



PJ1000LIGHT

TECHNICAL ANNEX
VOLUME 2



Appendix A Piani di montaggio, schemi elettrici, liste componenti / Component layouts, schematics, bills of material

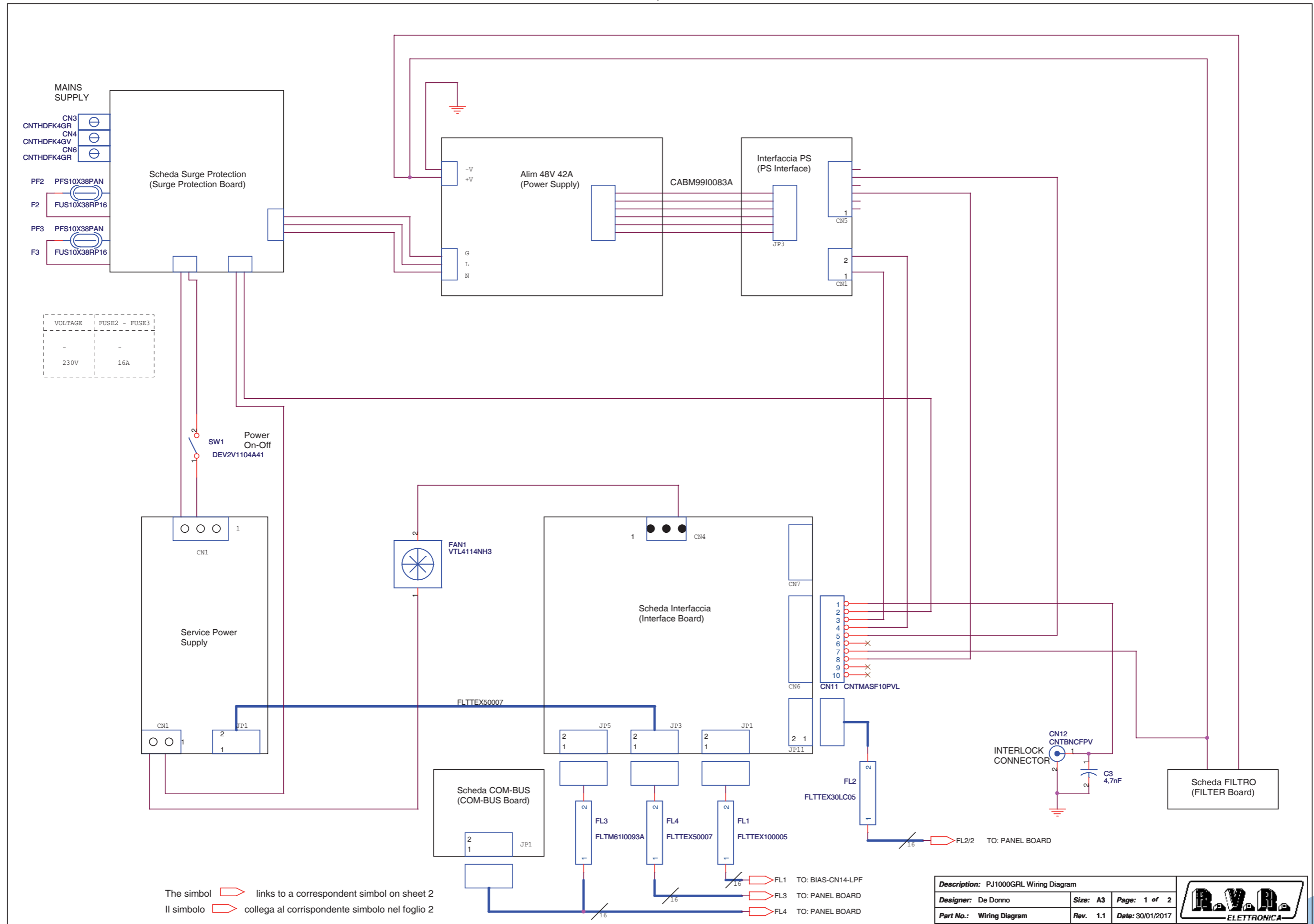
Questa parte del manuale contiene i dettagli tecnici riguardanti la costruzione delle singole schede componenti il PJ1000LIGHT. L'appendice è composta dalle seguenti sezioni:

This part of the manual contains the technical details about the different Cards of the PJ1000LIGHT. This appendix is composed of the following sections:

Description	PJ1000LIGHT RVR Code	Vers.	Page
Wiring Diagram	/	1.1	1
PWR Input Measure Card	SLMPIPPJ1KC	1.7	3
Splitter Card	SLSITEX500L1	1.0	5
R.F. Card	SL237RF4001	1.6	7
Combiner Card	SLCM0374R01V01	1.0	10
LPF Card	SLLPFTEX2K5	1.2	12
Surge Protection Card	SLSRGPRPJ1KM	1.2	15
Power Supply Interface Card	SLIN0396R01V01	1.1	18
Power Supply	PSSWRSP2000-48	1.0	20
Service Power Supply	PSSWFPP120S24	1.0	23
COM-BUS Interface	SLIN0380R01V01	1.0	25
Fuse Card	SLFUSTEX1K6LG	1.2	27
Panel Card	SLPC0436R01V04	1.1	29
BIAS Card	SLBIASTEX2K	1.7	32
Interface Card	SL010IN5003	1.8	36
Pass Through Card	SLFILPJ1KM	2.1	39
Filter Card	SLFIPAS4R01V01	1.0	41
Directional Coupler Card	SLDC0375R01V01	1.2	43
Telemetry Card	SLTLMTXLCH01	1.0	45
Service PS Card	SLPS0482R02V04	1.0	47
Switching PS Card	SLPS0520R01V01	1.0	49

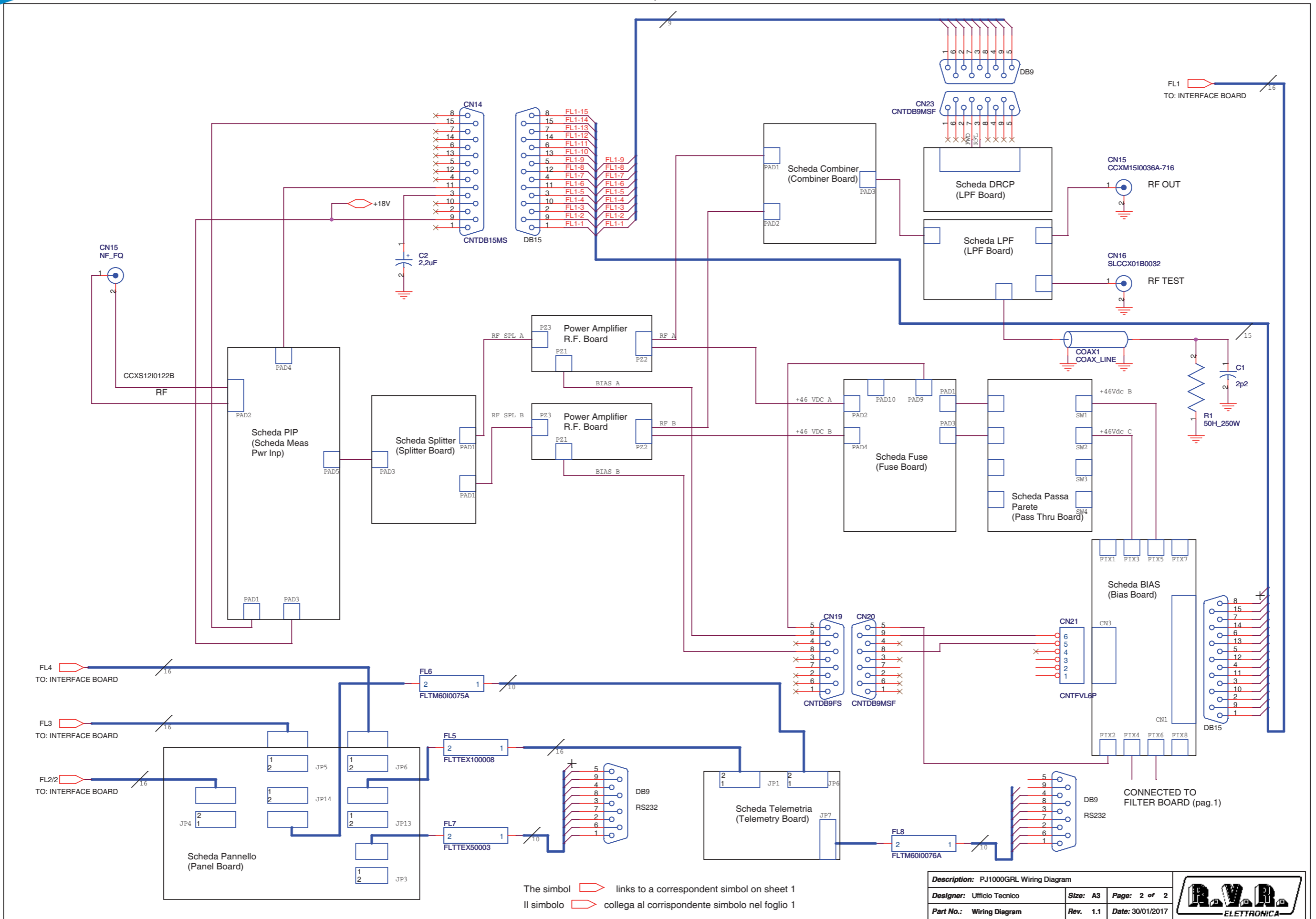
Document History

Date	Version	Reason	Code	Editor
29/07/2022	2.0	Second Release	/	J.H. Berti



Description: PJ1000GRL Wiring Diagram		
Designer: De Donno	Size: A3	Page: 1 of 2
Part No.: Wiring Diagram	Rev.: 1.1	Date: 30/01/2017

