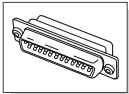


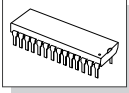
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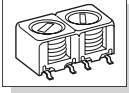
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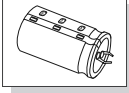
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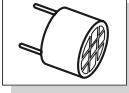
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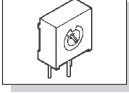


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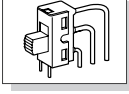
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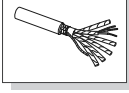
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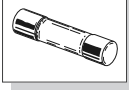
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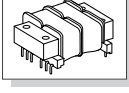


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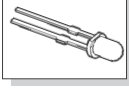
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O

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Telephone Coupling Transformers

For Interconnecting Data/Voice Telephone Lines per FCC part 68. Frequency Response: 300-3500Hz±0.5dB. HI-pot: 1500V RMS. Impedance Matching: ±10%. UL 1459, File #138028.

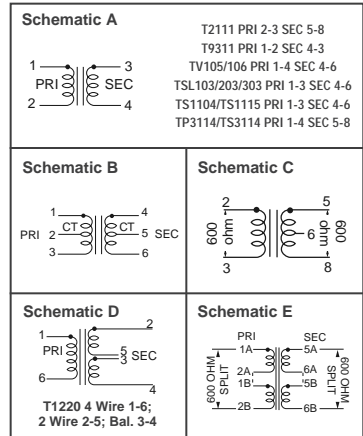
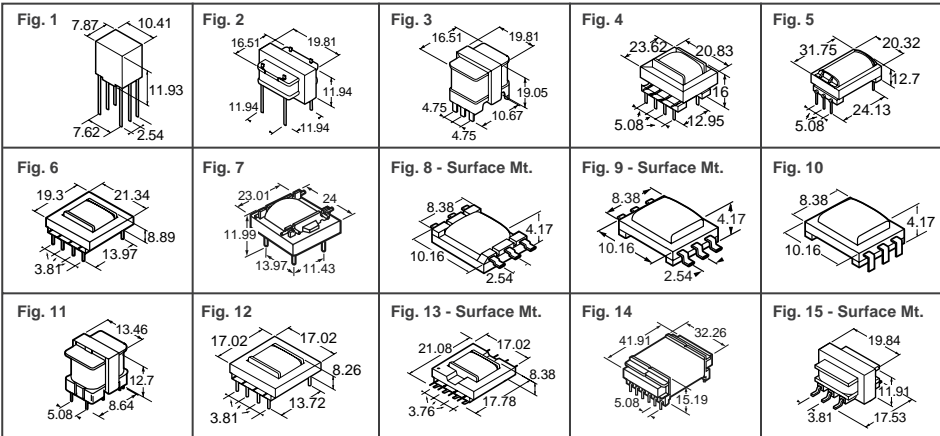
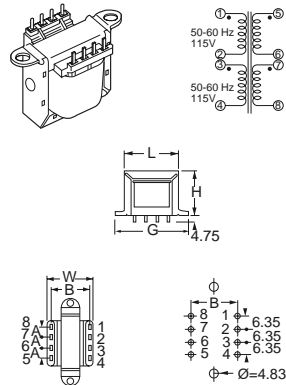


Fig.	Schematic	Impedance		IDC (mA)	Insertion Loss (dB)	Digi-Key Part No.	Pricing			Microtran Part No.
		Primary	Secondary				10	25	1	
1‡	A	600	600	1.5	1.6	MT4110-ND	24.50	217.80	462.83	PM32-M
1	B	600CT	600CT	3	1.6	MT4111-ND	25.83	229.60	487.90	PM34-M
2	A	600	600	0	1.0	MT4112-ND	13.88	123.40	262.23	T1104
3‡	A	600	600	0	1.0	MT4113-ND	9.83	87.40	185.73	T2104
3	B	600CT	600CT	0	1.0	MT4114-ND	11.34	100.80	214.20	T2106
3	D	600	600/600	0	1.0	MT4115-ND*	13.34	118.60	252.03	T2220
4	A	600	600	90	2.0	MT4116-ND	8.33	74.00	157.25	T2111
4	C	600	600CT	90	2.0	MT4117-ND	8.33	74.00	157.25	T2112
5‡	A	600	600	90	1.8	MT4118-ND	9.61	85.40	181.48	T9311
5	D	600	600 split	90	1.8	MT4119-ND	9.92	88.20	187.43	T9312
6	A	600	600	50	1.8	MT4120-ND	10.13	90.00	191.25	TP3111
7	A	600	470	100	2.5	MT4123-ND	6.05	53.80	114.33	TTC264
8	A	600	346	0	2.75	MT4121-ND†	13.48	119.80	254.58	TSL103
9	A	600	346	0	2.75	MT4122-ND	13.48	119.80	254.58	TSL203
10	A	600	346	0	2.7	MT4124-ND	13.48	119.80	254.58	TSL303
11	A	600	600	0	.60	MT4126-ND	16.00	142.20	302.18	TV106
12	A	600	500	0	1.1	MT4127-ND	12.40	110.20	234.18	TP3114
13	A	600	500	0	1.1	MT4128-ND	14.51	129.00	274.13	TS3114
14	E	600 split	600 split	80	2.0	MT4129-ND	18.25	162.20	344.68	T9116
15	A	600	600	0	1.0	MT4130-ND	11.54	102.60	218.03	TS1104
15	A	600	600	65	1.5	MT4131-ND	14.29	127.00	269.88	TS1115
15	D	600	600/600	0	.7	MT4132-ND	14.00	124.40	264.35	TS1220

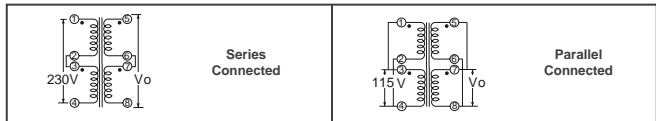
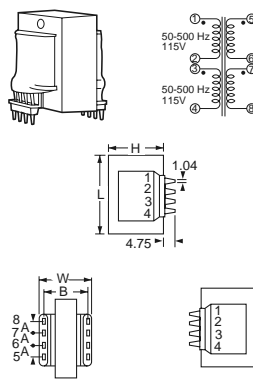
* Two required for conventional hybrid operation, the insertion loss does not include 3dB in hybrid balance network. † Has a 4-pin configuration
 ‡ TSL103 must be mounted through a circuit board cutout .4" (10.16mm) x .33" (8.38mm)

EWC INC. Transformers

DEL Series - Dual Primary
Recommended PC hole Dia. = .052" (1.32mm)
Split bobbin construction, dual primary 115V/220V



DPC Series - Dual Primary
Concentric, single section bobbin construction,
dual primary 115V/220V



VA (Size)	Dimensions - Inch (mm)					
	L	W	H	G	B	A
4.4	1.720 (43.69)	1.250 (31.75)	1.400 (35.56)	2.375 (60.33)	1.100 (27.94)	0.250 (6.35)
10	1.970 (50.04)	1.438 (36.53)	1.660 (42.16)	2.813 (71.45)	1.300 (33.02)	0.250 (6.35)
24	1.625 (41.28)	2.250 (57.15)	1.375 (34.93)	—	2.100 (53.34)	0.250 (6.35)

Ratings Based on 20% Regulation.

Size VA	Output (Vo)			Digi-Key Part No.	Pricing*			EWC. Part No.
	Series VCT @ mA	Parallel V @ mA	V @ mA		1	10	25	
DEL Series								
4.4	10 @ 440	5 @ 880	5.25	T130-ND	5.25	49.00	113.75	DEL10-440A2
4.4	28 @ 160	14 @ 320	5.25	T135-ND	5.25	49.00	113.75	DEL28-160A50
10	16 @ 640	8 @ 1280	6.60	T139-ND	6.60	61.60	143.00	DEL16-640A11
10	34 @ 300	17 @ 600	6.60	T142-ND	6.60	61.60	143.00	DEL34-300A23
DPC Series								
24	34 @ 700	17 @ 1400	6.83	T150-ND†	6.83	63.70	147.88	DPC34-700B24

* Pricing available for larger quantities. † Use B-24 Bracket.
 Note: To obtain output voltage, load current must be met.

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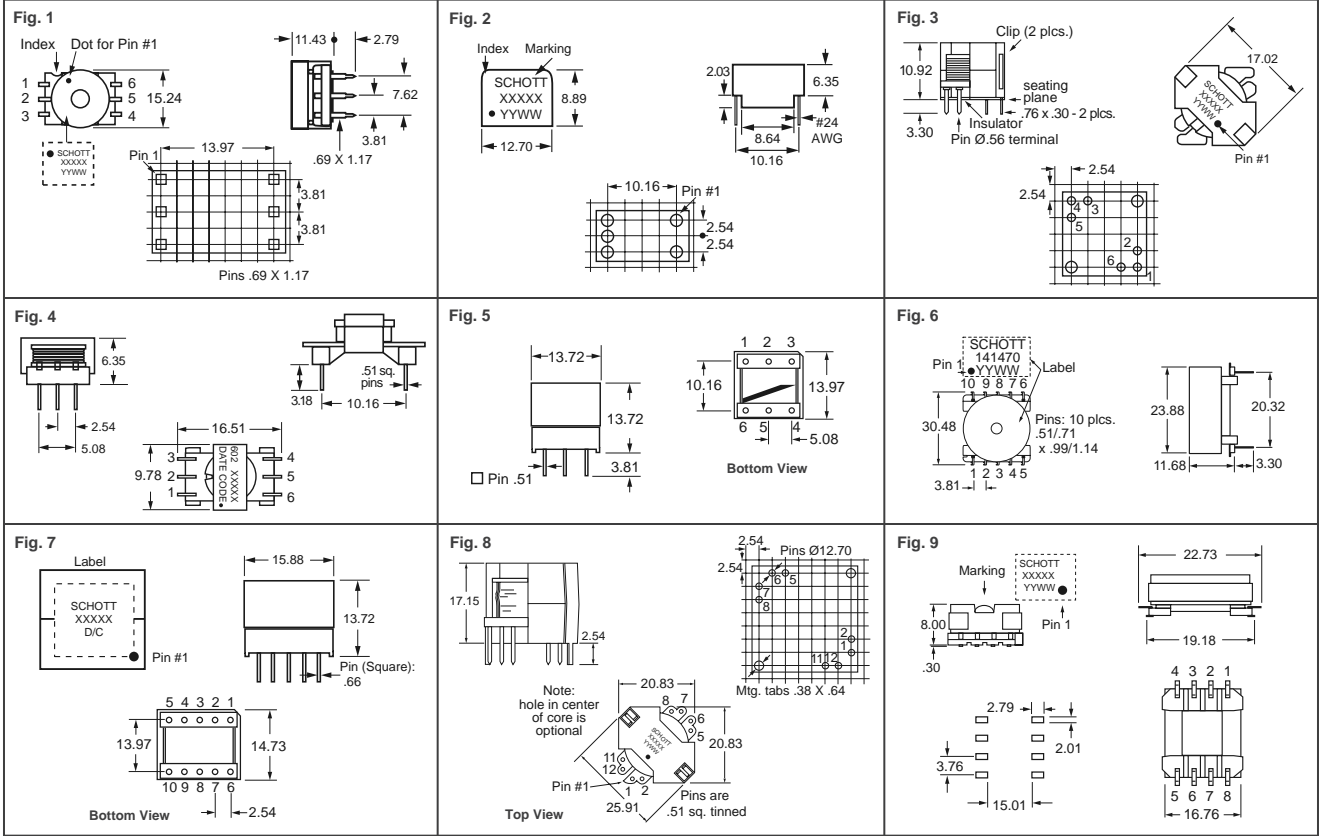


