



RM Costruzioni Elettroniche

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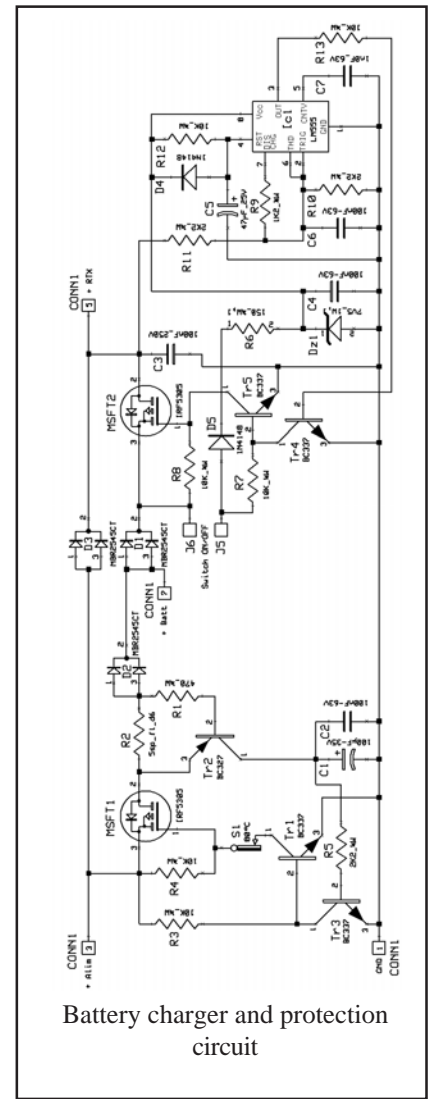
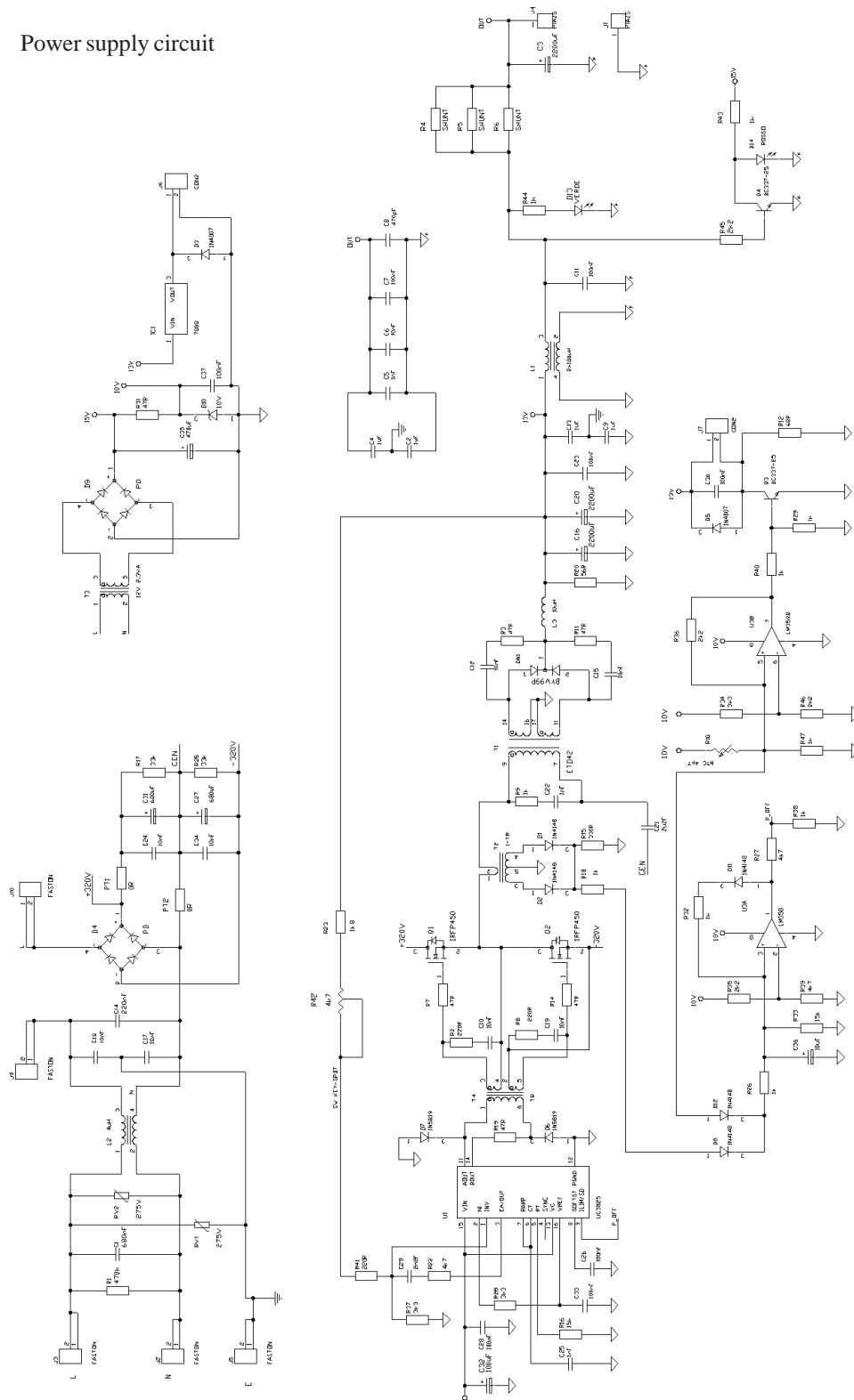
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Mod. SPS 1031 Power supply