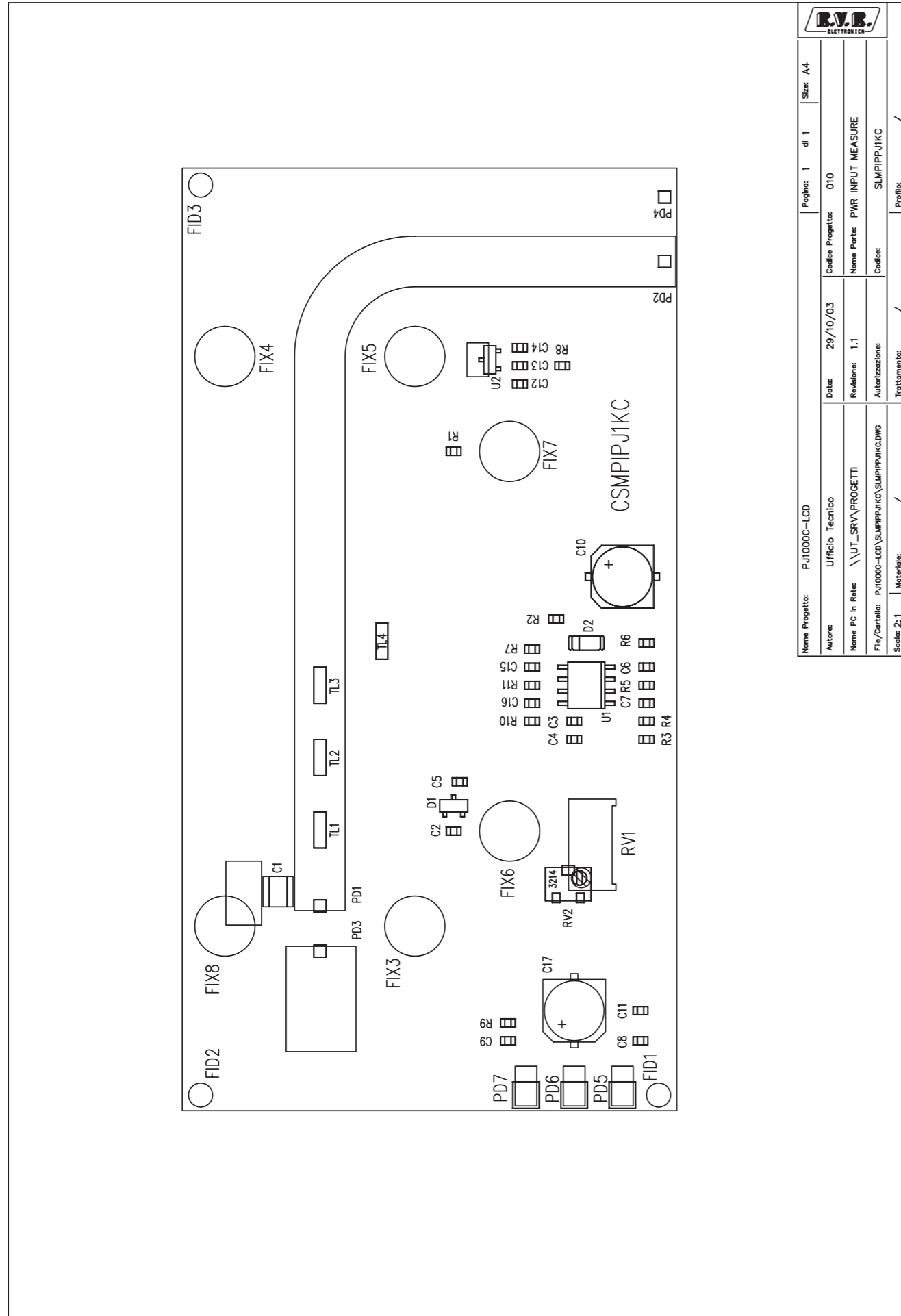




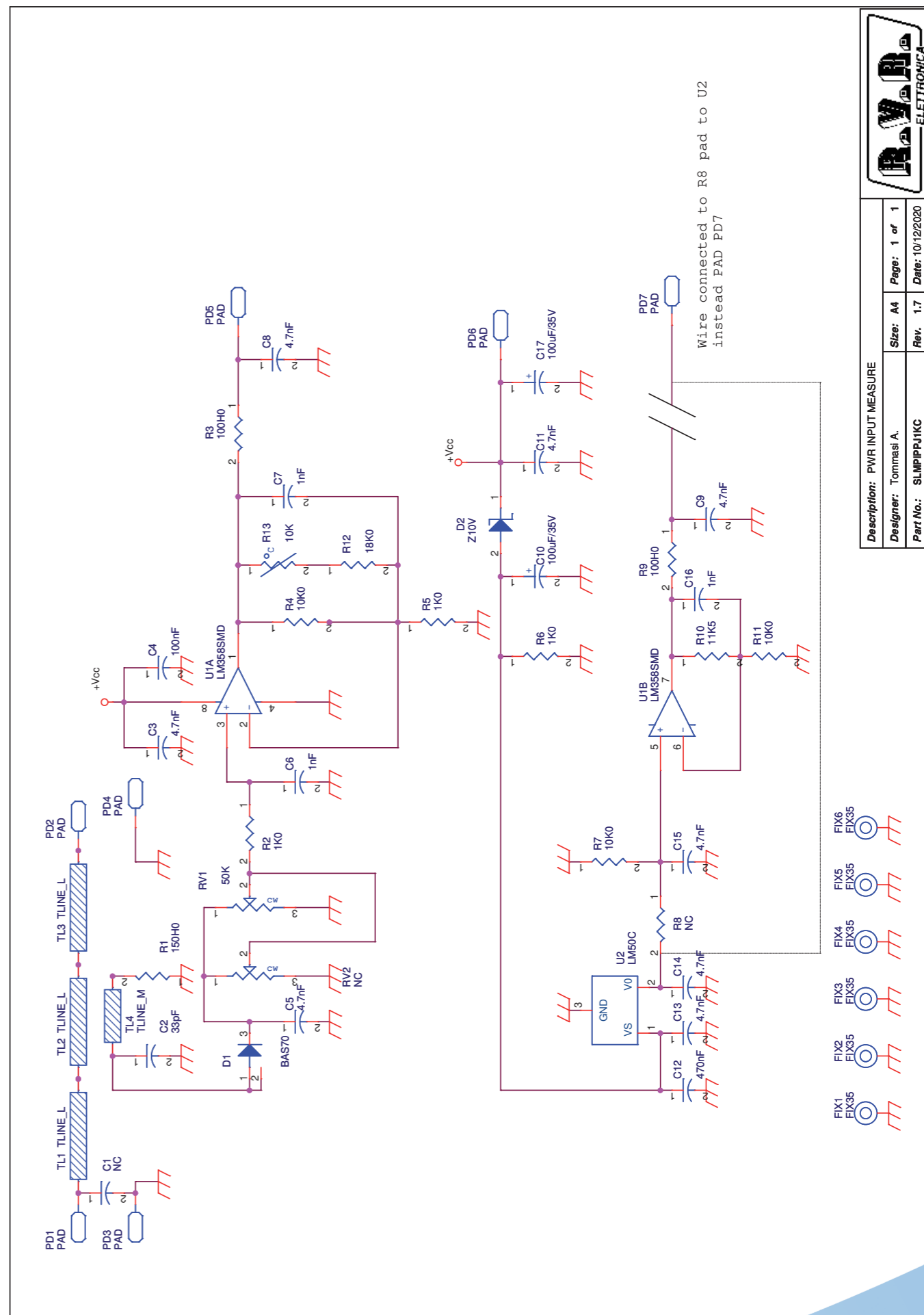
The simbol links to a correspondent simbol on sheet 1
 Il simbolo collega al corrispondente simbolo nel foglio 1

Description: PJ1000GRL Wiring Diagram			
Designer: Ufficio Tecnico	Size: A3	Page: 2 of 2	
Part No.: Wiring Diagram	Rev. 1.1	Date: 30/01/2017	

SLMIPPJ1KC



Nome Progetto:	PJ1000-LCD	Pagina:	1	d 1	Size:	A4
Autore:	Ufficio Tecnico	Data:	29/10/03	Codice Progetto:	010	
Nome PC in Rete:	\\UT_SRV\PROGETTI	Revisione:	1.1	Nome Parte:	PWR INPUT MEASURE	
File/Cartella:	PJ1000-LCD\SLMIPPJ1KC\SLMIPPJ1KC.DWG	Autorizzazione:	/	Codice:	SLMIPPJ1KC	
Scale:	2:1	Trattamento:	/	Profilo:	/	



