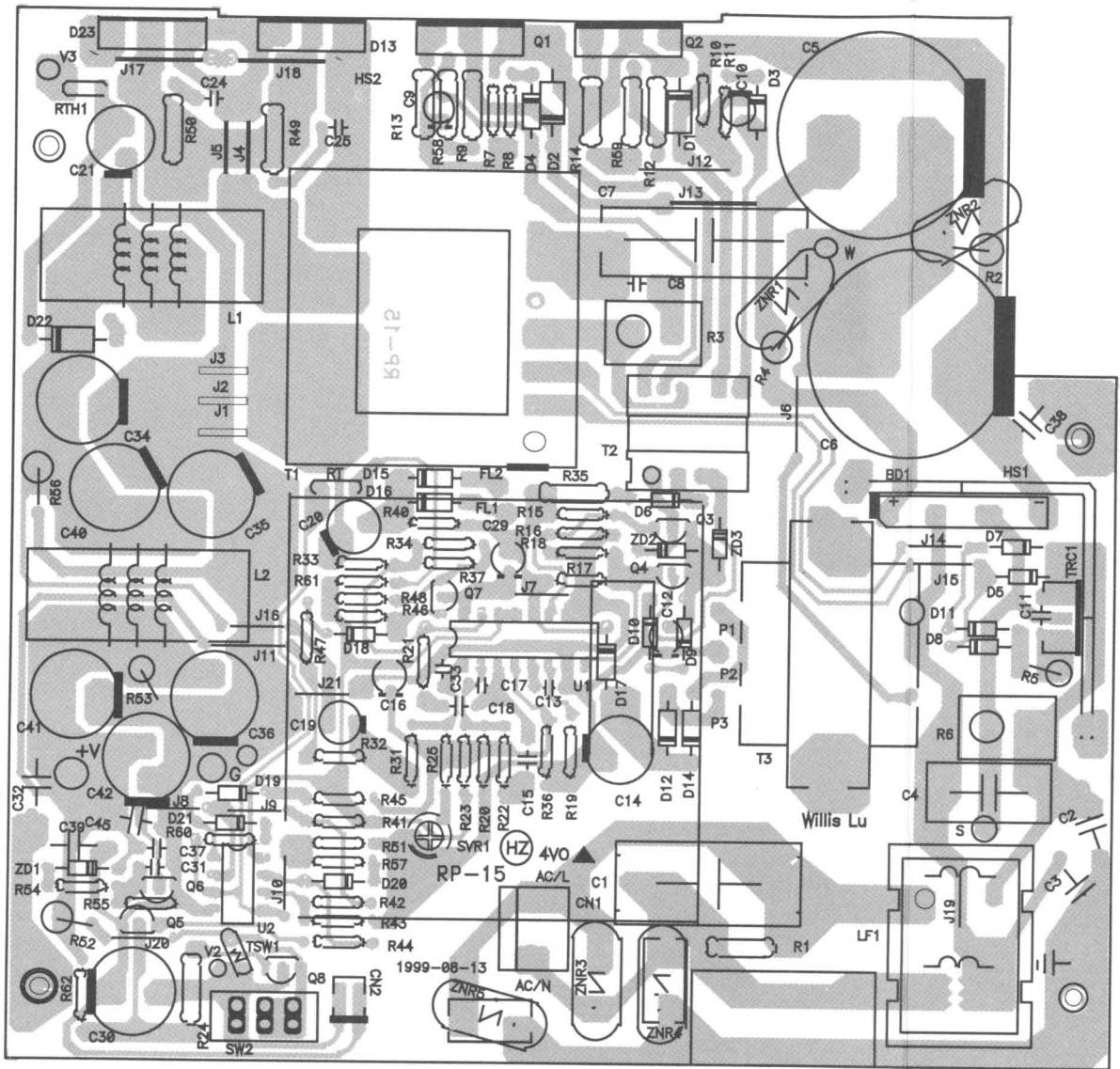
REFERENCE SYMBOL	DURACOMM PART NO.	DESCRIPTION
BD1	1CD1A6R0C801-XS	<b>bridge rectifier:</b> 6A/800V Silicon Bridge Rectifier
		<b>capacitor, fixed: uF +/-10%; 100 V:</b> unless otherwise stated
C1	1BC1F474C251K-J	0.47 uF 250 V ac, 20%
C2, 3	1BC1D222C251K-7	2.2 nF 250 V ac, 20%
C4	1BC1F104C251K-F	0.1 uF 250 V ac, 20%
C5, 6	1BCAC471C201M22	470 uF 200 V 85°C electrolytic
C7	1BC2G225C251K-L	2.2 uF 250 V
C8	1BC3D222D102M-5	2.2 nF 1K V, 20% Z5U
C9, 10	1BCDA1R0B500M05	1 uF 50 V, 20% 105°C electrolytic
C11	1BC2F104C101K-5	0.1 uF
C12	1BCDA1R0B500M05	1 uF 50 V, 20% 105°C electrolytic
C13	1BC4D102C101J-2	1 nF, 5%
C14	1BCGC471B250M10	470 uF 25 V, 20% electrolytic
C15	1BC4D472C101J-2	4.7 nF, 5%
C16	1BCDA4R7B500M05	4.7 uF 50 V, 20% 105°C electrolytic
C17	1BC3C331C101K-5	330 pF Y5P
C18	1BC4E103C101J-2	10 nF, 5%
C19	1BCDA4R7B500M05	4.7 uF 50 V, 20% 105°C electrolytic
C20	1BCEB470B500M08	47 uF 50 V, 20% electrolytic
C21	1BCGC471B250M10	470 uF 25 V, 20% electrolytic
C24, 25	1BC3D472C501M-5	4.7 nF 500 V, 20% Z5U
C29	1BCDA4R7B500M05	4.7 uF 50 V, 20% 105°C electrolytic
C30	1BCGD102B250M12	1000 uF 25 V, 20% electrolytic
C31	1BC3E103C101M-5	10 nF, 20% Z5U
C32	1BC6E203D102M-9	20 nF 1K V, 20% Z5U EPOXY
C33	1BC3B100B500K-5	10 pF 50 V, NPO
C34 thru 36	1BCGD102B250M12	1000 uF 25 V, 20% electrolytic
C37	1BC2F104C101K-5	0.1 uF
C38	1BC1D222C251K-7	2.2 nF 250 V ac, 20%
C39	1BC6E203D102M-9	20 nF 1K V, 20% Z5U EPOXY