Schematic diagram

Version 1.0

Power supply circuit

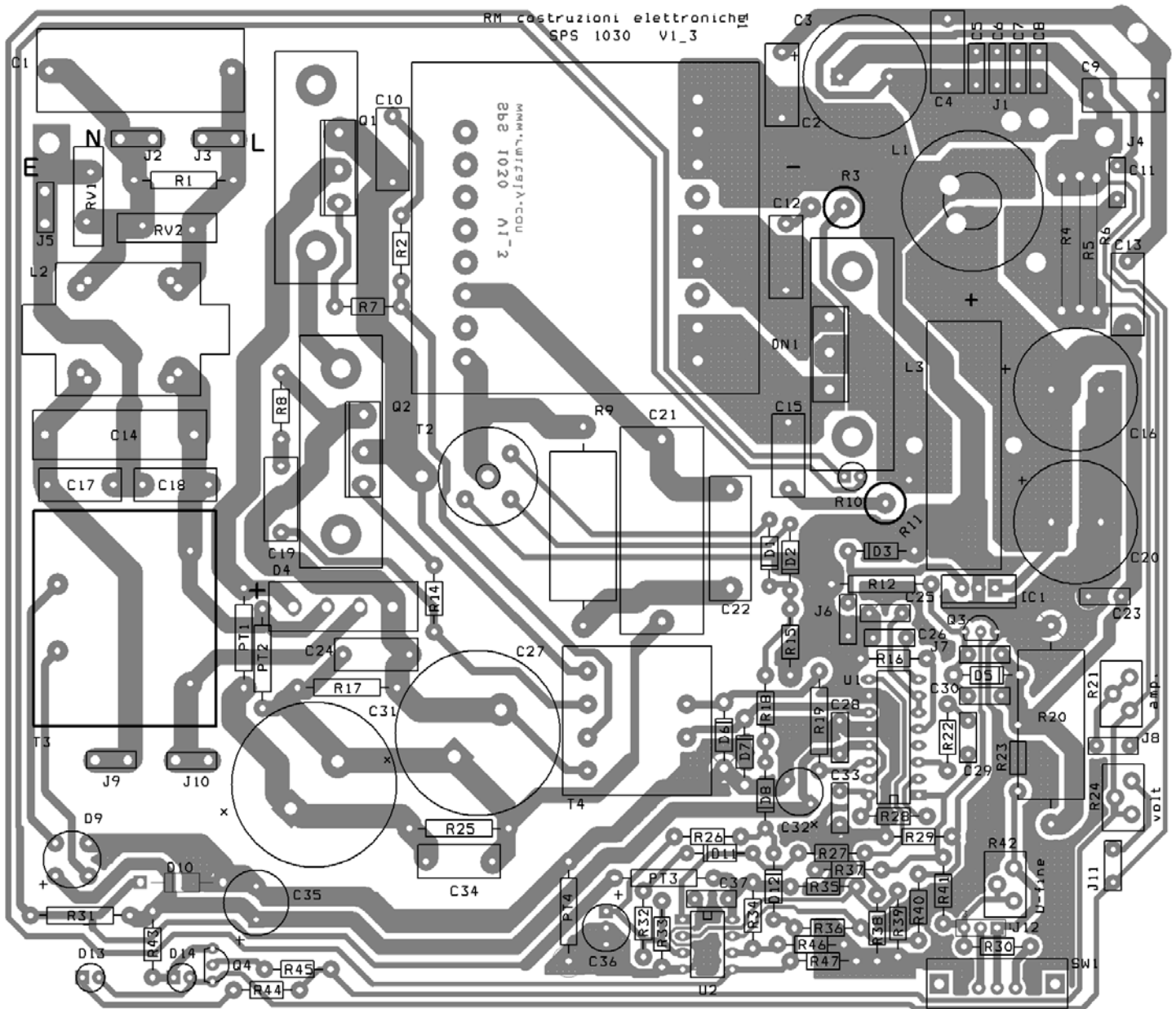


Battery charger and protection circuit



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SPS 1030 VI_3

www.rm.it
892 1020 v1_3

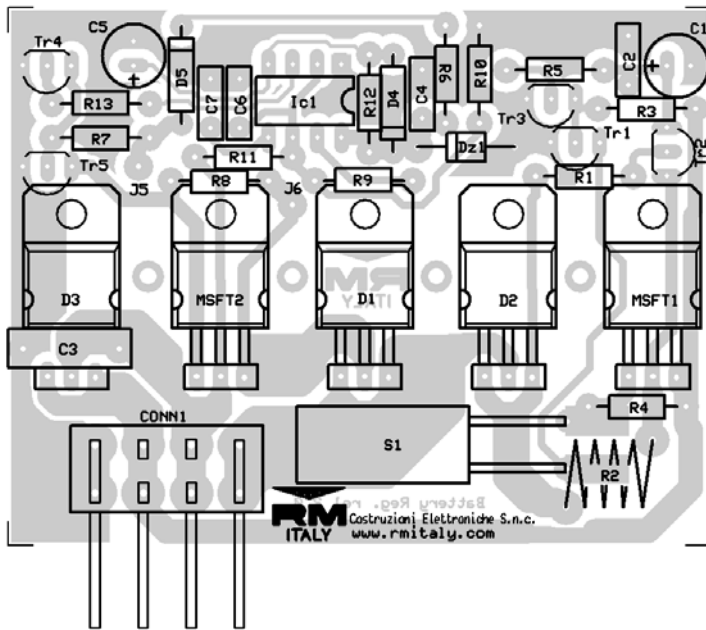


Power supply list of components

C 1 =	680 nF	275 V~ X2
C 2 =	1,0 µF	100 V Polyester
C 3 =	2200 µF	25 V 105 °C
C 4 =	1,0 µF	100 V Polyester
C 5 =	470 pF	50 V Ceramic
C 6 =	100 pF	50 V Ceramic
C 7 =	10 nF	50 V Polyester
C 8 =	100 nF	50 V Polyester
C 9 =	1,0 µF	100 V Polyester
C 10 =	10 nF	630 V
C 11 =	100 nF	50 V Polyester
C 12 =	10 nF	630 V
C 13 =	1,0 µF	100 V Polyester
C 14 =	220 nF	275 V~ X2
C 15 =	10 nF	630 V
C 16 =	2200 µF	25 V 105 °C

C 17 =	10 nF	275 V~ Y
C 18 =	10 nF	275 V~ Y
C 19 =	10 nF	630 V
C 20 =	2200 µF	25 V 105 °C
C 21 =	2,2 µF	250 V Polyester
C 22 =	1,0 nF	3 KV Ceramic
C 23 =	100 nF	50 V Polyester
C 24 =	10 nF	630 V
C 25 =	1,0 nF	50 V Polyester
C 26 =	100 nF	50 V Polyester
C 27 =	680 µF	200 V
C 28 =	100 nF	50 V Polyester
C 29 =	2,2 nF	50 V Polyester
C 30 =	100 nF	50 V Polyester
C 31 =	680 µF	200 V
C 32 =	100 µF	25 V
C 33 =	100 nF	50 V Polyester