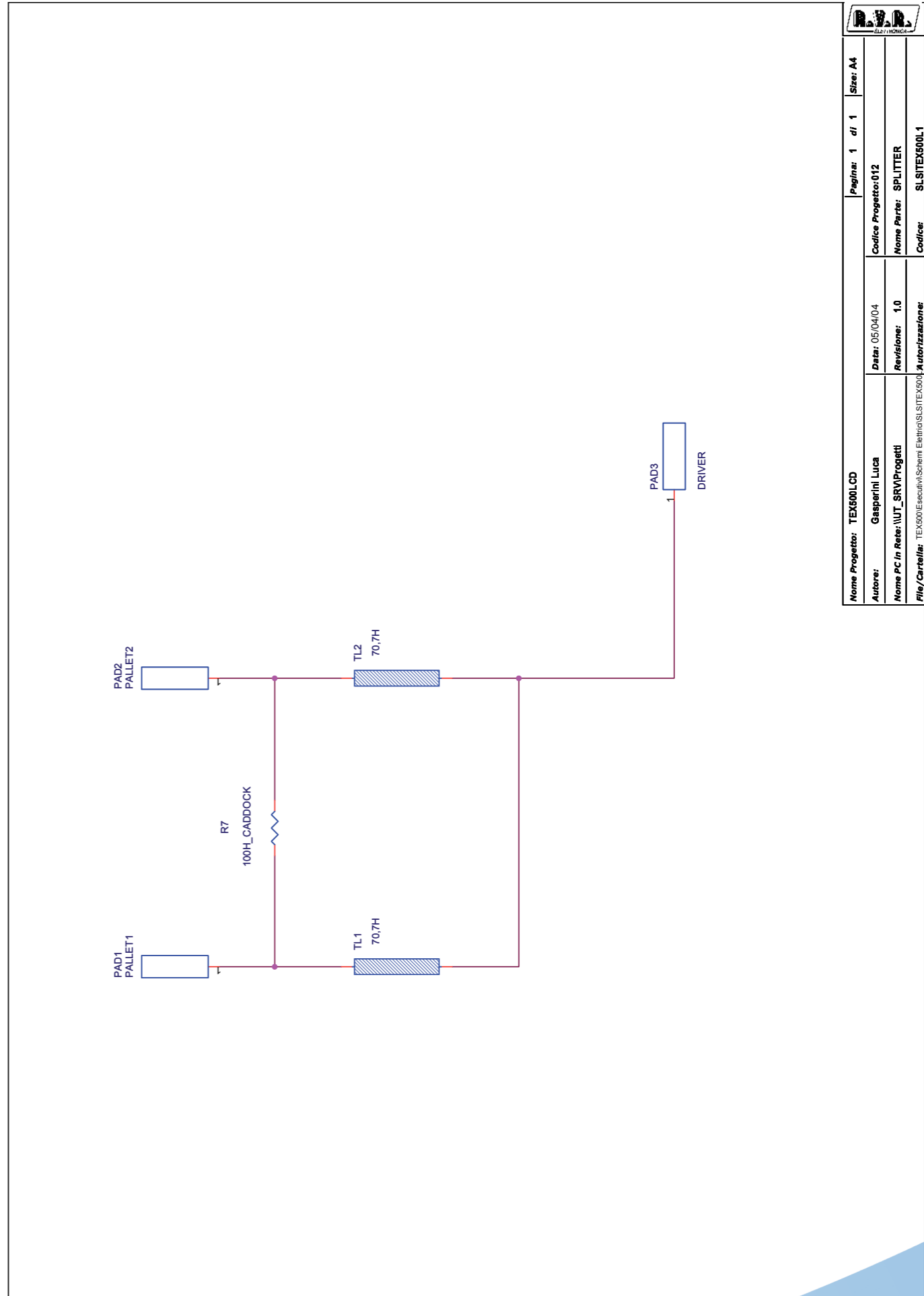
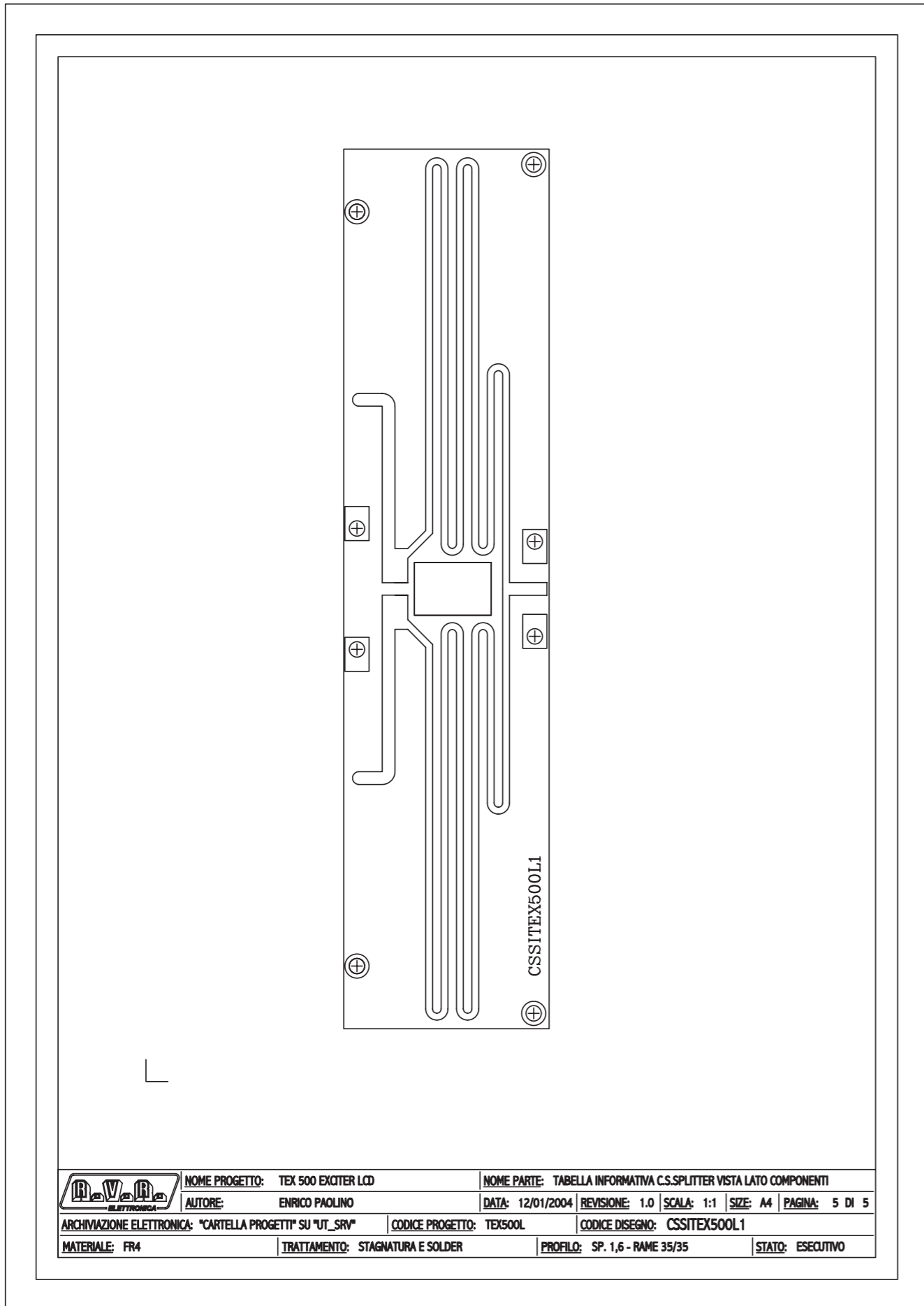
Description: PWR INPUT MEASURE	
Designer: Tommasi A.	Size: A4
Part No.: SLMIPPJ1KC	Page: 1 of 1
	Rev. 1.7
	Date: 10/12/2020

SLMIPPJ1KC

PWR INPUT MEASURE Revised: Thursday, December 10, 2020
 SLMIPPJ1KC Revision: 1.7
 Tommasi A.

Item	Quantity	Reference	Part	Description
1	1	C1	NC	1212 HQ SMD capacitor
2	1	C2	33pF	0805 SMD capacitor
3	8	C3, C5, C8, C9, C11, C13, C14, C15	4.7nF	0805 SMD capacitor
4	1	C4	100nF	0805 SMD capacitor
5	3	C6, C7, C16	1nF	0805 SMD capacitor
6	2	C10, C17	100uF/35V	SMD electr. cap. 6.3mm
7	1	C12	470nF	0805 SMD capacitor
8	1	D1	BAS70	SMD diode SOT23
9	1	D2	Z10V	MINIMELF SMD Zener Diode
10	6	FIX1, FIX2, FIX3, FIX4, FIX5, FIX6	FIX35	3.5mm Fixing hole
11	7	PD1, PD2, PD3, PD4, PD5, PD6, PD7	PAD	SMD pad
12	1	RV1	50K	Trimmer Rg V 3296W
13	1	RV2	NC	Trimmer SMD V 3314
14	1	R1	150H0	0805 SMD res.
15	3	R2, R5, R6	1K0	0805 SMD res.
16	2	R3, R9	100H0	0805 SMD res.
17	3	R4, R7, R11	10K0	0805 SMD res.
18	1	R8	NC	0805 SMD res.
19	1	R10	11K5	0805 SMD res.
20	1	R12	18K0	0805 SMD res.
21	1	R13	10K	NTC resistor SMD 0805
22	1	TL1, TL2, TL3	TLINE_L	
23	3	TL4	TLINE_M	
24	1	U1	LM358SMD	Dual Op. SMD SO8
25	1	U2	LM50C	Temperature sensor

SLSITEX500L1

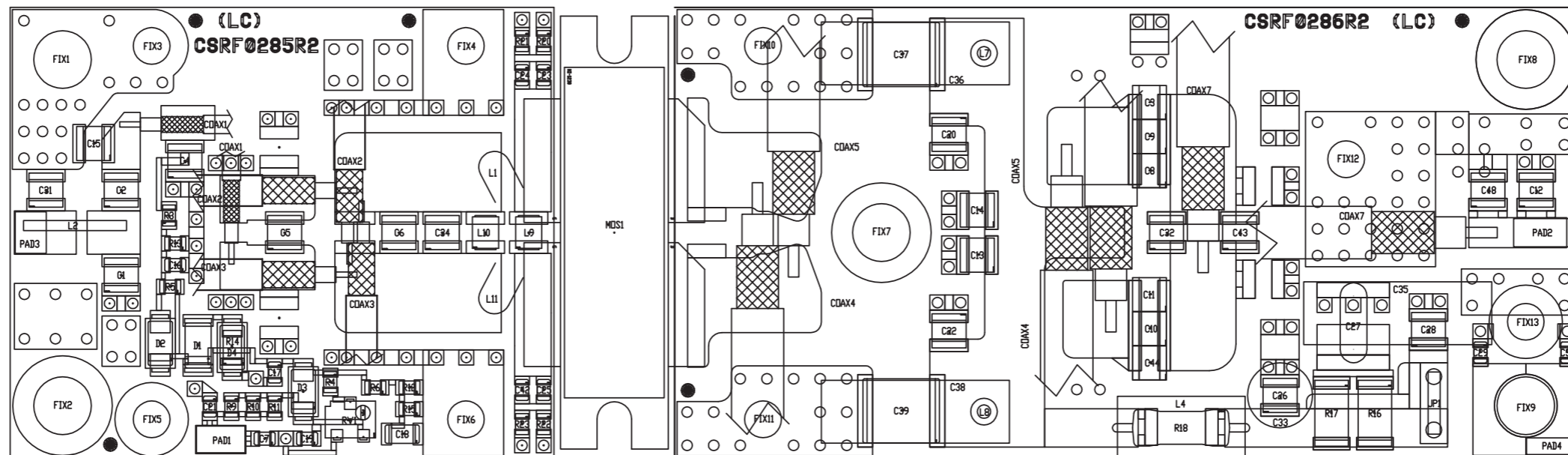


Nome Progetto: TEX500LCD		Pagina: 1	di 1	Size: A4
Autore: Gasperini Luca		Codice Progetto: 012		
Nome P.C. in Rete: \UT_SRV\Progetti		Data: 05/04/04	Nome Parte: SPLITTER	
File/Cartella: TEX500\Esecutivi\Schemi Elettro\SLSITEX500L1		Revisione: 1.0	Codice: SLSITEX500L1	