Fig.	Description (applications and notes)	Inductance	Schematic Information						Digi-Key Part No.	Price Each				Schott Part No.	
			Primary			Secondary				1	10	100	500		
			Start	CtAp	Finish	Start	CtAp	Finish							
1	Transformer for Maxim 635-637; 5V to 5V @ 50ma Transformer for Maxim 250/251; 5V to 5V @ 50ma	290µH 2.5mH	1	—	3	4	—	6	257-1005-ND 257-1006-ND	9.56 9.29	7.35 7.14	4.70 5.19	3.76 4.16	2.62 2.89	67114750 67114760
2	Transformer for T1 Transmit; Dallas 2151 Transformer for T1; Crystal 6154, 6158, 61535 Transformer for Maxim 250/251; For RS232 Isolation Transformer for T1 Receive; Dallas 2151 Line Interface Transformer T1 Transmit Transmit Transformer for Crystal CS61574/35, 100 ohms Transmit Transformer for Crystal CS61574/35, 75 ohms Isolation for Digital Audio; Crystal CS8401/2/11/12	500µH 700µH 2mH 700µH 700µH 1.5mH 1.5mH 225µH	1	—	5	2	4	6	257-1007-ND 257-1008-ND 257-1009-ND 257-1010-ND 257-1011-ND 257-1012-ND 257-1013-ND 257-1015-ND	10.55 9.61 9.71 9.61 8.93 10.56 9.61 9.61	8.12 6.45 6.55 4.70 6.87 8.12 6.45 6.45	5.19 4.70 4.80 3.51 4.20 5.40 4.70 4.70	4.15 3.51 3.81 3.51 3.52 4.16 3.51 2.89	2.89 2.89 2.99 2.89 2.25 2.25 2.89 2.89	67112020 67115100 67117970 67124650 67124670 67124840 67124850 67125410
3	Transformer for EXAR T1 Receive T1 Transmit Transformer for Level One 310	8.44mH 3mH	6	1	2	3	4	5	257-1016-ND 257-1017-ND	11.44 10.08	7.68 7.75	4.39 4.96	3.84 3.84	3.48 2.76	67109510 67125350
4	Transmit & Receive Transformer; Level One 300/301/305 Isolation for Digital Audio; Crystal CS8401/1/11/12 Transformer for Maxim 250/251; RS232 Isolation Receive Transformer for Crystal T1 Chips Transformer for T1 Transmit; Crystal 61574/35A Transmit Transformer for CS61574/35A, 75 ohms Isolation for Digital Audio, Shielded, Crystal CS8401/2/11/12 Receive Transformer for Rockwell 8069 Transmit Transformer for Rockwell 8069 Interface Transformer for Dallas 2187 Transmit Transformer for Level One LXT360/361, T1/E1 Digital Audio, shielded, 70-110 ohm, Crystal 8401, 8402, 8411 and 8412	700µH 225µH 2mH 700µH 1.5mH 1.5mH 225µH 1.2mH 1.2mH 60µH 1.5mH	1	—	2	6	—	6	257-1018-ND 257-1020-ND 257-1021-ND 257-1022-ND 257-1023-ND 257-1024-ND 257-1025-ND 257-1027-ND 257-1028-ND 257-1029-ND 257-1083-ND	8.61 8.61 8.20 8.61 8.67 8.03 8.61 8.61 11.24 7.72 10.95	5.78 5.78 5.50 5.78 6.67 6.18 5.78 5.78 8.64 5.94 8.03	3.47 3.47 3.30 3.47 3.42 3.25 3.16 2.89 2.89 5.53 3.04	2.89 2.46 2.61 2.61 2.38 2.20 2.46 2.46 4.43 2.21	2.46 2.46 2.46 2.46 2.46 2.46 2.46 2.46 2.46 2.46 2.46	67127370 67128990 67129080 67129300 67129310 67129320 67129600 67130840 67130850 67131050 28946
5	Transformer "S" Interface for Mitel 8930, National TP3420, Siemens PEB2080, SGS Thomson 5420, and ISDN-S, 2:1 Transformer for Motorola 145474, 145475, SGS5420 and SGS 5420 for ISDN-S, 1:1	22mH 22mH	1	2	3	4	5	6	257-1032-ND 257-1033-ND	11.44 11.44	7.68 7.68	4.39 5.40	3.84 3.84	3.39 3.39	67128780 67128920
—	1.3A Inductor, Buck for LM1575-LM2575 & LM1577-LM2577 3A Inductor, Buck for LM1575-LM2575 & LM1577-LM2577 3A Inductor, Buck for LM1575-LM2575 & LM1577-LM2577	220µH 150µH 220µH	2	—	5	—	—	6	257-1036-ND 257-1038-ND 257-1039-ND	11.77 11.89 12.16	9.06 9.15 9.35	5.80 5.86 5.99	4.64 4.68 4.79	3.37 3.48 3.48	67127020 67127060 67127070
6	Transformer for National Semiconductor TP3410, ISDN U Transformer for Siemens 20901 & 20902/IEC-T Receive Transformer for use w/Level1 LXT31X Series Inductor for LM259x as L29, 1.5 Amps Inductor, 3.6A	12mH 7.47mH 4mH 100µH 33µH	1	—	5	6	—	10	257-1081-ND 257-1042-ND 257-1043-ND 257-1044-ND 257-1045-ND	11.16 11.44 14.86 10.91 10.91	8.84 7.68 9.07 9.08 8.08	5.40 5.30 9.39 9.36	4.84 3.84 6.78 5.54	4.84 3.39 6.27 2.78	67141470 67127490 67130780 67144130 67144220
7	Transformer for National TP3410, ISDN "U" Transformer for Motorola 145472, ISDN "U"	12mH 28.5mH	7	—	6	1	—	12	257-1046-ND 257-1047-ND	10.12 9.63	7.78 6.46	4.98 4.82	3.98 4.31	2.77 3.54	67128640 67128630
9	Inductor DCR 0.09 ohms SMD, AC only Inductor DCR 1.08 ohms SMD, AC only Inductor DCR 0.03 ohms SMD, 3.8 Amps Inductor DCR 0.05 ohms SMD, 2.57 Amps Inductor DCR 0.09 ohms SMD, 1.77 Amps Inductor DCR 0.26 ohms SMD, 1.18 Amps Inductor DCR 0.45 ohms SMD, 0.8 Amps	1000µH 10000µH 22µH 47µH 100µH 220µH 470µH	1-4 1-4 1-4 1-4 1-4 1-4 1-4	—	5-8 5-8 5-8 5-8 5-8 5-8	—	—	—	257-1049-ND 257-1050-ND 257-1051-ND 257-1052-ND 257-1053-ND 257-1054-ND 257-1055-ND	10.42 10.42 11.88 10.53 11.00 12.04 12.04	6.99 6.99 9.14 7.07 8.46 9.27 9.27	5.39 5.39 5.85 5.46 5.42 5.93 5.93	4.39 4.39 4.68 4.46 4.33 4.74 4.46	3.30 3.30 3.26 3.39 3.30 3.30 3.39	24500 24506 24514 24516 24518 24520 24522

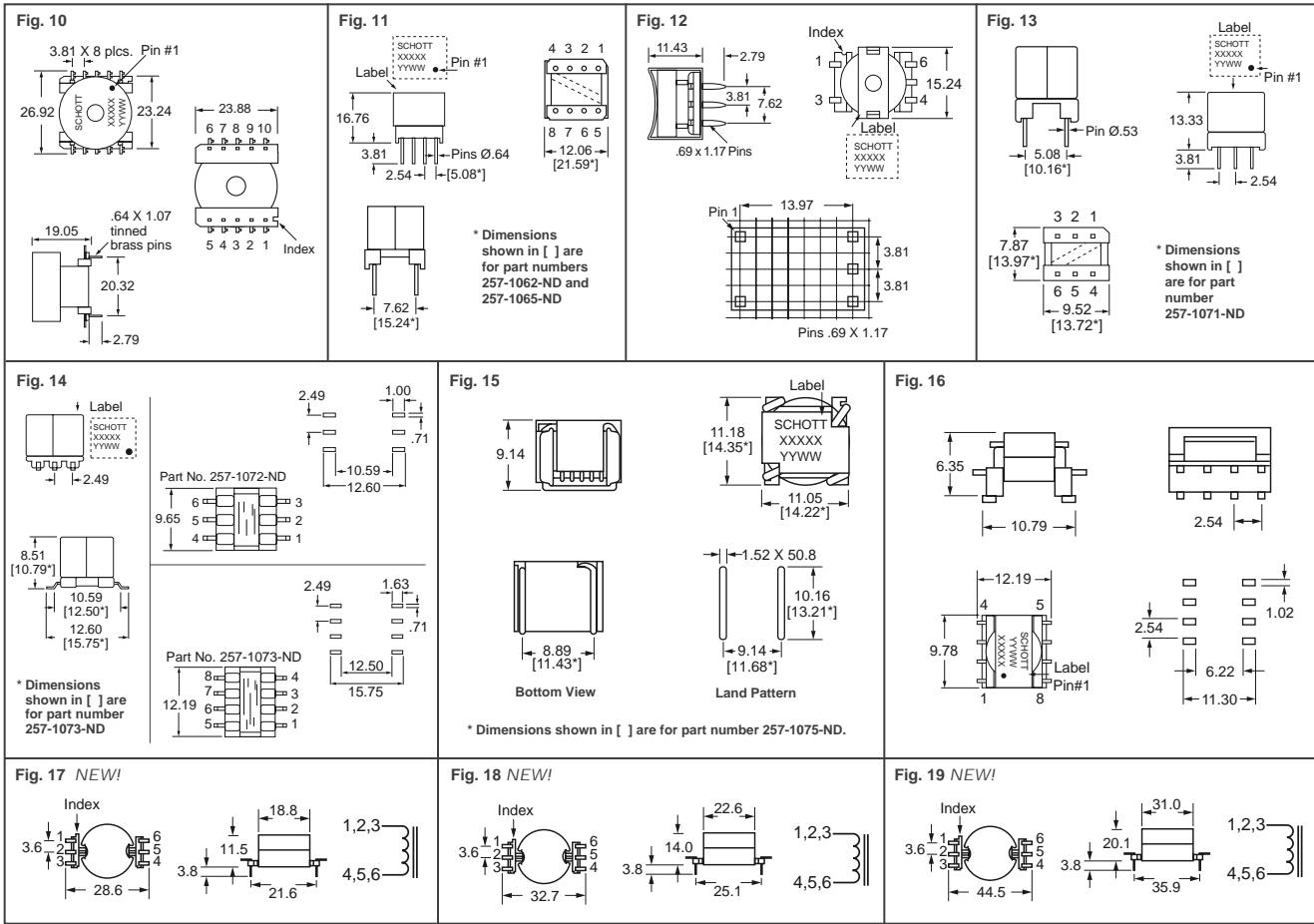
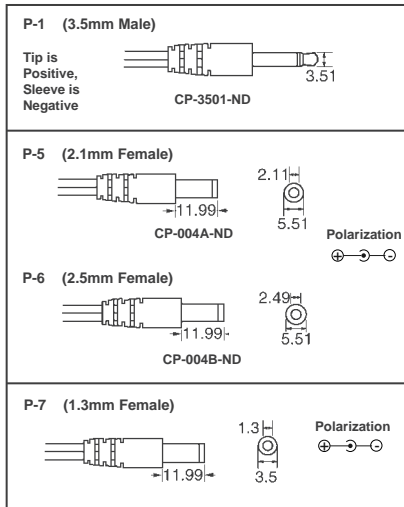
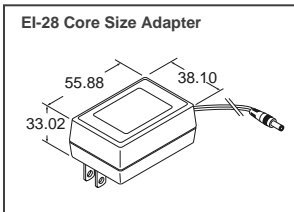
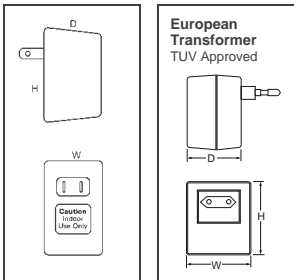