C ₃₄ =	10 nF	630 V		PT ₁ =	0 Ω ¼ W
C ₃₅ =	470 µF	25 V		PT ₂ =	Not Present
C ₃₆ =	10 µF	25 V		PT ₃ =	0 Ω ¼ W
C ₃₇ =	100 nF	50 V	Polyester	PT ₄ =	0 Ω ¼ W
R ₁ =	470 KΩ	½ W		RV ₁ =	275 Vac
R ₂ =	220 Ω	¼ W		RV ₂ =	275 Vac
R ₃ =	120 Ω	2 W		D ₁ =	1N 4148
R ₄ =	21 mm Ø 1 mm resistive wire			D ₂ =	1N 4148
R ₅ =	21 mm Ø 1 mm resistive wire			D ₃ =	Not Present
R ₆ =	21 mm Ø 1 mm resistive wire			D ₄ =	KBU 808
R ₇ =	47 Ω	¼ W		D ₅ =	1N 4007
R ₈ =	220 Ω	¼ W		D ₆ =	1N 5819
R ₉ =	1,0 KΩ	5 W		D ₇ =	1N 5819
R ₁₀ =	4,7 KΩ	NTC		D ₈ =	1N 4148
R ₁₁ =	120 Ω	2 W		D ₉ =	W02 M
R ₁₂ =	68 Ω	2 W		D ₁₀ =	Zener 10V 1W
R ₁₄ =	47 Ω	¼ W		D ₁₁ =	1N 4148
R ₁₅ =	330 Ω	¼ W		D ₁₂ =	1N 4148
R ₁₆ =	15 KΩ	¼ W		D ₁₃ =	Led Green
R ₁₇ =	47 KΩ	2 W		D ₁₄ =	Led Red
R ₁₈ =	1 KΩ	¼ W		DN ₁ =	BYW 99P
R ₁₉ =	47 Ω	1 W		Q ₁ =	IRFP 450
R ₂₀ =	56 Ω	5 W		Q ₂ =	IRFP 450
R ₂₁ =	not present			Q ₃ =	BC 337-25
R ₂₂ =	4,7 KΩ	¼ W		Q ₄ =	BC 337-25
R ₂₃ =	1,8 KΩ	¼ W		U ₁ =	UC 3825
R ₂₄ =	not present			U ₂ =	LM358N
R ₂₅ =	47 KΩ	2 W		T ₁ =	TrasfPot 1030
R ₂₆ =	1,0 KΩ	¼ W		T ₂ =	Sens. Corr
R ₂₇ =	4,7 KΩ	¼ W		T ₃ =	230V-12V 2.3VA
R ₂₈ =	3,3 KΩ	¼ W		T ₄ =	TrasfPil 1030
R ₂₉ =	1,0 KΩ	¼ W		L ₁ =	2 x 100 µH ANRA 717/1
R ₃₀ =	not present			L ₂ =	5,5 mH
R ₃₁ =	47 Ω	1 W		L ₃ =	10 µH 30 A ANRA 716
R ₃₂ =	1,0 KΩ	¼ W		IC ₁ =	Not Present
R ₃₃ =	15 KΩ	¼ W		SW ₁ =	Not Present
R ₃₄ =	3,3 KΩ	¼ W			
R ₃₅ =	2,2 KΩ	¼ W			
R ₃₆ =	2,2 KΩ	¼ W			
R ₃₇ =	3,3 KΩ	¼ W			
R ₃₈ =	1,0 KΩ	¼ W			
R ₃₉ =	4,7 KΩ	¼ W			
R ₄₀ =	1,0 KΩ	¼ W			
R ₄₁ =	220 Ω	¼ W			
R ₄₂ =	4,7 KΩ	Trimmer			
R ₄₃ =	1,0 KΩ	¼ W			
R ₄₄ =	1,0 KΩ	¼ W			
R ₄₅ =	2,2 KΩ	¼ W			
R ₄₆ =	2,2 KΩ	¼ W			
R ₄₇ =	1,0 KΩ	¼ W			

MSFT₁ = IRF 5305MSFT₂ = IRF 5305Ic₁ = LM 555S₁ = Thermostat 80 °C

Battery charger and protection

C₁ = 100 μF 25 VC₂ = 100 nF 63 V PolyesterC₃ = 100 nF 250 V PolyesterC₄ = 100 nF 63 V PolyesterC₅ = 47 μF 25 VC₆ = 100 nF 63 V PolyesterC₇ = 1,0 nF 63 V PolyesterR₁ = 470 Ω ¼WR₂ = 5 turns φ 6 mm resistive wireR₃ = 10 KΩ ¼WR₄ = 10 KΩ ¼WR₅ = 2,2 KΩ ¼WR₆ = 150 Ω ¼WR₇ = 10 KΩ ¼WR₈ = 10 KΩ ¼WR₉ = 1,2 KΩ ¼WR₁₀ = 2,2 KΩ ¼WR₁₁ = 2,2 KΩ ¼WR₁₂ = 2,2 KΩ ¼WR₁₃ = 10 KΩ ¼WD₁ = MBR 2545 CTD₂ = MBR 2545 CTD₃ = MBR 2545 CTD₄ = 1N4148D₅ = 1N4148DZ₁ = Zener 7,5 V 1,3WTr₁ = BC 337Tr₂ = BC 327Tr₃ = BC 337Tr₄ = BC 337Tr₅ = BC 337