C40 thru 42	1BCGD102B250M12	1000 uF 25 V, 20% electrolytic
C45	1BC1D472C251K-7	4.7 nF 250 V ac, 20%
		<b>connector:</b>
CN3	1FF12022-02	8812-02, 2-position fan
		<b>diode: (see note)</b>
D1, 2	1CD3A1R5C601-H	FR155, 1.5A/600 V
D3, 4	1CD2A1R0B500-H	1N4001, 1A/50 V
D5 thru 11	1CDA1N4148-T	1N4148, switching diode
D12	1CD2A1R0B500-H	1N4001, 1A/50 V
D13A, B	1CD5ESAD92-02	ESAD9202, 20A/200 V fullwave rectifier
D14	1CD2A1R0B500-H	1N4001, 1A/50 V
D15, 16	1CD3A1R0C401-H	FR104, 1A/400 V
D17	1CD2A1R0B500-H	1N4001, 1A/50 V
D18	---	Not Used
D19 thru 21	1CDA1N4148-T	1N4148, switching diode
D22	1CD5HER203	HER203, 2A/200 V
		<b>fuse:</b>
F	1EE2A5R0C251F1I	5A, 250 V, GFE/GMA
		<b>fan:</b>
FAN	1EE6B120A6R0BBM	KD1206PHB2, 12 V dc, 1.9 W DC
		<b>filter choke:</b>
L1	1DL3TR187	TR187, Toroidal
L2	1DL3TR188	TR188 3.2 uH, Toroidal
LF1	1DL5TF347	TF347 1.9 mH Line
		<b>transistor: (see note)</b>
Q1, 2	1CQ12SC3306	2SC3306 10A/400 V NPN
Q3, 4	1CQ12SC1384	2SC1384 1A/50 V NPN
Q5, 6	1CQ12SC1815GR	2SC1815 0.1A/40 V NPN
Q7	1CQ12SA733	2SA733 -0.1A/-50 V PNP
Q8	1CQ12SA1020	2SA1020 -2A/50 V PNP
		<b>resistor, fixed: +/-5%; 1/4 W:</b> unless otherwise stated
R1	1AR1-R50F684JH	680k, 1/2 W
R2	1AR2A2R0E303JH	30k, 2 W metal oxide
R3	1AR6A5R0B510JH5	51, 5 W R/CE
R4	1AR2A2R0E303JH	30k, 2 W metal oxide
R5	1AR2A2R0B820JH	82, 2 W metal oxide
R6	1AR7A5R0B100K	10, 5 W R/F5
R7	1AR1-R25D392JH9	3.9k
R8	1AR1-R25B100JH9	10
R9	---	Not Used
R10	1AR1-R25D392JH9	3.9k