Fig.	Description (applications and notes)	Inductance	Schematic Information						Digi-Key Part No.	Price Each					Schott Part No.
			Primary			Secondary				1	10	50	100	500	
			Start	CtAp	Finish	Start	CtAp	Finish							
10	Transformer for National Semiconductor TP3410, ISDN "U"	12mH	1	—	5	6	7 or 9	10	257-1079-ND*	11.40	8.16	5.56	4.99	3.47	30591
11	Inductor DCR 0.15 ohms, 0.63A	150µH	1-4	—	5-8	—	—	—	257-1057-ND	10.44	8.03	5.14	4.11	2.86	67144050
	Inductor DCR 0.07 ohms, 0.95A	68µH	1,2,4	—	5-6	—	—	—	257-1059-ND	13.45	9.96	5.89	4.72	3.42	67144070
	Inductor DCR 0.045 ohms, 1.15A	47µH	1-4	—	5-8	—	—	—	257-1060-ND	11.02	8.47	5.42	4.34	3.02	67144080
	Inductor DCR 0.032 ohms, 1.37A	33µH	1-4	—	5-8	—	—	—	257-1061-ND	6.84	5.39	3.24	2.27	1.77	67144090
	Inductor DCR 0.04 ohms, 3.7A	47µH	1-4	—	5-8	—	—	—	257-1062-ND	12.72	9.42	5.37	4.13	2.64	67144210
	Transformer for Brooktree 8920 and 8952 HDLSL	3mH	5	—	8	1	—	2	257-1064-ND	11.91	7.99	5.37	4.60	3.68	67137860
Transformer for Brooktree 8920 and 8952 HDLSL	2mH	1,3	—	2,4	5	—	8	257-1065-ND	10.68	8.21	5.26	4.21	2.93	67141280	
12	Transformer DDS Level I LXT 400	200mH	3	—	1	6	5	4	257-1066-ND	10.84	8.33	5.33	4.26	2.97	67127340
13	Inductor DCR 0.20 ohms, 0.70A	68µH	1	—	6	—	—	—	257-1067-ND	6.69	5.29	2.77	1.94	1.51	67143990
	Inductor DCR 0.10 ohms, 0.80A	47µH	1	—	6	—	—	—	257-1068-ND	6.69	5.29	2.77	1.94	1.51	67144000
	Inductor DCR 0.06 ohms, 1.30A	22µH	1	—	6	—	—	—	257-1069-ND	6.69	5.29	2.77	1.94	1.51	67148350
	Inductor DCR 0.05 ohms, 1.60A	15µH	1	—	6	—	—	—	257-1070-ND	6.69	5.29	2.77	1.94	1.51	67148360
	Inductor DCR 0.015 ohms, 4.0A	15µH	1-5	—	6-10	—	—	—	257-1071-ND	6.99	5.45	3.12	2.16	1.71	67148400
	DDS Transformer for Level One LXT441	40mH	1	2	3	6	5	4	257-1084-ND	11.18	9.35	5.52	4.61	3.02	29873
14	Inductor DCR 0.300 ohms SMD, 0.45A	150µH	1	—	6	—	—	—	257-1072-ND	12.08	8.95	5.10	3.92	2.51	67144340
	Inductor DCR 0.150 ohms SMD, 0.63A	150µH	1-4	—	5-8	—	—	—	257-1073-ND	12.08	8.95	5.10	3.92	2.51	67144430
15	Inductor DCR 166mΩ, SMD	0Adc = 35.3µH 1.4Adc = 22.3µH	1	—	2	—	—	—	257-1074-ND	3.61	2.42	2.08	1.90	1.76	25544
	Inductor DCR 862mΩ, SMD	0Adc = 672µH 0.72Adc = 287µH	1	—	2	—	—	—	257-1075-ND	5.72	3.84	3.36	3.15	—	25547
	Inductor DCR 14mΩ, SMD	0Adc = 1.10µH 3.4Adc = 0.76µH	1	—	2	—	—	—	257-1076-ND	3.29	2.21	1.79	1.59	1.23	25551
16	Digital Audio, SMD;Crystal 8401/2/11/12	225µH	1	—	4	5	—	8	257-1077-ND	8.45	5.71	3.40	2.94	2.70	29398
17	3A Inductor, Buck for LM257x	47µH	1	—	3	4	—	6	257-1094-ND NEW!	11.78	9.06	5.80	4.64	3.37	67126980
	1.3A Inductor, Buck for LM257x	220µH	1	—	3	4	—	6	257-1095-ND NEW!	11.78	9.06	5.80	4.64	3.37	67127020
	1A Inductor, Buck for LM257x	330µH	1	—	3	4	—	6	257-1096-ND NEW!	11.78	9.06	5.80	4.64	3.37	67127030
	0.95A Inductor, Buck for LM257x	470µH	1	—	3	4	—	6	257-1097-ND NEW!	11.78	9.06	5.80	4.64	3.37	67127040
	0.62A Inductor, Buck for LM257x	680µH	1	—	3	4	—	6	257-1098-ND NEW!	11.78	9.06	5.80	4.64	3.37	67127050
	0.42A Inductor, Buck for LM257x	2200µH	1	—	3	4	—	6	257-1099-ND NEW!	11.78	9.06	5.80	4.64	3.37	67127130
18	3A Inductor, Buck for LM257x	68µH	1	—	3	4	—	6	257-1100-ND NEW!	11.89	9.15	5.86	4.68	3.41	67126990
	3A Inductor, Buck for LM257x	100µH	1	—	3	4	—	6	257-1101-ND NEW!	11.89	9.15	5.86	4.68	3.41	67127000
	2A Inductor, Buck for LM257x	150µH	1	—	3	4	—	6	257-1102-ND NEW!	11.89	9.15	5.86	4.68	3.41	67127010
	3A Inductor, Buck for LM257x	150µH	1	—	3	4	—	6	257-1103-ND NEW!	11.89	9.15	5.86	4.68	3.41	67127060
	1.3A Inductor, Buck for LM257x	680µH	1	—	3	4	—	6	257-1104-ND NEW!	11.89	9.15	5.86	4.68	3.41	67127100
	0.9A Inductor, Buck for LM257x	1000µH	1	—	3	4	—	6	257-1105-ND NEW!	11.89	9.15	5.86	4.68	3.41	67127110
19	0.62A Inductor, Buck for LM257x	1500µH	1	—	3	4	—	6	257-1106-ND NEW!	11.89	9.15	5.86	4.68	3.41	67127120
	3A Inductor, Buck for LM257x	220µH	1	—	3	4	—	6	257-1107-ND NEW!	12.16	9.35	5.99	4.79	3.48	67127070
	3A Inductor, Buck for LM257x	330µH	1	—	3	4	—	6	257-1108-ND NEW!	12.16	9.35	5.99	4.79	3.48	67127080
	1.9A Inductor, Buck for LM257x	470µH	1	—	3	4	—	6	257-1109-ND NEW!	12.16	9.35	5.99	4.79	3.48	67127090

* Multiple Output

• Cord Lengths are all 6 feet (1.83 meters) unless otherwise noted. • All transformers are UL listed and most are also CSA approved.



Switching Desk-Top Power Supply

Specifications:

- **AC Input Voltage Range:** 90 VAC to 264 VAC Universal
- **AC Input Frequency:** 47 Hz to 63 Hz
- **Maximum In-rush Current:** 26 A max @ 115 VAC, 50 A max @ 230 VAC at 25°C ambient cold start
- **Minimum Load Current:** 0A • **Output Ripple and Noise:** 5V = 50 mV P-P, 12V = 120mV P-P, 24V = 240mV P-P
- **Operating Temperature:** 0°C to 40°C

Safety Requirements: (1) UL 1950, (2) CSA 22.2, No. 950, (3) CSA 22.2, No. 234 LEVEL 3, (4) IEC 950 (5) TUV/CS, (EN60950).

EMI Requirement: FCC class "B" rules. VDE 243/1991 class "B" rules

Switching Wall-Mount Power Supply

Specifications:

- **AC Input Voltage Range:** 100 VAC to 125 VAC Universal
- **AC Input Frequency:** 50 Hz to 60 Hz
- **Switching Frequency:** 65KHz Typical
- **Protection Type:** Short circuit protection; continuous, automatic recovery. Over voltage protection
- **Hold up time:** 16ms after loss of nominal AC input under full load condition
- **Operating Temp:** -10°C to 40°C

Safety Requirements: (1) UL 1950, 1310 (2) CSA 22.2 (3) T-Mark technical standard - file no. 91-54878 (4) TUV, (EN60950) (5) FCC Class B Part 15 (6) Comply with CE Directives.