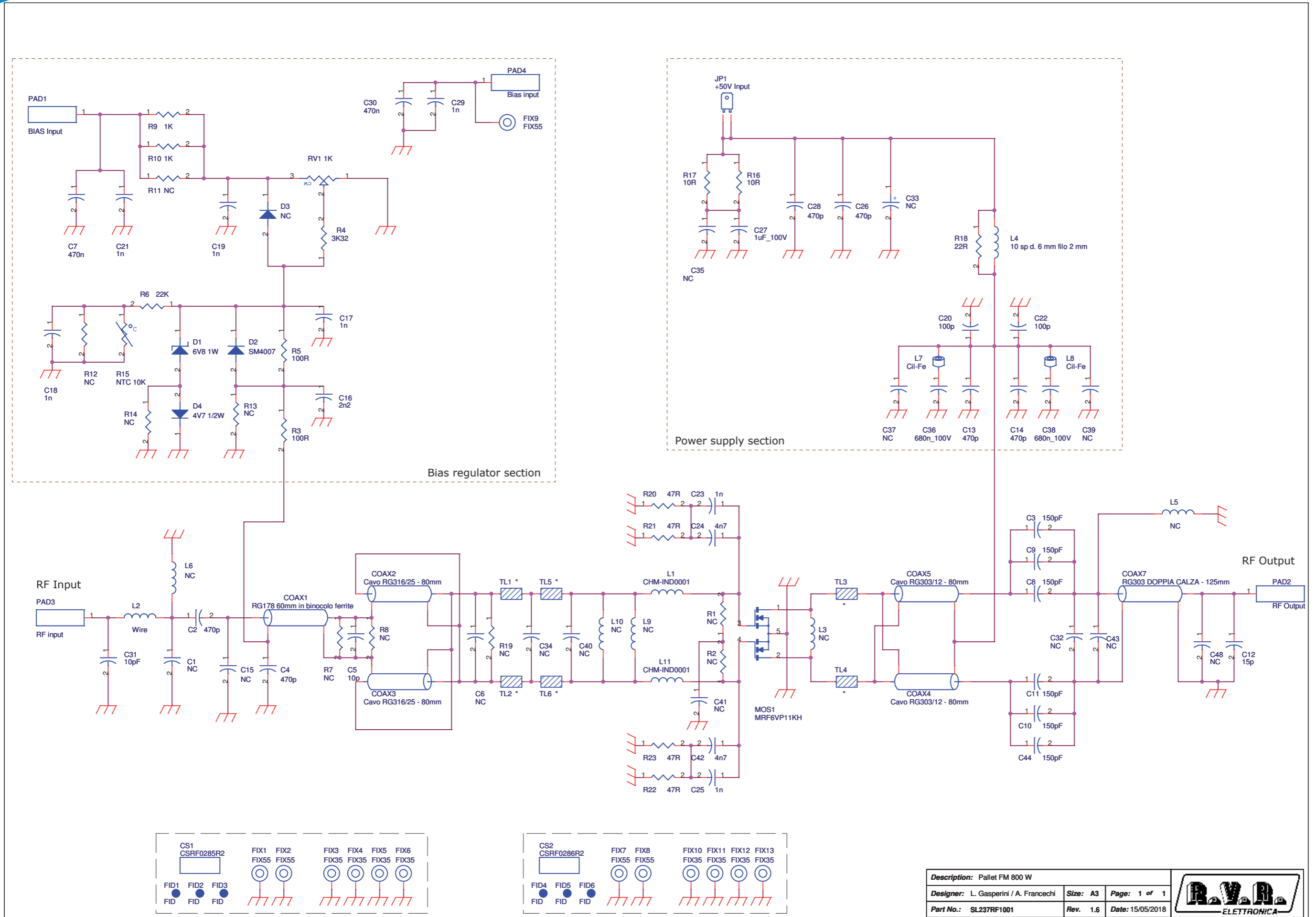
SLSITEX500L1

SPLITTER Revised: 05/04/04
SLSITEX500L1 Revision: 1.0
TEX500LCD
12
Gasperini Luca

Item	Quantity	Reference	Part	Description
1	1	PAD1	PALLET1	
2	1	PAD2	PALLET2	
3	1	PAD3	DRIVER	
4	1	R7	100H_CADDOCK	
5	2	TL1, TL2	70,7H	



	NOME PROGETTO: EXCITER HIGH EFFICIENTY	NOME PARTE: PALLET FM 800 W			
	AUTORE: GASPERINI / TOMMASI	DATA: 21/05/2014	REVISIONE: 1.2	SCALA: 2:1	SIZE: A3
ARCHIVIAZIONE ELETTRONICA: "CARTELLA RILASCIATI" SU "UTSRV"		CODICE PROGETTO: 237	CODICE DISEGNO: SL237RF1001		
MATERIALE: <>	TRATTAMENTO: <>	PROFILO: <>	STATO: ESECUTIVO		



Description: Pallet FM 800 W		
Designer: L. Gasperini / A. Francechi	Size: A3	Page: 1 of 1
Part No.: SL237RF1001	Rev. 1.6	Date: 15/05/2018

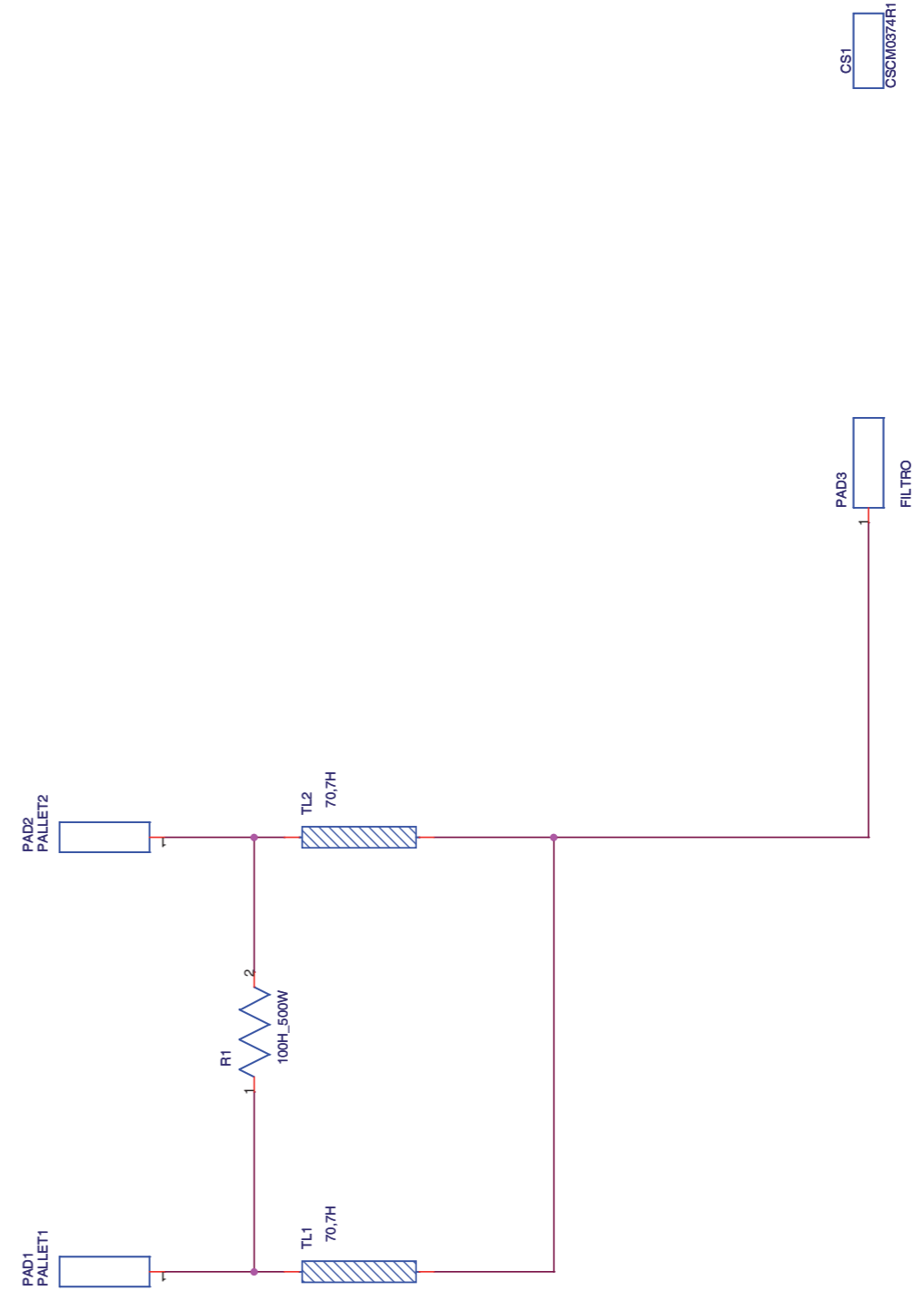
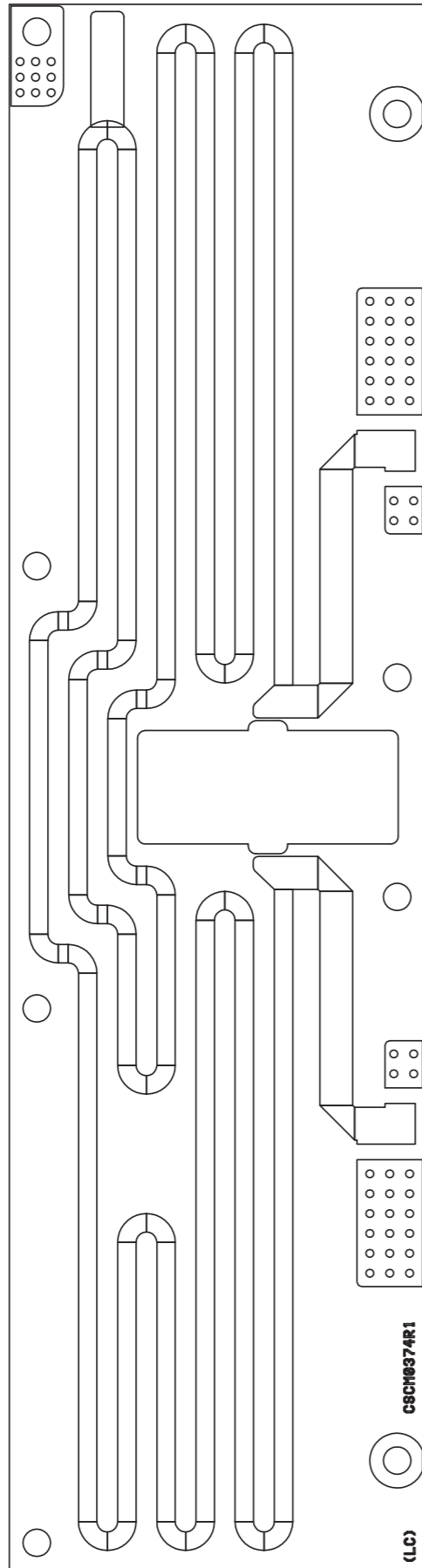


SL237RF4001

PALLET FM 800 W Revised: 15/05/2018
 SL237RF1001 Revision: 1.6
 L. Gasperini / A. Franceschi