HPN9033 Power Supply, Electrical

PL-991009-O

REFERENCE SYMBOL	DURACOMM PART NO.	DESCRIPTION
R11	1AR1-R25B100JH9	10
R12	---	Not Used
R13, 14	1AR1-R50A1R2JH	1.2, 1/2 W
R15	1AR1-R25D272JH9	2.7k
R16	1AR1-R25D102JH9	1k
R17	1AR1-R25D272JH9	2.7k
R18	1AR1-R25D102JH9	1k
R19	1AR1-R25E223JH9	22k
R20	1AR1-R25D562JH9	5.6k
R21	1AR1-R25E103JH9	10k
R22	1AR1-R25E333JH9	33k
R23	1AR1-R25D562JH9	5.6k
R24	1AR1-R50C751JH	750, 1/2W
R25	1AR1-R25D182JH9	1.8k
R31	1AR1-R25C471JH9	470
R32	1AR1-R25D912JH9	9.1k
R33	1AR1-R25D122JH9	1.2k
R34	1AR1-R25E563JH9	56k
R35	1AR1-R50D152JH	1.5k, 1/2W
R36	1AR1-R25E103JH9	10k
R37	1AR1-R25F474JH9	470k
R40	1AR1-R25A5R6JH9	5.6
R41	1AR1-R25D222JH9	2.2k
R42	1AR1-R25C681JH9	680
R43	1AR1-R25C911JH9	910
R44, 45	1AR1-R25D102JH9	1k
R46	1AR1-R25E473JH9	47k
R47	---	Not Used
R48	1AR1-R25D222JH9	2.2k
R49, 50	1AR1-R50B100JH	10, 1/2 W
R51	1AR1-R25D102JH9	1k
R52	1AR2A2R0A3R0JH	3, 2 W metal oxide
R52	1HH3104C	3 W, 2 W metal oxide
R53	1AR2A1R0C471JH	470, 1 W metal oxide
R54	1AR1-R25C471JH9	470
R55	1AR1-R25D102JH9	1k
R56	1AR2A1R0C471JH	470, 1 W metal oxide
R57	1AR1-R25E123JH9	12k
R58, 59	---	Not Used
R60	1AR1-R25D432JH9	4.3k
R61	1AR1-R25D102JH9	1k
R62	1AR1-R25D222JH9	2.2k
		<b>thermistor:</b>
RT	1ARC-TDC05C250L	TDC05C250L 5kΩ
RTH1	1ARCRXE090	RXE090 0.9A/60 V PSW
		<b>variable resistor:</b>
SVR1	1ARB-R30D102S2S	1k, 0.3 W, 10%
		<b>switch:</b>
SW1	1EE1L21-22A1	Slide (115/230 V ac)
SW2	1EE1SSFZC22-062	Slide (Fan Continuous On)
		<b>transformer:</b>
T1	1DL5TF561	TF-561, output power
T2	1DL5TF218	TF-218-R2, driver
T3	1DL5TF577	TF-57, low voltage supply
		<b>Triac:</b>
TRC1	1CQ3BTA16-600B	BTA16-600B
		<b>thermal switch:</b>
TSW1	1ARENR	50°C 2.6A
		<b>integrated circuit: (see note)</b>
U1	1CU4TL494TI	TL494CN, pulse width modulator
U2	1CU5LM358	LM358, dual operational amplifier
		<b>voltage regulator: (see note)</b>
ZD1	1CDB-R50B14R8G	14.8 V 1/2 W, 2% Zener diode
ZD2, 3	1CDBA1R0B33R0G	1N4752, 33 V, 1 W, 2% Zenerdiode
		<b>metal oxide varistor:</b>
ZNR1, 2	---	Not Used
ZNR3 thru 5	1ARD-R60C471K97	TNR15G471K, 470 V, 0.6 W

**note:** For optimum performance, diodes, transistors, and integrated circuits must be ordered by DuraComm part numbers.



HPN9033 Test Voltages

	DC	AC		DC	AC
Q1 pinC (+) to Q1 pinE (-)	151 V	108 V	C10 + (+) to C10 - (-)	1.61 V	---
Q1 pinB (+) to Q1 pinE (-)	-1.71 V	2.39 V	C12 + (+) to C12 - (-)	1.47 V	---
Q2 pinC (+) to Q2 pinE (-)	154 V	108 V	C14 + (+) to C14 - (-)	21.95 V	---
Q2 pinB (+) to Q2 pinE (-)	-1.76 V	2.4 V	C19 + (+) to C19 - (-)	10.9 V	---
Q4 pinC (+) to Q4 pinE (-)	7.3 V	13 V	C20 + (+) to C20 - (-)	22.9 V	---
Q4 pinB (+) to Q4 pinE (-)	0.3 V	0.63 V	C21 + (+) to C21 - (-)	19.1 V	---
Q5 pinC (+) to Q5 pinE (-)	7.3 V	13 V	C29 + (+) to C29 - (-)	22.7 V	---
Q5 pinB (+) to Q5 pinE (-)	0.3 V	0.63 V	C30 + (+) to C30 - (-)	11.83 V	---
Q7 pinE (+) to Q7 pinC (-)	4.73 V	---	C40 + (+) to C40 - (-)	13.91 V	---
Q7 pinB (+) to Q7 pinC (-)	4.93 V	---	C42 + (+) to C42 - (-)	13.85 V	---
C5 + (+) to C6 - (-)	310 V	---	L1 and D13 (+) to COM (-)	13.99 V	14.6 V
C9 + (+) to C9 - (-)	1.57 V	---			

Test Conditions Input: 230 V ac / 115 V ac  
 Output: V1 13.8 V dc 15A  
 V2 12.5 V dc 0.5A  
 V3 19 V dc 0.5A