Output: No Minimum Load

Ratings			Dimensions (mm) H x W x D	Cord Plug	Digi-Key Part No.	Price Each				CUI/Stack Part No.
Volt.	mA	Reg.				1	10	50	100	
<i>US/Canada Transformer 110VAC/60Hz Input</i>										
5VDC	300	5%	60.45 x 50.80 x 41.91	P-6	T309-ND	10.00	8.00	7.00	6.64	DPR050030-P6
5VDC	1000	5%	85.09 x 68.07 x 55.88	P-1	T310-ND*	27.80	22.24	19.46	18.46	DTR050100-P-1
5VDC	1500	5%	119.89 x 77.98 x 62.99	P-5	T311-ND*	51.98	41.58	36.39	34.52	DTR050150-P-5
5.5VDC	500	No	60.45 x 50.80 x 37.08	P-1	T301-ND	9.75	7.80	6.83	6.48	DPD055050-P-1
6VDC	200	No	54.61 x 42.42 x 37.08	P-1	T305-ND	5.65	4.52	3.96	3.76	DPD060020-P1-SZ
6VDC	500	No	58.93 x 50.04 x 41.40	P-1	T307-ND	6.25	5.00	4.38	4.15	DPD060050-P1-SZ
9VDC	100	No	54.61 x 42.42 x 37.08	P-1	T406-ND	5.40	4.32	3.78	3.59	DPD090010-P1-SZ
9VDC	200	No	55.63 x 42.93 x 37.59	P-1	T401-ND	5.18	4.14	3.63	3.44	DPD090020-P-1
9VDC	200	No	55.63 x 42.93 x 37.59	P-5	T402-ND	5.30	4.24	3.71	3.52	DPD090020-P-5
9VDC	300	No	54.61 x 42.42 x 37.08	P-1	T407-ND	5.68	4.54	3.98	3.77	DPD090030-P1-SZ
9VDC	500	No	60.45 x 50.80 x 37.08	P-1	T403-ND	5.78	4.62	4.05	3.84	DPD090050-P-1
9VDC	500	No	60.45 x 50.80 x 37.08	P-5	T405-ND	5.78	4.62	4.05	3.84	DPD090050-P-5
9VDC	800	5%	60.45 x 60.45 x 48.51	P-5	T410-ND	15.43	12.34	10.80	10.25	DPD090080-P-5
9VDC	1000	No	60.45 x 60.45 x 48.51	P-1	T404-ND	11.90	9.52	8.33	7.91	DPD090100-P-1
12VDC	50	No	54.61 x 42.42 x 37.08	P-1	T508-ND	5.40	4.32	3.78	3.59	DPD120005-P1-SZ
12VDC	200	No	54.61 x 42.42 x 37.08	P-1	T509-ND	5.50	4.40	3.85	3.66	DPD120020-P1-SZ
12VDC	300	No	60.45 x 50.80 x 37.08	P-1	T501-ND	5.75	4.60	4.03	3.82	DPD120030-P-1
12VDC	300	No	60.45 x 50.80 x 37.08	P-5	T505-ND	5.75	4.60	4.03	3.68	DPD120030-P-5
12VDC	500	No	60.45 x 50.80 x 37.08	P-1	T502-ND	6.55	5.24	4.59	4.35	DPD120050-P-1
12VDC	500	No	60.45 x 50.80 x 37.08	P-5	T506-ND	6.55	5.24	4.59	4.35	DPD120050-P-5
12VDC	800	No	60.45 x 60.45 x 48.51	P-1	T503-ND	6.95	5.56	4.87	4.62	DPD120080-P-1
12VDC	800	No	60.45 x 60.45 x 48.51	P-5	T507-ND	6.95	5.56	4.87	4.62	DPD120080-P-5
24VDC	400	No	60.45 x 60.45 x 48.51	P-1	T521-ND	9.88	7.90	6.92	6.56	DPD240040-P-1
24VDC	400	No	60.45 x 60.45 x 48.51	P-6	T520-ND	9.88	7.90	6.92	6.56	DPD240040-P-6
9VAC	100	No	54.61 x 42.42 x 37.08	S/T	T701-ND	5.28	4.22	3.70	3.51	DPA090010-S/T-SZ
9VAC	600	No	58.93 x 50.55 x 40.89	S/T	T702-ND	6.70	5.36	4.69	4.45	DPA090060-S/T-SZ
12VAC	300	No	54.61 x 42.42 x 37.08	S/T	T601-ND†	5.50	4.40	3.85	3.66	DPA120030-S/T-SZ
12VAC	400	No	54.61 x 42.42 x 37.08	S/T	T611-ND†	6.98	5.58	4.89	4.64	DPA120040-S/T-SZ
12VAC	500	No	58.93 x 50.55 x 40.89	S/T	T612-ND†	7.20	5.76	5.04	4.79	DPA120050-S/T-SZ
12VAC	600	No	60.45 x 50.80 x 37.08	S/T	T602-ND†	7.55	6.04	5.29	5.02	DPA120060-S/T
12VAC	1000	No	70.10 x 50.04 x 39.12	S/T	T603-ND†	8.30	6.84	5.81	5.52	DPA120100-S/T
12VAC	1500	No	81.28 x 56.13 x 48.01	S/T	T613-ND†	13.38	10.70	9.37	8.89	DPA120150-S/T
12VAC	2000	No	83.82 x 62.99 x 54.86	S/T	T604-ND†	14.28	11.42	10.00	9.48	DPA120200-S/T
12VAC	3300	No	88.90 x 68.07 x 54.86	S/T	T605-ND§	23.60	18.88	16.52	15.68	DPA120330-S/T
12VAC	200	No	54.61 x 42.42 x 37.08	P-1	T606-ND	5.40	4.32	3.78	3.59	DPA120020-P1-SZ
12VAC	600	No	60.45 x 50.80 x 37.08	P-1	T607-ND	5.88	4.70	4.12	3.91	DPA120060-P-1
12VAC	1000	No	69.85 x 50.04 x 39.12	P-1	T608-ND	6.35	5.08	4.45	4.22	DPA120100-P-1
12VAC	2000	No	83.82 x 62.99 x 54.86	P-1	T609-ND	14.28	11.42	10.00	9.48	DPA120200-P-1
24VAC	1670	No	88.90 x 68.07 x 54.86	S/T	T620-ND§	23.60	18.88	16.52	15.68	DPA240167C-S/T
<i>European Transformer 220VAC/50Hz Input</i>										
9VDC	500	No	58.93 x 50.55 x 40.89	P-5	T408-ND	12.00	9.60	8.40	7.97	DPD090050E-P-5
12VDC	800	No	81.03 x 55.88 x 48.01	P-5	T511-ND	15.00	12.00	10.50	9.96	DPD120080E-P-5
<i>Switching Desk-Top Power Supply</i>										
5VDC	4000	5%	112.01 x 59.94 x 36.07	P-5(Rt)	T801-ND†	74.66	65.33	56.00	49.65	DTS050400U/AC1-P5
12VDC	2500	5%	112.01 x 59.94 x 36.07	P-5(Rt)	T802-ND†	74.66	65.33	56.00	49.65	DTS120250U/AC1-P5
24VDC	1250	5%	112.01 x 59.94 x 36.07	P-5(Rt)	T803-ND†	74.66	65.33	56.00	49.65	DTS240125U/AC1-P5
<i>Switching Wall-Mount Power Supply</i>										
9V	1500	5%	72.90 x 33.78 x 50.80	P-5	T903-ND	36.30	29.04	25.41	24.11	DPS090150-P5-SW
<i>EI-28 Core Size Adapters</i>										
3VDC	400	No	55.88 x 38.10 x 33.78	P-7	T201-ND	6.54	5.45	3.82	3.62	DPD030040-P7-DK
4.5VDC	300	No	55.88 x 38.10 x 33.78	P-7	T202-ND	6.50	5.25	3.68	3.49	DPD045030-P7-DK
6VDC	250	No	55.88 x 38.10 x 33.78	P-7	T203-ND	6.75	5.63	3.94	3.74	DPD060025-P7-DK
9VDC	150	No	55.88 x 38.10 x 33.78	P-7	T205-ND	6.75	5.63	3.94	3.74	DPD090015-P7-DK
12VDC	100	No	55.88 x 38.10 x 33.78	P-7	T206-ND	6.30	5.25	3.68	3.49	DPD120010-P7-DK

• Table Top Style. † "S/T" = Stripped/Tinned. ‡ AC cord included. § Center Tapped.

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DC-DC Converters

Single, Dual and Triple Output

Fig.	Output Noise*	Load Reg (%)	Line Reg. (%)	Cross Reg. (%)	% Max Efficiency	Isolation Voltage	Temperature Range (case)
<i>Single Output</i>							
12	70 mV	+8, -5	±1.2	N/A	75	700V	-25°C to +85°C
2	50 mV	±0.4	±0.8	N/A	83	700V	-40°C to +85°C
1	75 mV	±0.7	±0.2	N/A	77	700V	-40°C to +85°C
3	60 mV	±0.4	±1.0	N/A	83	700V/1544V†	-40°C to +85°C
9	50 mV	±0.7	±0.2	N/A	82	700V	-40°C to +85°C
5	75 mV	±0.75	±0.2	N/A	83	700V	-40°C to +85°C
7	75 mV	±0.6	±1.0	N/A	83	700V/1544V†	-40°C to +85°C
<i>Dual Output</i>							
13	70 mV	±5.0	±1.0	±6.0	70	700V	-25°C to +85°C
4	100 mV	±1.0	±0.75	±3.0	79	700V	-40°C to +85°C
10	120 mV	±0.7	±0.2	±2.5	78	700V	-40°C to +85°C
6	70 mV	±0.4	±0.2	±3.0	82	1544V	-40°C to +100°C
8	50 mV	±0.7	±0.8	±2.5	85	700V/1544V†	-40°C to +85°C
<i>Triple Output</i>							
11	50 mV	±2.0	±1.5	±5.0	84	700V/1544V†	-40°C to +90°C

9274B-ND Power One DC-DC Reference Guide.....\$1.95

* Measured 1" from converter across a 1µF tantalum capacitor and bandwidth limited to 20MHz. † 1544V isolation for DC/DC converters with 48V inputs.