Item	Quantity	Reference	Part	(description)
1	1	COAX1	RG178 60mm in binocolo ferrite	Cavo RG178 60mm calza/calza in binocolo ferrite (73mm tot.)
2	2	COAX2, COAX3	Cavo RG316/25 - 80mm	Cavo RG316/25 80mm calza/calza (91mm tot.)
3	2	COAX5, COAX4	Cavo RG303/12 - 80mm	Cavo RG303/12 80mm calza/calza (98mm tot.)
4	1	COAX7	RG142 DOPPIA CALZA - 125mm	Cavo RG142 125mm calza/calza (147mm tot.) Vedi Info COAX7.pdf
5	1	CS1	CSRF0285R2	Circuito stampato
6	1	CS2	CSRF0286R2	Circuito stampato
7	1	C1	NC	Cond. SMD 0805
8	2	C2, C4	470p	Cond. SMD 1212 HQ
9	4	C13, C14, C26, C28	470p	Cond. SMD 1212 HQ
10	1	C30	470n	Cond. SMD 0805
11	2	C5, C31	22p	Cond. SMD 1212 HQ
12	2	C7	470n	Cond. SMD 0805
13	6	C3, C44, C8, C9, C10, C11	150pF	Cond. SMD 1212 HQ
14	1	C12	15p	Cond. SMD 1212 HQ
15	6	C15, C32, C34, C40, C43, C48, C6	NC	Cond. SMD 1212 HQ
16	1	C16	2n2	Cond. SMD 0805 COG
17	5	C17, C19, C21, C23, C25	1n	Cond. SMD 0805
18	1	C18	1n	Cond. SMD 1206
19	2	C22, C20	100p	Cond. SMD 1212 HQ
20	2	C42, C24	4n7	Cond. SMD 0805
21	1	C27	1uF_100V	Cond. multistrato p 5mm
22	1	C29	1n	Cond. SMD 0805
23	3	C36, C38	680n_100V	Cond. Poliestere p 10mm
24	2	C37, C39	NC	Cond. Poliestere p 15mm
25	1	C41	NC	Cond. multistrato p 5mm
26	1	D1	6V8 1W	MELF SMD Zener Diode
27	1	D2	SM4007	Diode SMD cont. SMA
28	1	D3	NC	Diode SMD cont. SMA
29	1	D4	4V7 1/2W	MELF SMD Zener Diode
30	6	FID1, FID2, FID3, FID4, FID5, FID6	FID	Fiducial CS
31	5	FIX1, FIX2, FIX7, FIX8, FIX9	FIX55	Foro fissaggio 5.5mm
32	8	FIX3, FIX4, FIX5, FIX6, FIX10, FIX11, FIX12, FIX13	FIX35	Foro fissaggio 3.5mm
33	1	JP1	+50V Input	Faston da CS p. 5.08
34	2	L11, L1	CHM-IND0001	Printed link on copper
35	1	L2	Wire	Filo R. Arg. 1mm lung. 10mm
36	1	L3	NC	
37	1	L4	10 sp d. 6 mm filo 2 mm	10spire filo R. Small. 2mm Avvolte su 6mm includente R18 all'interno
38	2	L5, L9	NC	
39	1	L6	NC	
40	2	L7, L8	Cil-Fe	Cilindretto di ferrite
41	1	L10	NC	Ind. SMD 1008
42	1	MOS1	MRF6VP11KH	PP Power mosfet RF
43	2	PAD4, PAD1	BIAS Input	
44	1	PAD2	RF Output	
45	1	PAD3	RF input	
46	1	RV1	1K	Trimm. multi SMD PVG5 Murata
47	5	R1, R2, R7, R8, R19	NC	Res. 2W
48	2	R3, R5	100R	Res. SMD 0805 1%
49	1	R4	3K32	Res. SMD 0805 1%
50	1	R6	22K	Res. SMD 0805 1%
51	2	R10, R9	1K	Res. SMD 0805 1%
52	3	R11, R12, R13	NC	Res. SMD 0805 1%
53	1	R14	NC	Res. SMD 1206 1%
54	1	R15	NTC 10K	Res. NTC SMD 0805
55	2	R17, R16	10R	Res. SMD 2512 5%
56	1	R18	22R	Res. 2W
57	4	R20, R21, R22, R23	47R	Res. SMD 0805 1%
58	6	TL1, TL2, TL3, TL4, TL5, TL6	*	Linea strip CS
59	1		Ferrite balun	Ferrite balun

SLCM0374R01V01



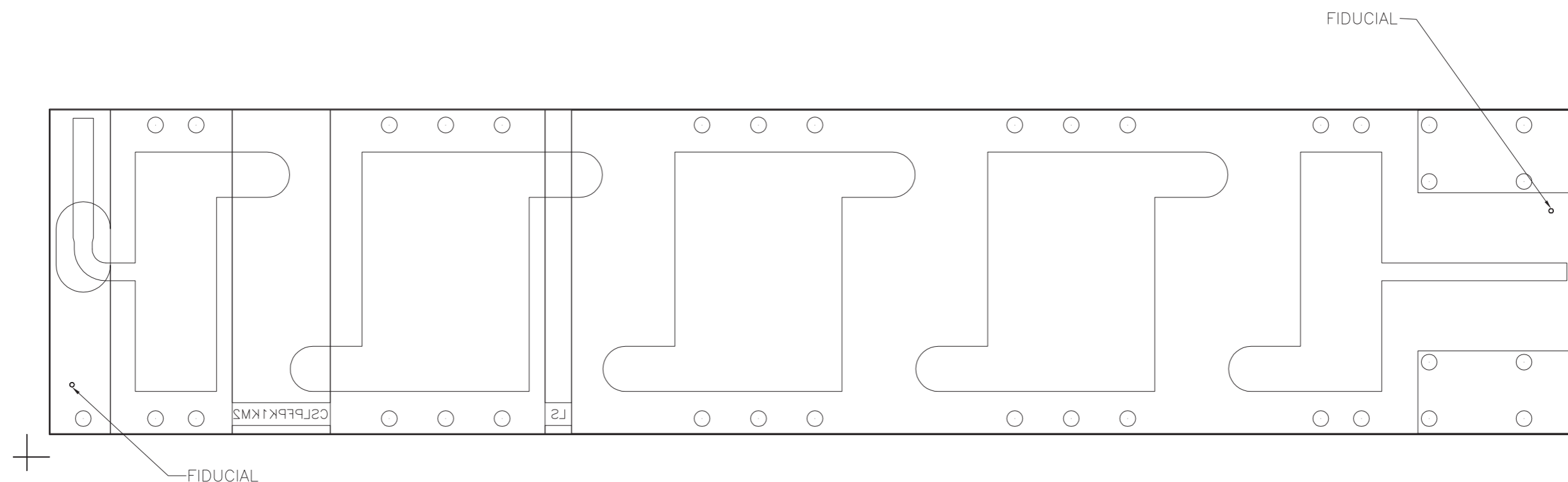
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Autore: Gasparini Luca		Codice Progetto: 240		
Nome PC in Rete: \\RVUTR\luca		Data: 20/11/2012		
File/Cartella: \		Revisione: 1.0	Nome Parte: COMBINER	
		Autorizzazione:		Codice: SLCM0374R01V01

SLCM0374R01V01

COMBINER Revised: 20/11/2012
 SLCM0374R01V01 Revision: 1.0
 TEX/PJ 1600LIGHT
 240
 Gasperini Luca

Item	Quantity	Reference	Part	Description
1	1	PAD1	PALLET1	
2	1	PAD2	PALLET2	
3	1	PAD3	FILTRO	
4	1	R1	100H_500W	Resistenza KDI 2 fix
5	2	TL1, TL2	70,7H	Linea strip CS
6	1	CS1	CSCM0374R1	Circuito Stampato

REF	Q.TA	DIAM	TRATTAMENTO
○	35	3.50	NESSUNO

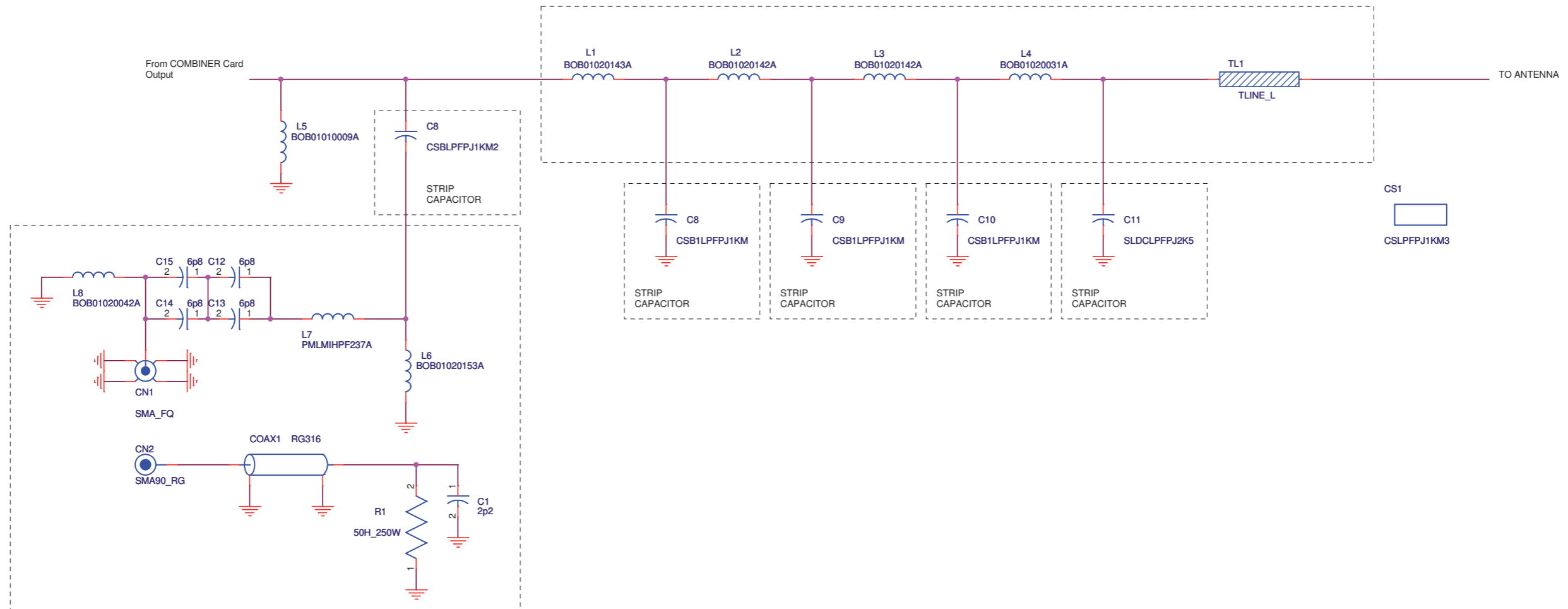
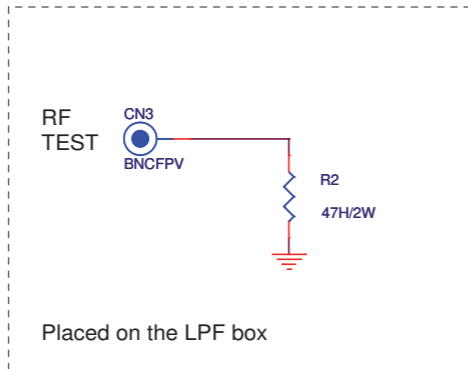


LATO COMPONENTI VISTA LATO COMPONENTI
 LATO SALDATURA VISTA LATO COMPONENTI
 PIANO DI FORATURA
 BORDO SCHEDA

Dimensioni del C.S.: 339.50x72.00mm

1.1 27/03/06 D.Miladinovic		L.Gasperini		N31 CMP/04 Aggiunta asola 12x20 sul lato saldature	
		DENOMINAZIONE Circuito Stampato Filtro Passa Basso			
		DISPOSITIVO PJ1000M (1000W Mos-Fet Amplifier)			
MATERIALE		Diclad 527 Doppia Faccia Sp. 1.6mm Rame 70/70		DISEGNATO D'Alessio D. li 07/04/2001	
TRATTAMENTO		Argentatura		DISEGNO CSLPPFJ1KM2	
		SCALA 1:1		TAVOLA n 1 di 1	