Fig. 1

Features:

- Ultra-wide 3.5-16 volt input range
- Input filtered
- 6 watts of output power
- Efficiencies to 77%
- 700V Isolation
- Low input to output capacitance
- Ultra-wide input range (4:1)

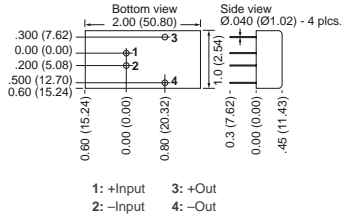


Fig. 2

Features:

- Up to 6 watts of output power
- Overcurrent protection
- Efficiencies to 83%
- Low input to output capacitance
- 700V Isolation, input to output
- Ultra-wide input range (3:1)

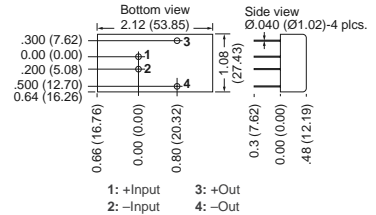


Fig. 3

Features:

- High power density, up to 11 watts per cubic inch (0.67 watts per cm³)
- Efficiencies to 83% (lower for 3.3V)
- Low input to output capacitance
- 700V Isolation (1544V for 48V converters)
- Continuous overcurrent protection
- Five-sided shielded copper case
- Extended input range (2:1)

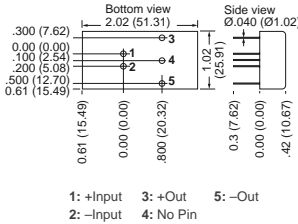


Fig. 4

Features:

- High power density, up to 11 watts per cubic inch
- Efficiencies to 79%
- Fully isolated, fully filtered design
- Greater than 700V Isolation
- Overcurrent protection
- Five-sided shielded copper case
- Ultra-wide range input (4:1)

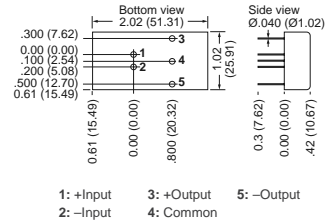


Fig. 5

Features:

- High power density, up to 11 watts per cubic inch (0.67 watts per cm³)
- Efficiencies to 83% (lower for 3.3V)
- Low input to output capacitance
- 700V Isolation (1544V for 48V converters)
- Continuous overcurrent protection
- 3.3 Volt output available
- Five-sided shielded copper case
- Extended input range (2:1)

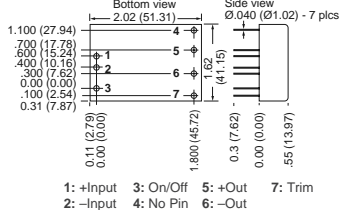


Fig. 6

Features:

- Remote On/Off and Trim
- Overcurrent and overtemperature protected
- Water washable case
- Efficiencies to 82%
- 1544V Isolation
- Ultra-wide range input (>3:1)

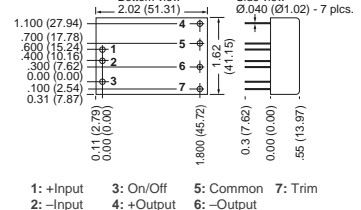


Fig.	V Out	I Out	V In Range	Digi-Key Part No.	Price Each				Power-One Part No.
					1	10	25	50	
1	5	1.2 A	3.5-16.0	179-1001-ND	61.00	58.50	56.00	54.00	DFC6U5S5
	5.2	1.2 A	3.5-16.0	179-1002-ND	61.00	58.50	56.00	54.00	DFC6U5S5.2
	12	0.5 A	3.5-16.0	179-1003-ND	61.00	58.50	56.00	54.00	DFC6U5S12
	15	0.4 A	3.5-16.0	179-1004-ND	61.00	58.50	56.00	54.00	DFC6U5S15
2	5	1 A	9.0-27.0	179-1005-ND	61.00	58.50	56.00	54.00	DFA6U12S5
	12	0.5 A	9.0-27.0	179-1006-ND	61.00	58.50	56.00	54.00	DFA6U12S12
	15	0.4 A	9.0-27.0	179-1007-ND	61.00	58.50	56.00	54.00	DFA6U12S15
	5	1 A	20.0-60.0	179-1008-ND	61.00	58.50	56.00	54.00	DFA6U48S5
	12	0.5 A	20.0-60.0	179-1009-ND	61.00	58.50	56.00	54.00	DFA6U48S12
3	5	2 A	9.0-18.0	179-1011-ND	68.00	66.50	65.00	63.51	DFC10E12S5
	12	0.9 A	9.0-18.0	179-1014-ND	68.00	66.50	65.00	63.51	DFC10E12S12
	15	0.7 A	9.0-18.0	179-1015-ND	68.00	66.50	65.00	63.51	DFC10E12S15

Fig.	V Out	I Out	V In Range	Digi-Key Part No.	Price Each				Power-One Part No.
					1	10	25	50	
3	5	2 A	18.0-36.0	179-1012-ND	68.00	66.50	65.00	63.51	DFC10E24S5
	12	0.9 A	18.0-36.0	179-1016-ND	68.00	66.50	65.00	63.51	DFC10E24S12
	15	0.7 A	18.0-36.0	179-1017-ND	68.00	66.50	65.00	63.51	DFC10E24S15
	5	2 A	36.0-72.0	179-1013-ND	68.00	66.50	65.00	63.51	DFC10E48S5
4	12	0.9 A	36.0-72.0	179-1019-ND	68.00	66.50	65.00	63.51	DFC10E48S12
	±5	±0.85 A	9.0-36.0	179-1021-ND	68.00	66.50	65.00	63.51	DFC10U24D5
	±12	±0.4 A	9.0-36.0	179-1022-ND	68.00	66.50	65.00	63.51	DFC10U24D12
	±15	±0.32 A	9.0-36.0	179-1023-ND	68.00	66.50	65.00	63.51	DFC10U24D15
	±5	±0.8 A	18.0-72.0	179-1024-ND	68.00	66.50	65.00	63.51	DFC10U48D5
5	±12	±0.415 A	18.0-72.0	179-1025-ND	68.00	66.50	65.00	63.51	DFC10U48D12
	±15	±0.33 A	18.0-72.0	179-1026-ND	68.00	66.50	65.00	63.51	DFC10U48D15
	5	3 A	20.0-60.0	179-1027-ND	93.00	89.00	85.50	82.00	DFC15U48S5
6	12	1.25 A	20.0-60.0	179-1028-ND	93.00	89.00	85.50	82.00	DFC15U48S12
	±15	±0.5 A	20.0-72.0	179-1031-ND	93.00	89.00	85.50	82.00	DFC15U48D15

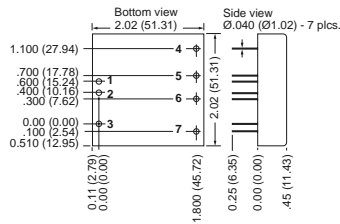
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Fig. 7

Features:

- Remote On/Off and Trim
- Overcurrent protection and thermal shutdown
- Efficiencies to 83%
- 700V Isolation up to 1544V on 48V converters
- Power density up to 11 watts per cubic inch
- Five-sided shielded case
- Extended range input (2:1)

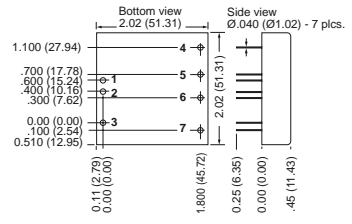


1: +Input 3: On/Off 5: +Out 7: Trim
2: -Input 4: No Pin 6: -Out

Fig. 8

Features:

- Remote On/Off and Trim
- Water washable case
- Overcurrent protection and thermal shutdown
- Efficiencies to 85%
- Low input to output capacitance
- 700V to 1544V isolation
- Five-sided shielded case
- Extended range input (2:1)

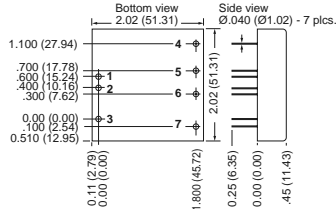


1: +Input 3: On/Off 5: Common 7: Trim
2: -Input 4: +Output 6: -Output

Fig. 9

Features:

- Up to 12 watts output power
- Five-sided shielded isolated copper case
- Ultra-wide 3.5 to 16 volt input range
- Efficiencies to 82%
- Fully isolated and filtered
- 700V isolation
- Remote On/Off and Trim

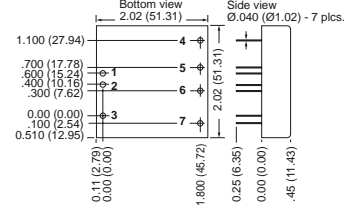


1: +Input 3: On/Off 5: +Out 7: Trim
2: -Input 4: No Pin 6: -Out

Fig. 10

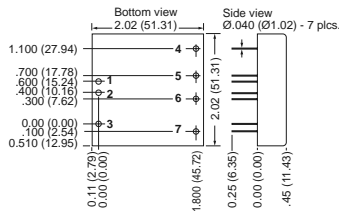
Features:

- Remote On/Off and Trim
- Five-sided shielded copper case
- Typical efficiencies up to 78%
- Fully isolated and filtered
- 700V isolation
- Ultra-wide range input (4:1)



1: +Input 3: On/Off 5: Common 7: Trim
2: -Input 4: +Output 6: -Output

Fig. 11

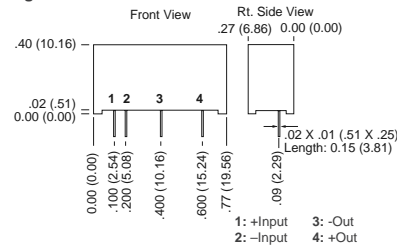


1: +Input 4: +12/15V 6: Common
2: -Input Output 7: -12/15V Output
3: On/Off 5: +5V Output

Features:

- Triple Outputs
- Five-sided shielded case
- Remote On/Off
- Efficiencies to 84%
- -40°C to +85°C operation
- 700V isolation
- Extended range input (2:1)

Fig. 12



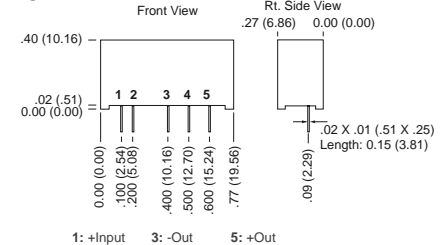
1: +Input 3: -Out
2: -Input 4: +Out

Features:

- Up to 1 watt unregulated output power
- Single in-line package
- Four terminal operation
- Efficiencies to 75%
- 350KHz fixed frequency operation
- 700V isolation
- -25°C to +85°C operation

Output filtering is required for operation 10µf min.

Fig. 13



1: +Input 3: -Out 5: +Out
2: -Input 4: Common

Features:

- Up to 1 watt unregulated output power
- Single in-line package
- Four terminal operation
- Efficiencies to 70%
- Output voltages: 5V, 7V, 12V, 14V, 15V, 17V
- 500V isolation
- -25°C to +85°C operation

Fig.	V Out	I Out	V In Range	Digi-Key Part No.	1	10	25	50	Power-One Part No.
5	4 A	9.0-18.0	179-1033-ND	100.50	96.50	91.50	86.50	DFA20E12S5	
	1.7 A	9.0-18.0	179-1034-ND	100.50	96.50	91.50	86.50	DFA20E12S12	
	1.4 A	9.0-18.0	179-1035-ND	100.50	96.50	91.50	86.50	DFA20E12S15	
7	4 A	18.0-36.0	179-1037-ND	100.50	96.50	91.50	86.50	DFA20E24S5	
	1.7 A	18.0-36.0	179-1038-ND	100.50	96.50	91.50	86.50	DFA20E24S12	
	1.4 A	18.0-36.0	179-1039-ND	100.50	96.50	91.50	86.50	DFA20E24S15	
	1.7 A	36.0-72.0	179-1042-ND	100.50	96.50	91.50	86.50	DFA20E48S12	
8	±5	±1.7 A	18.0-36.0	179-1044-ND	100.50	96.50	91.50	86.50	DFA20E12D5
	±12	±0.85 A	9.0-18.0	179-1045-ND	100.50	96.50	91.50	86.50	DFA20E12D12
	±15	±0.7 A	9.0-18.0	179-1046-ND	100.50	96.50	91.50	86.50	DFA20E12D15
	±5	±1.7 A	18.0-36.0	179-1047-ND	100.50	96.50	91.50	86.50	DFA20E24D5
9	±12	±0.85 A	18.0-36.0	179-1048-ND	100.50	96.50	91.50	86.50	DFA20E24D12
	±15	±0.7 A	18.0-36.0	179-1049-ND	100.50	96.50	91.50	86.50	DFA20E24D15
	5	2 A	3.5-16.0	179-1053-ND	81.50	78.00	75.00	72.00	DGP12U5S5
	12	1 A	3.5-16.0	179-1054-ND	81.50	78.00	75.00	72.00	DGP12U5S12
10	±5	±1.0 A	3.5-16.0	179-1056-ND	81.50	78.00	75.00	72.00	DGP12U5D5
	±12	±0.5 A	3.5-16.0	179-1057-ND	81.50	78.00	75.00	72.00	DGP12U5D12
	±15	±0.4 A	3.5-16.0	179-1058-ND	81.50	78.00	75.00	72.00	DGP12U5D15

Fig.	V Out	I Out	V In Range	Digi-Key Part No.	1	10	25	50	Power-One Part No.
11	5 ±12	2.5 A ±0.310 A	9.0-18.0	179-1059-ND*	102.00	98.00	94.00	89.00	DGP20E12T5/12
	5 ±15	2.5 A ±0.250 A	9.0-18.0	179-1060-ND†	102.00	98.00	94.00	89.00	DGP20E12T5/15
	5 ±12	2.5 A ±0.310 A	18-36.0	179-1061-ND†	102.00	98.00	94.00	89.00	DGP20E24T5/12
	5 ±15	2.5 A ±0.250 A	18-36.0	179-1062-ND*	102.00	98.00	94.00	89.00	DGP20E24T5/15
12	5	0.15 A	4.5-5.5	179-1068-ND	9.00	8.75	8.50	8.25	DSP1N5S5
	7	0.14 A	4.5-5.5	179-1069-ND	9.00	8.75	8.50	8.25	DSP1N5S7
	12	0.08 A	4.5-5.5	179-1070-ND	9.00	8.75	8.50	8.25	DSP1N5S12
	14	0.07 A	4.5-5.5	179-1071-ND	9.00	8.75	8.50	8.25	DSP1N5S14
	15	0.065 A	4.5-5.5	179-1072-ND	9.00	8.75	8.50	8.25	DSP1N5S15
	17	0.06 A	4.5-5.5	179-1073-ND	9.00	8.75	8.50	8.25	DSP1N5S17
	±5	±0.075 A	4.5-5.5	179-1074-ND	15.00	14.50	14.00	13.00	DSP1N5D5
13	±7	±0.07 A	4.5-5.5	179-1075-ND	15.00	14.50	14.00	13.00	DSP1N5D7
	±12	±0.04 A	4.5-5.5	179-1076-ND	15.00	14.50	14.00	13.00	DSP1N5D12
	±14	±0.035 A	4.5-5.5	179-1077-ND	15.00	14.50	14.00	13.00	DSP1N5D14
	±15	±0.033 A	4.5-5.5	179-1078-ND	15.00	14.50	14.00	13.00	DSP1N5D15
	±17	±0.030 A	4.5-5.5	179-1079-ND	15.00	14.50	14.00	13.00	DSP1N5D17

*600 mA, †75 mA, ‡60 mA = Minimum Current Load

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Switching Power Supplies continued - MPB 80 Series

Nom. Output Voltage	Power (Watts)	Current	Adjustable Range	Line Reg.	Load Reg.	Configuration	Digi-Key Part No.	1	Price Each 10	25	50	Power-One Part No.
+5V +12V	80*	11A .5A	4.9 to 5.1V 11.5 to 12.5V	.8% .5%	-4% to +2% ±5%	<i>Board Only</i> 5.00" x 3.00" x 1.30" (127.00mm x 76.20mm x 33.02mm)	179-2013-ND <i>NEW!</i>	94.00	84.00	78.00	70.01	MPB80-2000
+5V +12V 12V	80*	7A 2.5A 0.3A	4.9 to 5.1V 11.5 to 12.5 -11.5 to -12.5	.5% 1.5% .5%	-4% to +6% -7% to +13% ±4%	<i>Board Only</i> 5.00" x 3.00" x 1.40" (127.00mm x 76.20mm x 35.56mm)	179-2014-ND <i>NEW!</i>	94.00	84.00	78.00	70.01	MPB80-3000
+3.3V +5V 12V	80*	7A 3A 0.4A	3.27 to 3.33V 4.95 to 5.05V 10.2 to 14.0V	.7% .5% 1.5%	±2% ±2% -15% to +17%	<i>Board Only</i> 5.00" x 3.00" x 1.40" (127.00mm x 76.20mm x 35.56mm)	179-2015-ND <i>NEW!</i>	100.00	92.00	85.00	76.00	MPB80-3300

* 80 Watt with 300LFM force-air cooling.

MPU 150 Series

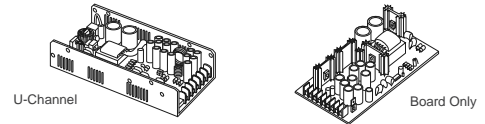
Nom. Output Voltage	Power (Watts)	Current	Adjustable Range	Line Reg.	Load Reg.	Configuration	Digi-Key Part No.	1	Price Each 10	25	50	Power-One Part No.
+3.3V +5V +12V	150*	35A 20A 2A	3.15 to 3.8V 5.0 to 5.5V 10.8 to 13.2V	.6% .4% .4%	1.5% 3% 3%	<i>U Channel</i> 7.40" x 4.20" x 1.50" (187.96mm x 106.68mm x 38.10mm)	179-2016-ND <i>NEW!</i>	230.00	210.00	200.01	185.01	MPU150-3300
+5.1V +12V 5V 12V	150*	30A 8A 3A 2A	5.0 to 5.5V 10.8 to 13.2V 10.8 to 13.2V 5.0 to 5.5V	.4% .4% .4% .4%	1% 1% 1% 1%	<i>U Channel</i> 7.40" x 4.20" x 1.50" (187.96mm x 106.68mm x 38.10mm)	179-2017-ND <i>NEW!</i>	250.00	230.00	215.00	195.00	MPU150-4000
+5.1V +3.3V 12V 12V	150*	30A 15A 3A† 3A†	5.0 to 5.5V 3.15 to 3.6V 10.8 to 13.2V 10.8 to 13.2V	.4% .6% .4% .4%	1% 1.5% 7% 7%	<i>U Channel</i> 7.40" x 4.20" x 1.50" (187.96mm x 106.68mm x 38.10mm)	179-2018-ND <i>NEW!</i>	250.00	230.00	215.00	195.00	MPU150-4530

* 150 Watt with 300LFM force-air cooling. † Total not to exceed 5A.

SPL SERIES

SPECIFICATIONS:

AC Input: 90-264 VAC, user selectable 47-63 Hz • Power-Fail Warning Signal: Single Output Models: provided on SPL 250 models only • Efficiency: 70% ±5% • Minimum Load: Single Output Models: 5% of rated current **Multiple Output Models:** • Output Noise and Ripple: 0.3% RMS, 1% PK-PK maximum. • Output Overload Protection • Overvoltage Protection: **Single Output Models:** provided on all 5V models. **Multiple Output Models:** provided on +5V main output • Temperature Rating: Operating: 0°C to +50°C • 2 year warranty



Output Voltage	Power (Watts) Continuous	Peak	Current	Line Reg.	Load Reg.	Configuration	Digi-Key Part No.	1	Price Each 10	Power-One Part No.
5V	250	N/A	50A	±0.3%	±1%	U-Channel	179-2086-ND	282.19	270.90	SPL250-1005
12-15V* Adj.	250	N/A	21A/17A	±0.3%	±1%	U-Channel	179-2087-ND	282.19	270.90	SPL250-1012
24-28V* Adj.	250	N/A	10A/7A	±0.3%	±1%	U-Channel	179-2088-ND	282.19	270.90	SPL250-1024

* Models with adjustable voltages have current ratings expressed as current at lowest Voltage/Current followed at highest voltage.

ELPAC POWER SYSTEMS NEW! AC Adapters

Fig. 1

Fig. 2

Fig. 3

DIN PINOUT MATRIX					
MODEL	PIN 1	PIN 2	PIN 3	PIN 4	PIN 5
W4221	COM	COM	+5V	COM	+12V
W4231	COM	COM	+5V	-12V	+12V
W4232	COM	COM	+5V	-12V	+12V

Fig. 4

Fig. 5

Fig. 6

International

FEATURES:

- 95-250 VAC 47-63Hz Input
- IEC 320 Input Connector for Worldwide Use
- Input Protected Via Internal Line Fuse
- Ripple & Noise: ±1% PK-PK Max.
- Overload Protection: All Outputs Protected-Auto Recovery
- Operating Temp. Range: 0°C to 40°C
- Output Cable - 6 foot - 760 standard (ID=2.5mm/OD=5.5mm/Barrel Length 10mm/Inside Positive) or 5 Pin DIN as shown
- Two-Year Warranty

AGENCY APPROVALS:

- UL1012 Listed
- CSA Certified to 22.2 No. 223
- TUV Licensed, IEC 950
- CE Certified
- FCC/VDE Class B Emissions

Fig.	Outputs			Max. Power	Dimensions - mm L x W x H	Digi-Key Part No.	Price Each			Elpac Part No.
	Single	Double	Triple				1	5	10	
<i>Desk Mount - International Power Supply</i>										
1	5V @ 2.5A	—	—	13W	83.82 x 50.80 x 33.02	EPS165-ND	38.00	36.00	33.20	W1505-760
1	12V @ 1.25A	—	—	15W	83.82 x 50.80 x 33.02	EPS166-ND	38.00	36.00	33.20	W1512-760
1	24V @ 0.63	—	—	15W	83.82 x 50.80 x 33.02	EPS167-ND	38.00	36.00	33.20	W1524-760
2	12V @ 4.0A	—	—	48W	104.14 x 55.88 x 30.48	EPS168-ND	88.00	79.20	73.04	W4012-760
2	24V @ 2.1A	—	—	50W	104.14 x 55.88 x 30.48	EPS169-ND*	88.00	79.20	73.04	W4024-760
3	5V @ 3.0A	12V @ 2.5A	—	42W	147.32 x 83.82 x 38.10	EPS170-ND	114.00	102.60	94.62	W4221-D5
3	5V @ 3.0A	12V @ 2.5A	-12V @ 0.5A	42W	147.32 x 83.82 x 38.10	EPS171-ND	114.00	102.60	94.62	W4231-D5
3	5V @ 4.8A	12V @ 1.5A	-12V @ 0.5A	42W	147.32 x 83.82 x 38.10	EPS172-ND	114.00	102.60	94.62	W4232-D5
4	5V @ 3.5A	—	—	18W	109.22 x 58.42 x 33.02	EPS173-ND	74.00	66.60	61.42	W42005-760
4	12V @ 1.7A	—	—	20W	109.22 x 58.42 x 33.02	EPS174-ND	74.00	66.60	61.42	W42012-760
5	12V @ 6.0A	—	—	72W	165 x 98 x 66	EPS175-ND	170.00	153.00	141.10	W7212-D5
5	24V @ 3.0A	—	—	72W	165 x 98 x 66	EPS176-ND	170.00	153.00	141.10	W7224-D5
<i>Panel Mount - International Power Supply</i>										
6	12V @ 8.3A	—	—	100W	281.94 x 175.26 x 45.72	EPS177-ND†	220.00	198.00	182.60	W100-11
6	24V @ 4.2A	—	—	100W	281.94 x 175.26 x 45.72	EPS178-ND†	220.00	198.00	182.60	W100-13

* Minimum load of 2 watts required to fully regulated. † Minimum load of 20 watts required to fully regulate.