SLLPFTEX2K5



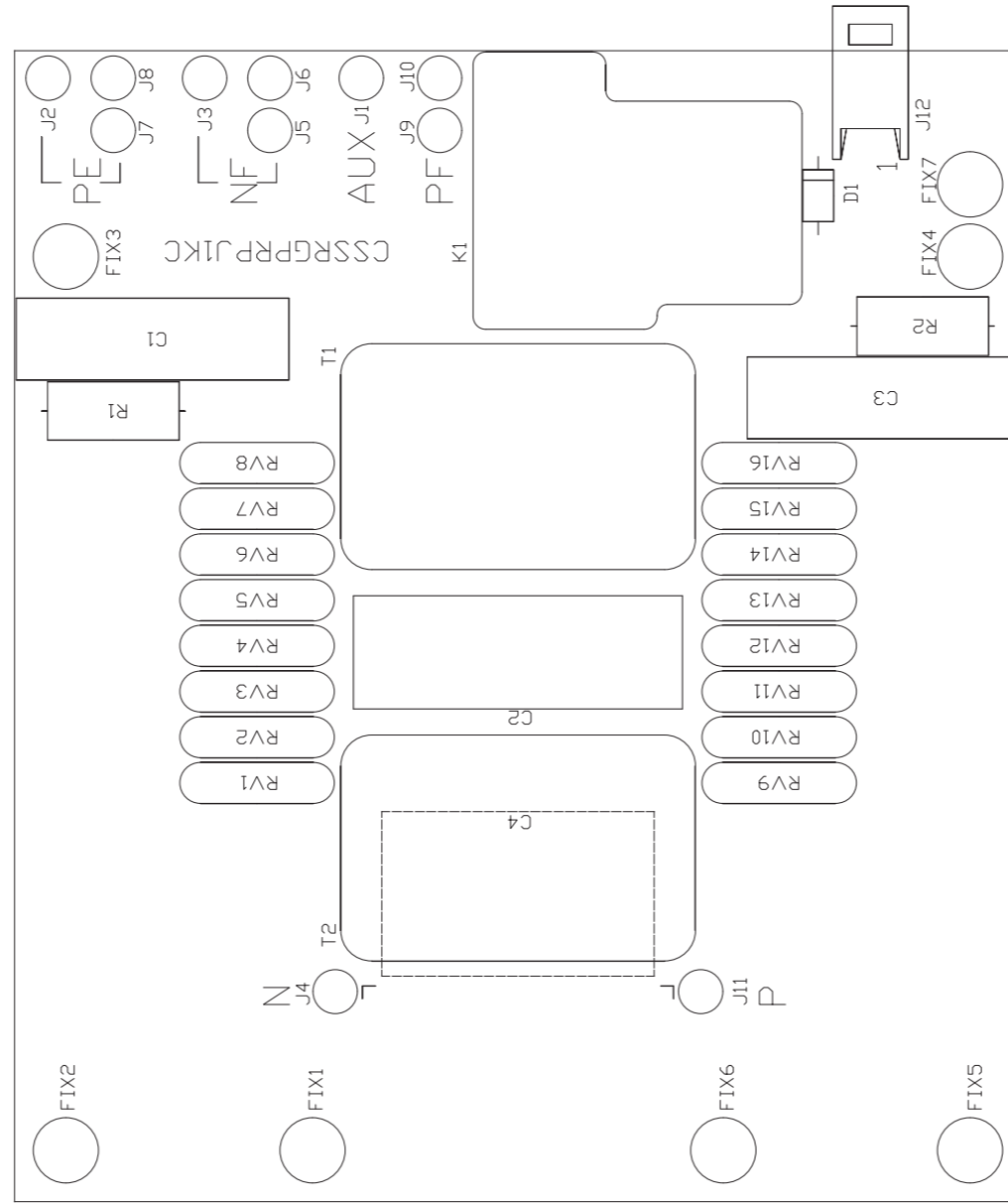
Description: Low Pass Filter			
Designer: Franceschi A.	Size: A3	Page: 1 of 1	
Part No.: SLLPFTEX2K5	Rev. 1.2	Date: 21/05/2013	

SLLPFTEX2K5

Low Pass Filter Revised: Tuesday, May 21, 2013
 SLLPFTEX2K5 Revision: 1.2
 Franceschi A.

Item	Quantity	Reference	Part	Description
1	1	CN1	SMA_FQ	
2	1	CN2	SMA90_RG	
3	1	CN3	BNCFPV	
4	1	COAX1	RG316	
5	1	CS1	CSLPFPJ1KM3	
6	1	C1	2p2	
7	1	C8	CSBLPFPJ1KM2	
8	3	C8, C9, C10	CSB1LPFPJ1KM	
9	1	C11	SLDCLPFPJ2K5	
10	4	C12, C13, C14, C15	6p8	
11	1	L1	BOB01020143A	
12	2	L2, L3	BOB01020142A	
13	1	L4	BOB01020031A	
14	1	L5	BOB01010009A	
15	1	L6	BOB01020153A	
16	1	L7	PMLMIHPF237A	
17	1	L8	BOB01020042A	
18	1	R1	50H_250W	
19	1	R2	47H/2W	
20	1	TL1	TLINE_L	

SLSRGPRPJ1KM



PRODUCT NAME : TEX-TFT

PART NAME : SURGE PROTECTION CARD

DESIGNER : FRANCESCHI A.

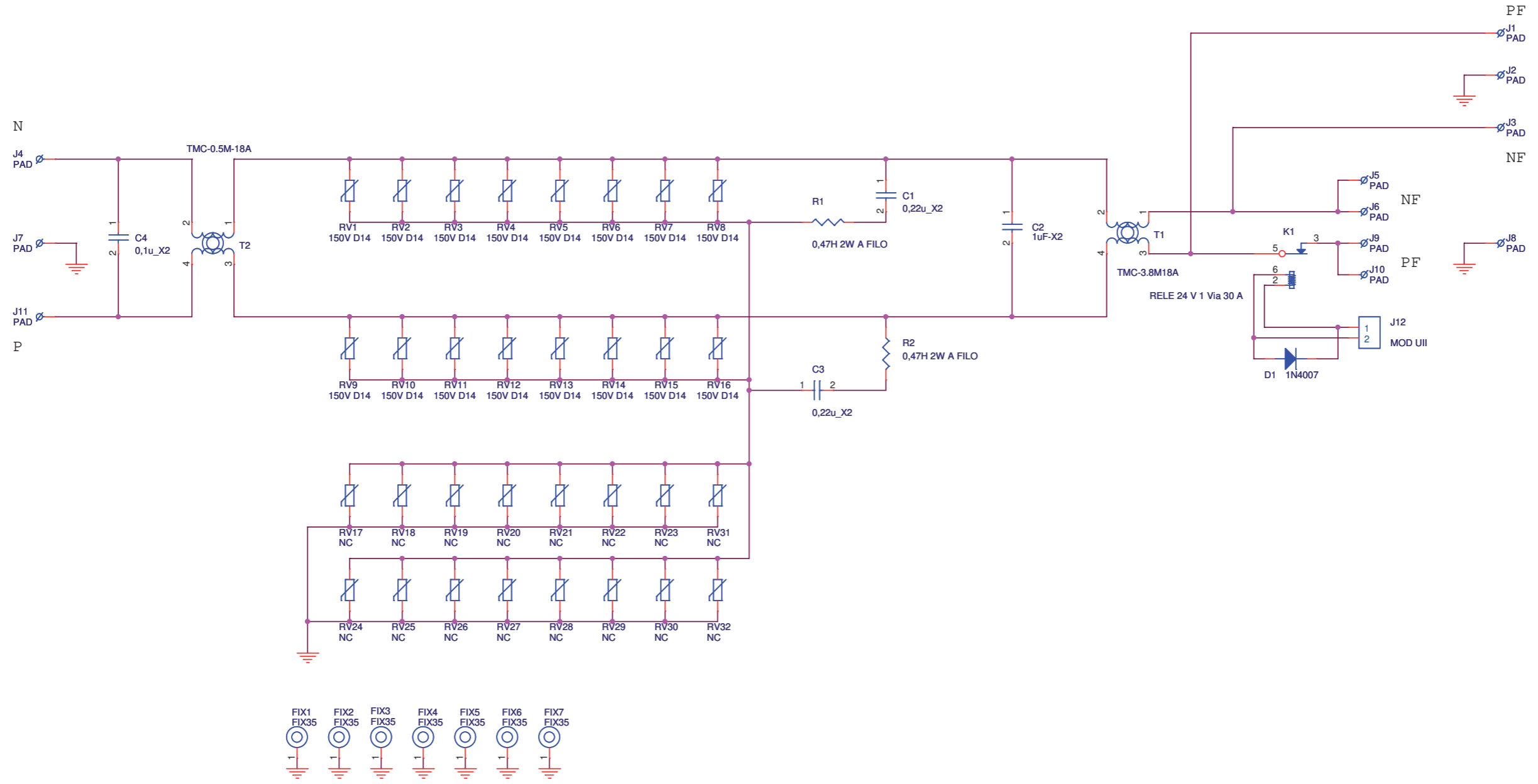
DATE : 22/11/05 | REVISION : 1.2 | SCALE : 1:1 | SIZE : A4 | PAGE : 1 | DI 1