Domestic

FEATURES:

- A/C Input: 108-132VAC 60Hz
- Input Protection: Internal Input Line Fuse
- Overload Protection: Output Protected Against Overload and

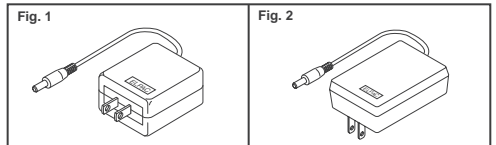
Short Circuit

- Minimum Load: 0 Watts
- Operating Temperature Range: 0°C to +40°C
- Output Cable - 6 Foot with 760 Type Barrel Plug ID = 2.5mm,

OD = 5.5mm, Barrel Length 10.00mm - Inside Positive

- Two-Year Warranty
- AGENCY APPROVALS:**
- NRTL (UL) and CSA • EMI: FCC Class B

Fig.	Outputs Single	Max. Power	Dimensions - mm L x W x H	Digi-Key Part No.	Price Each			Elpac Part No.
					1	5	10	
<i>Wall Mount - Domestic Power Supply</i>								
1	5V @ 1.6A	8W	55.88 x 45.72 x 27.94	EPS160-ND	27.58	24.83	22.90	WP1105-760
1	12V @ 0.8A	10W	55.88 x 45.72 x 27.94	EPS161-ND	29.42	26.48	24.42	WP1112-760
2	5V @ 2.4A	12W	76.20 x 50.80 x 25.40	EPS162-ND	33.00	29.25	26.98	WP1205-760
2	12V @ 1A	12W	76.20 x 50.80 x 25.40	EPS163-ND	33.00	29.25	26.98	WP1212-760
2	24V @ 0.5A	12W	91.44 x 58.42 x 33.02	EPS164-ND	88.00	79.20	73.04	WP1224-760



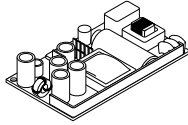
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CONDOR Commercial Switcher

GSC20 Series The World's Smallest 20-watt Commercial Switcher!

With a footprint no bigger than a business card and output of 4 watts/cu. in., the GSC20 is ideal for overhead projectors, data communications devices and many other applications requiring compact, portable, reliable power sources.

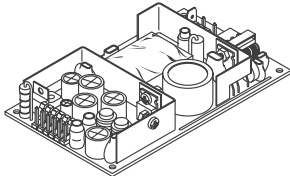


GENERAL FEATURES:

- Industry's smallest 20-watt switcher, 2.00" x 3.50" x 0.68" (50.80mm x 88.90mm x 17.27mm)
- 90-264VAC input
- EMI FCC Class B, CISPR22B
- Standard over-voltage protection
- Fixed frequency operation
- Approved to UL 1950, IEC 950, CSA 22.2 No. 234 Level 3 and EN60950
- Full burn-in; two-year warranty

Output	Total Power Watts	Mating Connectors			Digi-Key Part No.	Price Each			Condor Part No.
		Housing Input	Housing Output	Contacts		1	10	25	
+12V @ 1.7A	20	WM17405	WM17405	WM17406	271-1030-ND	48.00	45.60	43.20	GSC20-12
+15V @ 1.4A	20	WM17405	WM17405	WM17406	271-1031-ND	48.00	45.60	43.20	GSC20-15
+24V @ .85A	20	WM17405	WM17405	WM17406	271-1032-ND	48.00	45.60	43.20	GSC20-24
28V @ 0.7A	20	WM17405	WM17405	WM17406	271-1033-ND	48.00	45.60	43.20	GSC20-28
+5V @ 3.8A	20	WM17405	WM17405	WM17406	271-1034-ND	48.00	45.60	43.20	GSC20-5

CONDOR NEW! DC Power Supplies



GENERAL FEATURES:

- Cost Effective Power Source
- 2-Year Warranty - 100% burn-in, test and inspection

GENERAL SPECIFICATIONS:

- **AC Input:** 90-264 VAC, 47-63 Hz single phase (GPC41 and GPFC160 Series: 85-264 VAC, 47-63 Hz single phase)
- **Safety Specifications:** Conform with the applicable requirements of EN60950 following the provisions of the Low Voltage Directive 73/23/EEC. Approved to UL1950, CSA22.2 No. 234 Level 3, IEC950, EN60950, VDE 0805 and CSA950

- **Overload Protection:** Fully protected against short circuit and output overload
- **Temperature Rating:** 0°C to 50°C full rated output power
- **EMI Compliance:** All models include EMI filtering to meet or exceed conducted emissions of CISPR 11 Class B, VDE0871 Class B and EN55022 Class B
- **Voltage Adjustment:** ±5% on primary output
- **Remote Sense:** GPFC160 series only
- **Reverse Voltage Protection:** All outputs protected against inadvertent application of reverse voltage up to 1 times the rated current of the reverse output

The standard version power supply for data processing, control, etc., applications.

Watt-age	Volt-age	Min. Load	Current (A)	Current (B)	I Peak	Dimensions L x W x H (mm)	Mating Connectors					Digi-Key Part No.	Price Each			Condor Part No.	
							Housing Input	Housing Output	Contacts	Signal Housing	Signal Contact		1	10	25		50
<i>Triple Output - GSC25 Series</i>																	
25	+5.1V +12V -12	0.25A 0 0	2.5A 1.5A 0.2A	— — —	— — —	107.95 x 63.50 x 21.84	WM2123	WM2104	WM17403	—	—	271-1105-ND	51.00	48.45	45.90	45.40	GSC25A
25	+5.1V +24V -12	0.25A 0 0	2.5A 1.0A 0.2A	— — —	— — —	107.95 x 63.50 x 21.84	WM2123	WM2104	WM17403	—	—	271-1106-ND	51.00	48.45	45.90	45.40	GSC25D
<i>Single Output - GPC41 Series</i>																	
30	5.1V	0.15	6.0A	—	—	101.60 x 50.80 x 38.10	A19950	A19952	A19990	—	—	271-1124-ND	50.00	47.50	45.00	42.50	GPC41-5
40	12V	0.03	3.3A	—	—	101.60 x 50.80 x 38.10	A19950	A19952	A19990	—	—	271-1125-ND	50.00	47.50	45.00	42.50	GPC41-12
40	24V	0.01	1.7A	—	—	101.60 x 50.80 x 38.10	A19950	A19952	A19990	—	—	271-1126-ND	50.00	47.50	45.00	42.50	GPC41-24
<i>Single Output - GLC50 Series</i>																	
50	3.3V	0	8A	—	—	107.95 x 63.50 x 27.94	WM2123	WM2126	WM17403	—	—	271-1109-ND	53.50	52.25	50.35	47.50	GLC50-3.3
50	5.1V	0	8A	—	—	107.95 x 63.50 x 27.94	WM2123	WM2126	WM17403	—	—	271-1110-ND	53.50	52.25	50.35	47.50	GLC50-5
50	12V	0	4.2A	—	—	107.95 x 63.50 x 27.94	WM2123	WM2126	WM17403	—	—	271-1111-ND	53.50	52.25	50.35	47.50	GLC50-12
50	24V	0	2.1A	—	—	107.95 x 63.50 x 27.94	WM2123	WM2126	WM17403	—	—	271-1112-ND	53.50	52.25	50.35	47.50	GLC50-24
<i>Triple Output - GLC50 Series</i>																	
50	+5.1V +12V -12V	0.5A 0.1A 0	4A 2.5A 0.2A	— — —	— — —	107.95 x 63.50 x 27.94	WM2123	WM2126	WM17403	—	—	271-1107-ND	53.50	52.25	50.35	47.50	GLC50A
50	+5.1V +24V -12V	0.5A 0.1A 0	4A 1.5A 0.2A	— — —	— — —	107.95 x 63.50 x 27.94	WM2123	WM2126	WM17403	—	—	271-1108-ND	53.50	52.25	50.35	47.50	GLC50D
<i>Single Output - GLC75 Series (See Amperage Rating Notes Below)</i>																	
75	5.1V	0	14.7A	18A	18A	146.05 x 86.36 x 39.70	WM2125	WM2129	WM17403	—	—	271-1113-ND	68.82	65.38	61.94	58.88	GLC75-5
75	12V	0	6.3A	9.1A	9.1A	146.05 x 86.36 x 39.70	WM2125	WM2129	WM17403	—	—	271-1114-ND	68.82	65.38	61.94	58.88	GLC75-12
75	24V	0	3.1A	4.6A	4.6A	146.05 x 86.36 x 39.70	WM2125	WM2129	WM17403	—	—	271-1115-ND	68.82	65.38	61.94	58.88	GLC75-24
<i>Quad Output - GLC75 Series (See Amperage Rating Notes Below)</i>																	
75	+5.1V +12V -12V 12V*	1A 0.5A — —	8A 2.5A 1A 2.5A	10A 3A 1A 3A	12A 4A 1.2A 4A	177.80 x 107.95 x 33.02	WM2125	WM17404	WM17403	—	—	271-1116-ND	68.82	65.38	61.94	58.87	GLC75A
75	+5.1V +24V -12V 12V*	1A 0.5A — —	8A 2.5A 1A 2.5A	10A 3A 1A 3A	12A 4A 1.2A 4A	177.80 x 107.95 x 33.02	WM2125	WM17404	WM17403	—	—	271-1117-ND	68.82	65.38	61.94	58.87	GLC75D
<i>Single Output - GPFC160 Series</i>																	
160	5.1V	—	26A	—	—	177.80 x 114.30 x 42.93	WM2125	WM17400	WM17403	WM2013	WM2200	271-1118-ND	173.29	164.62	155.96	147.30	GPFC160-5
160	12V	—	11.7A	—	—	177.80 x 114.30 x 42.93	WM2125	WM17400	WM17403	WM2013	WM2200	271-1119-ND	173.29	164.62	155.96	147.30	GPFC160-12
160	24V	—	5.8A	—	—	177.80 x 114.30 x 42.93	WM2125	WM17400	WM17403	WM2013	WM2200	271-1120-ND	173.29	164.62	155.96	147.30	GPFC160-24

* Floating fourth output can be referenced as either positive or negative.

Amperage Rating Notes for GLC75 Series: **Current A:** Rating with unrestricted convection cooling. Total power not to exceed 75W. **Current B:** Rating with 26cfm forced air cooling. Total power not to exceed 110W. **I Peak:** During peak load conditions output regulation may exceed specified limits.