ARCHIVING : "RVUT" SERVER, "RILASCIATI" FOLDER

PROJECT CODE : 252

DOCUMENT CODE : SLSRGPRPJ1KM

SLSRGPRPJ1KM



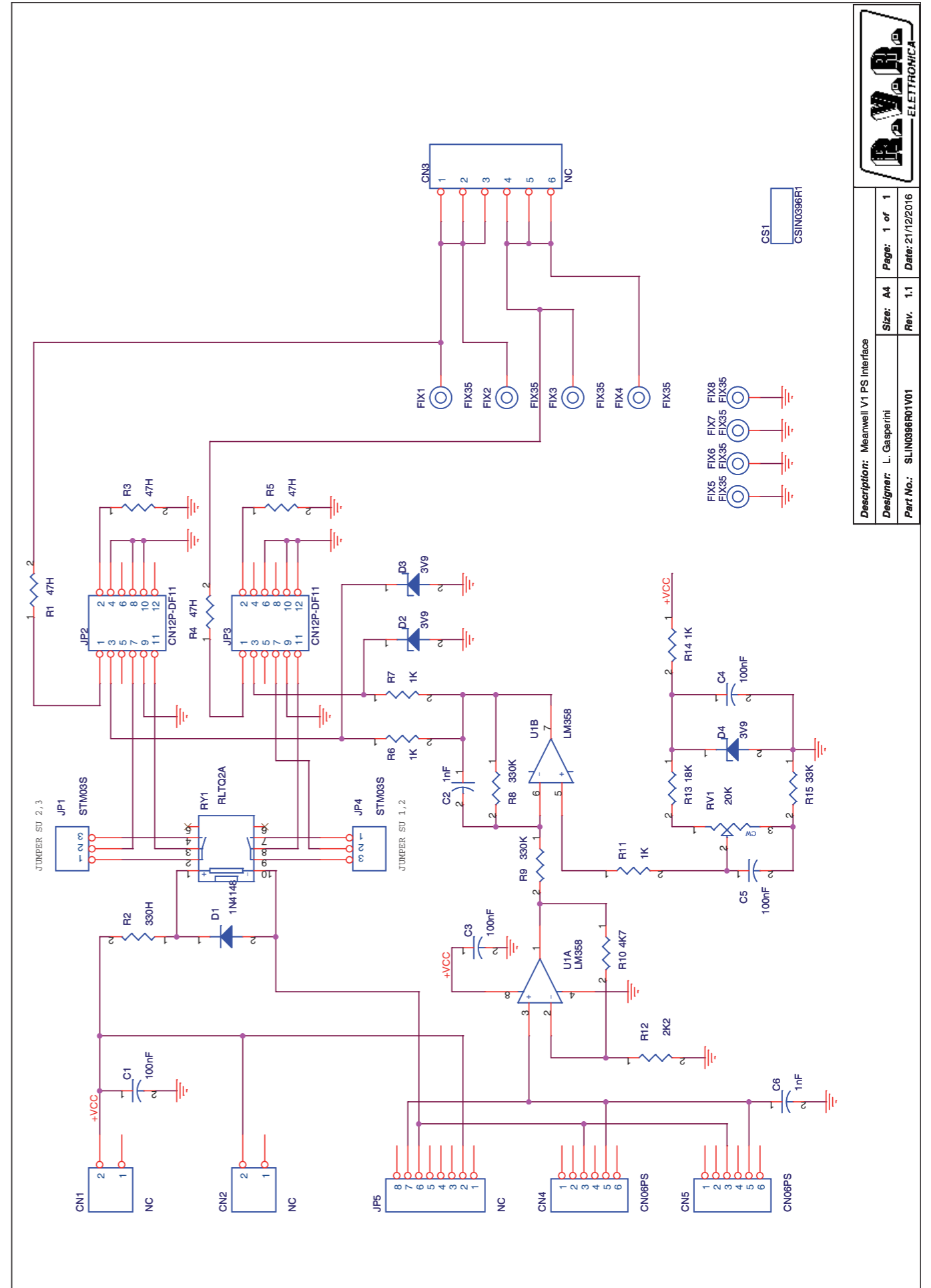
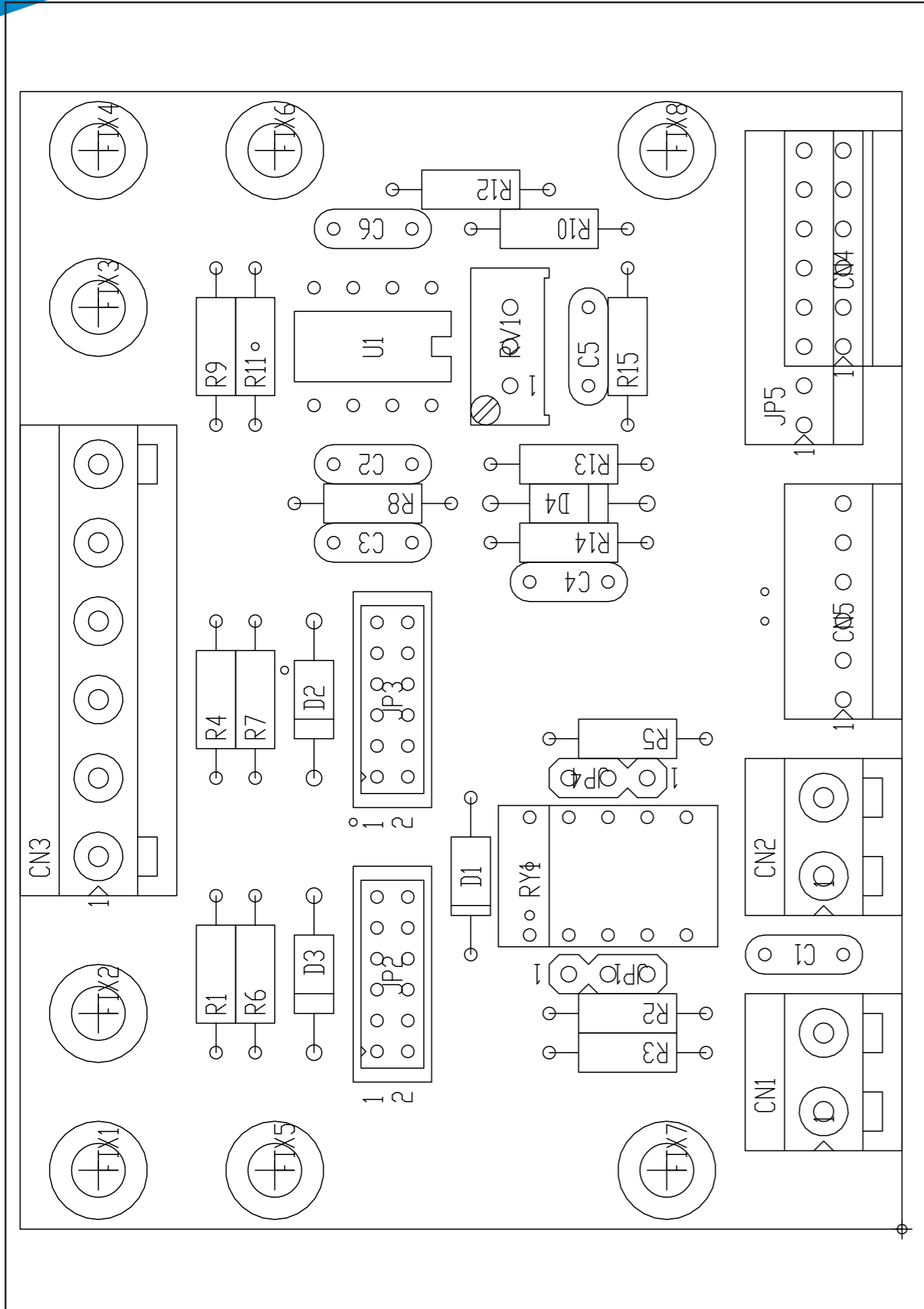
Description: Surge Protection Card			
Designer: Franceschi A.	Size: A3	Page: 1 of 1	
Part No.: SLSRGPRPJ1KM	Rev. 1.2	Date: 09/02/2006	

SLSRGPRPJ1KM

Surge Protection Card Revised: 09/02/2006
 SLSRGPRPJ1KM Revision: 1.2
 Franceschi A.

Item	Quantity	Reference	Part
1	2	C1, C3	0,22u_X2
2	1	C2	1uF-X2
3	1	C4	0,1u_X2
4	1	D1	1N4007
5	7	FIX1, FIX2, FIX3, FIX4, FIX5, FIX6, FIX7	FIX35
6	11	J1, J2, J3, J4, J5, J6, J7, J8, J9, J10, J11	PAD
7	1	J12	MOD UII
8	1	K1	RELE 24 V 1 Via 30 A
9	16	RV1, RV2, RV3, RV4, RV5, RV6, RV7, RV8, RV9, RV10, RV11, RV12, RV13, RV14, RV15, RV16	150V D14
10	2	R2, R1	0,47H 2W A FILO
11	1	T1	TMC-3.8M18A
12	1	T2	TMC-0.5M-18A

SLIN0396R01V01



Description: Meanwell V1 PS Interface	
Designer: L. Gasparini	Size: A4
Part No.: SLIN0396R01V01	Page: 1 of 1
	Rev. 1.1
	Date: 21/12/2016

SLIN0396R01V01

Meanwell V1 PS Interface Revised: 21/12/2016
 SLIN0396R01V01 Revision: 1.1
 Luca Gasperini

Item	Quantity	Reference	Part	(description)
1	2	CN2, CN1	MCS2P	Conn. tipo KRA a 2 poli
2	1	CN3	NC	Conn. tipo KRA a 6 poli
3	2	CN5, CN4	CN06PS	Connettore 6 poli Mascon
4	1	CS1	CSIN0396R1	Circuito stampato
5	4	C1, C3, C4, C5	100nF	Cond. ceramico multistrato p 5mm
6	2	C6, C2	1nF	Cond. ceramico multistrato p 5mm
7	1	D1	1N4148	
8	3	D2, D3, D4	3V9	1/2W Zener Diode
9	8	FIX1, FIX2, FIX3, FIX4, FIX5, FIX6, FIX7, FIX8	FIX35	Foro fissaggio 3.5mm
10	2	JP1, JP4	STM03S	Strip maschio 3 pin
11	2	JP2, JP3	CN12P-DF11	Connettore 12 poli DF11 12pin p. 2mm
12	1	JP5	NC	Connettore 8 poli Mascon
13	1	RV1	20K	Trimmer Rg O 3296H
14	1	RY1	RLTQ2A	Rele' TQ2
15	4	R1, R3, R4, R5	47H	Res. 1/4W
16	1	R2	330H	Res. 1/4W
17	4	R7, R6, R11, R14	1K	Res. 1/4W
18	2	R8, R9	330K	Res. 1/4W
19	1	R10	4K7	Res. 1/4W
20	1	R12	2K2	Res. 1/4W
21	1	R13	18K	Res. 1/4W
22	1	R15	33K	Res. 1/4W
23	1	U1	LM358	Dual Op. DIP8



2000W Single Output Power Supply

RSP-2000 series

5. Current Sharing with Remote Sensing

RSP-2000 has the built-in active current sharing function and can be connected in parallel to provide higher output power :

- (1) Parallel operation is available by connecting the units shown as below.
(DA, DB and GND are connected mutually in parallel).
- (2) Difference of output voltages among parallel units should be less than 0.2V.
- (3) The total output current must not exceed the value determined by the following equation.
(output current at parallel operation)=(Rated current per unit) × (Number of unit) × 0.9
- (4) In parallel operation 4 units is the maximum, please consult the manufacturer for applications of more connecting in parallel.
- (5) The power supplies should be paralleled using short and large diameter wiring and then connected to the load.
- (6) Under parallel operation, the minimum output load should be greater than 5% of total output load.
- (7) Under parallel operation ripple of the output voltage may be higher than the SPEC at light load condition. It will go back to normal ripple level once the output load is more than 5%.
- (8) CN502/CN504 Function pin connection

Parallel	PSU1		PSU2		PSU3		PSU4	
	CN502	CN504	CN502	CN504	CN502	CN504	CN502	CN504
1 unit	X	V	—	—	—	—	—	—
2 unit	V	V	V	V	—	—	—	—
3 unit	V	V	V	X	V	V	—	—
4 unit	V	V	V	X	V	X	V	V

※ V is CN502/CN504 connected to plug pin, X is CN502/CN504 not connected to plug pin.