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Panasonic® Thermal Printers

THERMAL PRINTERS:

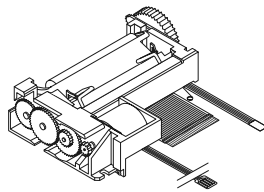
Use a non-impact method for printing. This is accomplished by using chemically treated thermal paper. Chemicals suspended in the paper react to heat generated by the print head to form dots that make up the characters or image. Panasonic offers a thermal serial printer and a thermal line printer. The serial printer uses a moving head that prints one character at a time, it is most suited for character printing, although the high speed model does support graphics. Its main benefit is low cost. Line printers have a fixed print head, printing one line at a time. It is suited for both high speed character and graphic printing. Its main benefits are higher definition graphic printing along with fewer moving parts.

INTERFACE BOARDS:

Acts as an interface between user's system and the thermal printer. Monitors temperature and paper status. Controls motor(s) and thermal head energy for optimal printing. Generates built in test pattern. Accepts both simplified Centronics or RS-232C (TTL only) interface.

Line Printer

Fig. 1

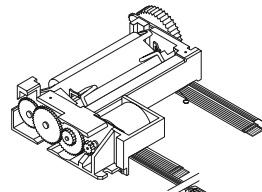


EPL1600 Series

- Compact size, light weight
 - High resolution (8 dots/mm), high printing speed
 - Operatable by batteries (4.2 to 8.5 volts)
 - Low current consumption
 - Semi-auto paper loading function
- Note: Available in 58, 80, and 112mm paper widths

Line Printer

Fig. 2

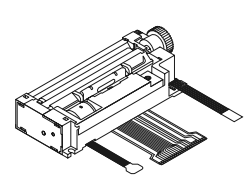


EPL1700 Series

- Compact size, light weight
 - High resolution (8 dots/mm), high printing speed
 - Semi-auto paper loading function
 - Thick (label paper) paper printing possible
- Note: Available in 60, 80, and 112mm paper widths

Miniature Line Printer

Fig. 3

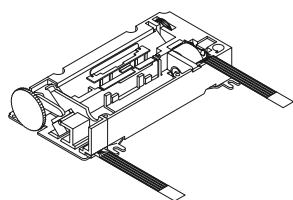


EPL1802S2 Series

- Compact size, light weight
- High speed printing
- Very small size
- Very light weight (40g)
- Low power consumption

Compact Line Printer

Fig. 4

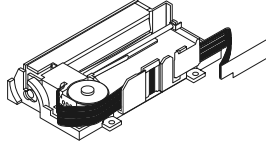


EPL1900 Series

- Compact size
 - Low weight (55g)
 - High reliability
 - Easy maintenance
- Note: Available with paper cutter (PT1034-ND)

Serial Printer

Fig. 5

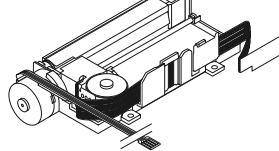


EPT2000L Series

- High speed printing
 - Uni-directional character printing (L to R)
 - 8 vertical dots per line
 - Low noise, less than 55dB
 - Compact size, lightweight
 - Single 5 volt power source (battery operation)
 - Low cost
- Note: Available in 58, 80, and 112mm paper widths

Serial Printer

Fig. 6

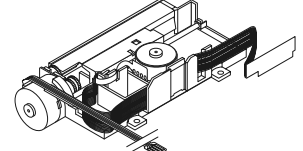


EPT2000H Series

- High speed printing
 - Suitable for graphic printing
 - Bi-directional character printing
 - 8 vertical dots per line
 - Uni-directional graphic printing (L to R)
 - Low noise, less than 55dB
 - Compact size, lightweight
 - Single 5 volt power source (battery operation)
 - Low cost
- Note: Available in 58, 80, and 112mm paper widths

High Speed Serial Printer

Fig. 7



EPT2214S2H Series

- Character printing only
- 8 vertical dots per line
- High speed printing 140 cps
- High reliability 2 million lines
- Compact size lightweight
- Single 5 volt power source (battery operation)

Fig.	Print Method	Paper Width	Head Volt	Logic Volt	Print Speed (max)	Char. / line	Head life	Size (mm)	Digi-Key Part No.	Price Each				Panasonic Part No.
										1	10	100	250	
1	Line	58mm	5v	5v	450 dots-line/s max	24/48	5x10 ⁷ pulse/50 km	79x51x20	PT1000-ND	107.72	99.33	92.24	86.43	EPL1601S2
	Line	80mm	5v	5v	400 dots-line/s max	36/72	5x10 ⁷ pulse/50 km	101x52x20	PT1001-ND	127.76	117.81	109.40	102.51	EPL1602S3
2	Line	112mm	5v	5v	360 dots-line/s max	52/104	5x10 ⁷ pulse/50 km	147x54x20	PT1002-ND	147.80	136.29	126.56	118.59	EPL1603S4
	Line	60mm	24v	5v	432 dots-line/s max	27/54	5x10 ⁷ pulse/50 km	81x52x20	PT1003-ND	80.16	73.92	68.64	64.32	EPL1701S2
2	Line	80mm	24v	5v	576 dots-line/s max	36/72	5x10 ⁷ pulse/50 km	101x52x20	PT1004-ND	99.37	91.63	85.09	79.73	EPL1702S3
	Line	112mm	24v	5v	864 dots-line/s max	54/108	5x10 ⁷ pulse/50 km	147x54x20	PT1005-ND	119.41	110.11	102.25	95.81	EPL1703S4
3	Line	58mm	5v	5v	450 dots-line/s max	24/48	1x10 ⁸ pulse/50km	72x32x15	PT1032-ND	90.18	83.16	77.22	72.36	EPL1802S2
4	Line	58mm	5v	5v	300 dots-line/s max	24/36	5x10 ⁷ pulse/30km	82x41x15.8	PT1033-ND	58.45	53.90	50.05	46.90	EPL1902S2C
	Line	58mm	5v	5v	300 dots-line/s max	24/36	5x10 ⁷ pulse/30km	82x41x25	PT1034-ND	75.15	69.30	64.35	60.30	EPL1904S2C
5	Serial	58mm	5v	5v	70cps	24	5x10 ⁵ pulse/50 MCTF	87x43x24	PT1006-ND	46.53	42.91	39.84	37.34	EPT2014S2L
	Serial	80mm	5v	5v	70cps	32	5x10 ⁵ pulse/50 MCTF	111x43x24	PT1007-ND	48.46	44.70	41.50	38.89	EPT2019S3L
	Serial	112mm	5v	5v	70cps	53	5x10 ⁵ pulse/50 MCTF	143x43x24	PT1008-ND	50.38	46.47	43.15	40.43	EPT2025S4L
6	Serial	58mm	5v	5v	70cps	24	5x10 ⁵ pulse/50 MCTF	100x43x24	PT1009-ND	54.28	50.05	46.48	43.55	EPT2014S2H
	Serial	80mm	5v	5v	70cps	32	5x10 ⁵ pulse/50 MCTF	124x43x24	PT1010-ND	56.23	51.86	48.15	45.12	EPT2019S3H
	Serial	112mm	5v	5v	70cps	53	5x10 ⁵ pulse/50 MCTF	156x43x24	PT1011-ND	58.17	53.64	49.81	46.68	EPT2025S4H
7	Serial	58mm	5v	5v	140cps	24	2x10 ⁶ pulse/50 MCTF	100x43x24	PT1012-ND	55.76	51.43	47.75	44.75	EPT2214S2H

Interface Boards

EPLR1601/EPLR1701 Series

- Supports EPLR1600/EPLR1700 series
- 364 built in character fonts
- ASCII JIS C6220 character codes
- Automatic loading
- Marker detection
- Bar code printing (UPC, JAN, EAN, CODE39, ITF, NW7)
- Operates on 5 volts EPLR1601, 24 volts for EPLR1701

EPTR2002/EPTR2102 Series

- Supports EPT2000 series (not EPT2214S2H)
- 353 built in character fonts
- ASCII JIS C6220 character codes
- Operates on 5 volts

Description	Digi-Key Part No.	Price Each				Panasonic Part No.
		1	10	100	250	
Interface board for EPLR1600 Series	PT1013-ND	161.57	149.00	138.36	129.65	EPLR1601
Interface board for EPLR1700 Series	PT1014-ND	161.57	149.00	138.36	129.65	EPLR1701
Interface board for EPLR1900 Series	PT1035-ND	208.75	192.50	178.75	167.50	EPLZR1901E
Interface board for EPT2000L Series	PT1015-ND	90.48	83.44	77.48	72.61	EPTR2002
Interface board for EPT2000H Series	PT1016-ND	144.27	133.05	123.54	115.77	EPTR2102
Power cable for EPLR1601/1701 interface boards	PT1017-ND	8.02	7.40	6.87	6.44	EPLSRDSP303
Centronics cable for EPLR1601/1701 interface boards	PT1018-ND	7.52	6.93	6.44	6.03	EPLSRDSP304
RS232 cable for EPLR1601/1701 interface boards	PT1019-ND	5.85	5.39	5.01	4.69	EPLSRDSP305
Power cable for EPTR2000L/H interface boards	PT1020-ND	1.77	1.64	1.52	1.43	EPLSRDSP277
Centronics cable for EPTR2000L/H interface boards	PT1021-ND	5.90	5.44	5.05	4.74	EPLSRDSP276
RS232 cable for EPT2000L/H interface boards	PT1022-ND	3.52	3.25	3.02	2.83	EPLSRDSP277
EPLR1601 CPU replacement chip for user designed interfaces	PT1023-ND	24.80	22.87	21.24	19.90	EPLSAR1601
EPLR1701 CPU replacement chip for user designed interfaces	PT1024-ND	24.80	22.87	21.24	19.90	EPLSAR1701
EPLR1601/1701 gate-array for user designed interfaces	PT1025-ND	10.44	9.63	8.94	8.38	EPLSAR1101
EPTR2002 CPU replacement chip for user designed interfaces	PT1026-ND	29.23	26.95	25.03	23.45	EPTSR2001
EPTR2102 CPU replacement chip for user designed interfaces	PT1027-ND	29.23	26.95	25.03	23.45	EPTSR2101

NAKAGAWA MFG. (USA), INC. Thermal Paper

Quality thermal paper available in 58, 60, 80 and 112mm paper widths.

SPECIFICATIONS:

Paper core: 12mm
Paper length: 30M
Outer diameter: 55mm
End mark: red, 50cm from end of roll.

Paper weight: 65um
Print life: greater than 5 years when stored in a dark location, 25°C or less, 65% R.H. max.

Description	Digi-Key Part No.	Price Each				Nakagawa Part No.
		1	10	100	250	
58mm thermal printer paper	PT1028-ND	2.08	1.66	1.46	1.39	EPT-58
60mm thermal printer paper	PT1029-ND	2.43	1.94	1.70	1.62	EPL-60
80mm thermal printer paper	PT1030-ND	2.65	2.12	1.86	1.78	EPT-80
112mm thermal printer paper	PT1031-ND	2.93	2.34	2.05	1.96	EPL-112

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