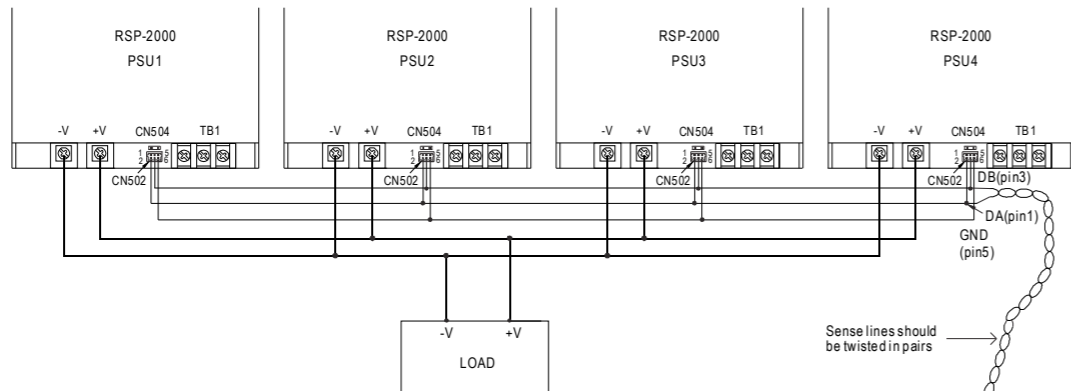
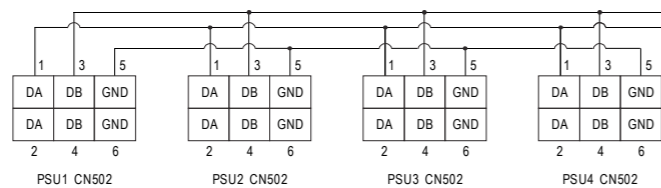


Fig 6.1



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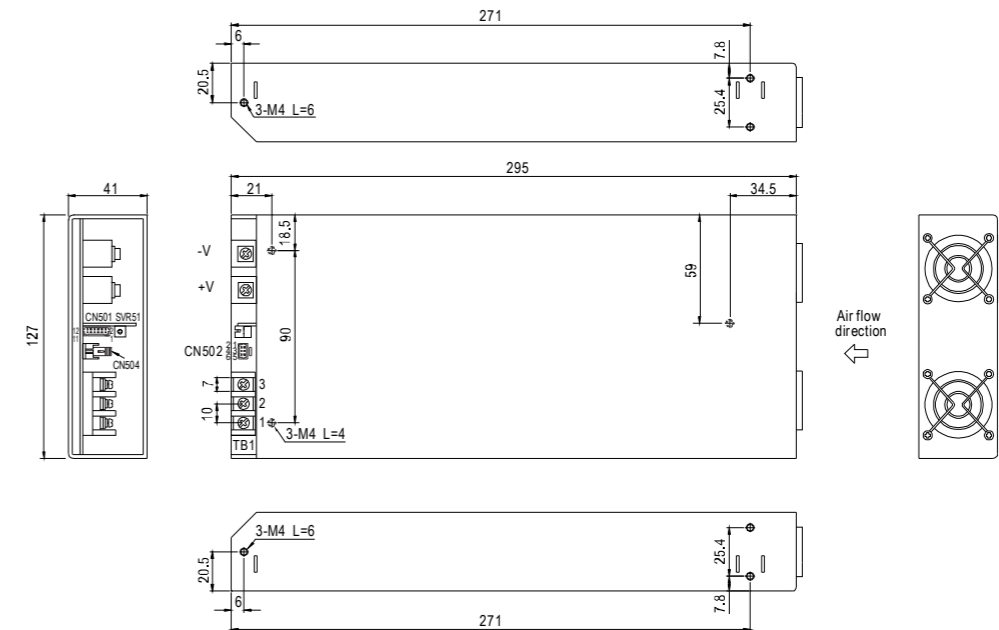


2000W Single Output Power Supply

RSP-2000 series

Mechanical Specification

Case No. 952D Unit:mm



AC Input Terminal Pin No. Assignment

Pin No.	Assignment
1	AC/N
2	AC/L
3	FG

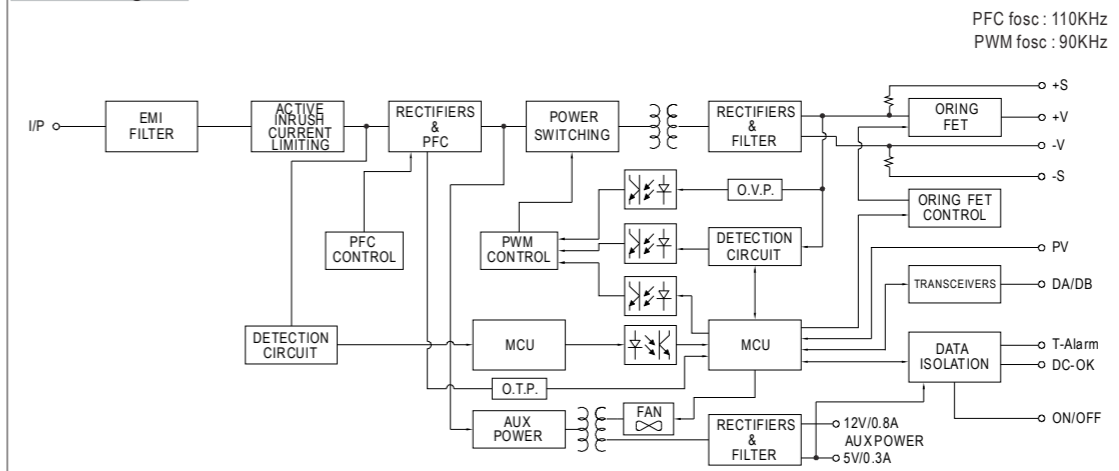
Control Pin No. Assignment (CN501) : HRS DF 11-12DP-2DS or equivalent

Pin No.	Assignment	Pin No.	Assignment	Pin No.	Assignment	Mating Housing	Terminal
1	+S	5	DC-OK	9	GND-AUX	HRS DF 11-12DS or equivalent	HRS DF 11-12DS or equivalent
2	-S	6	T-ALARM	10	GND-AUX		
3	PV	7	ON/OFF	11	+5V-AUX		
4	GND	8	GND-AUX	12	+12V-AUX		

Control Pin No. Assignment (CN502) : HRS DF 11-6DP-2DSA or equivalent

Pin No.	Assignment	Mating Housing	Terminal
1,2	DA	HRS DF 11-6DS or equivalent	HRS DF 11-12DS or equivalent
3,4	DB		
5,6	GND		

Block Diagram



PFC fosc : 110KHz
PWM fosc : 90KHz

File Name:RSP-2000-SPEC 2013-11-01



2000W Single Output Power Supply

RSP-2000 series

Function Description of CN501

Pin No.	Function	Description
1	+S	Positive sensing. The +S signal should be connected to the positive terminal of the load. The +S and -S leads should be twisted in pair to minimize noise pick-up effect. The maximum line drop compensation is 0.5V.
2	-S	Negative sensing. The -S signal should be connected to the negative terminal of the load. The -S and +S leads should be twisted in pair to minimize noise pick-up effect. The maximum line drop compensation is 0.5V.
3	PV	Connection for output voltage trimming. The voltage can be trimmed within its defined range. (Note.1)
4	GND	This pin connect to the negative terminal(-V).
5	DC-OK	High (4.5 ~ 5.5V) : When the $V_{out} \leq 80\% \pm 6\%$. Low (0 ~ 0.5V) : When $V_{out} \geq 80\% \pm 6\%$. The maximum sourcing current is 10mA and only for output. (Note.2)
6	T-ALARM	High (4.5 ~ 5.5V) : When the internal temperature (TSW1 or TSW2 open) exceeds the limit of temperature alarm. Low (0 ~ 0.5V) : When the internal temperature (TSW1 or TSW2 short) under the limit temperature. (Note.2)
7	ON/OFF	The unit can turn the output on and off by electrical signal or dry contact between ON/OFF and +5V-AUX. (Note.2) Short (4.5 ~ 5.5V) : Power OFF ; Open (0 ~ 0.5V) : Power ON ; The maximum input voltage is 5.5V.
8,9,10	GND-AUX	Auxiliary voltage output GND. The signal return is isolated from the output terminals (+V & -V).
11	+5V-AUX	Auxiliary voltage output, 4.5~5.5V, referenced to GND-AUX (pin). The maximum load current is 0.3A. This output has the built-in "Oring diodes" and is not controlled by the remote ON/OFF control.
12	+12V-AUX	Auxiliary voltage output, 10.6~13.2V, referenced to GND-AUX (pin). The maximum load current is 0.8A. This output has the built-in "Oring diodes" and is not controlled by the remote ON/OFF control.

Note1: Non-isolated signal, referenced to the output terminals (-V).
Note2: Isolated signal, referenced to GND-AUX.

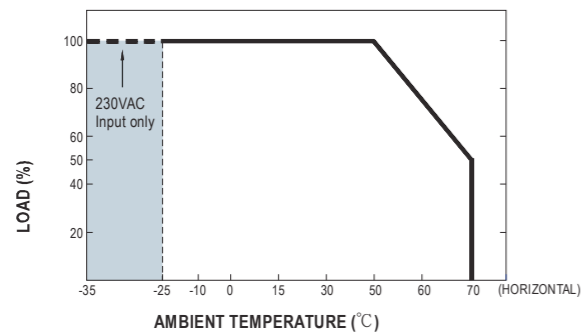
Function Description of CN502

Pin No.	Function	Description
1,2	DA	Differential digital signal for parallel control.
3,4	DB	Differential digital signal for parallel control.
5,6	GND	These pins connect to the negative terminal (-V).

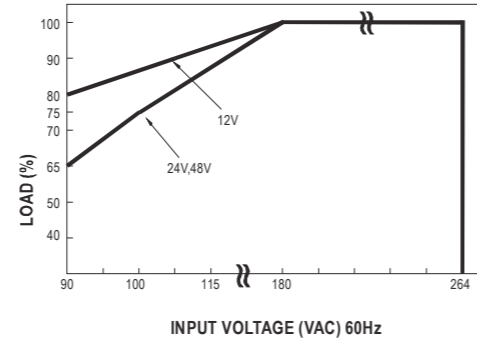
Function Description of CN504

Pin No.	Function	Description
1,2	Terminal resistance	CN504 is the selector of terminal resistor that is designed for DA/DB signals and parallel control function.

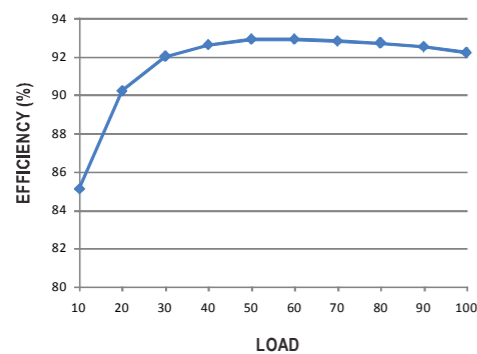
Derating Curve



Static Characteristics



EFFICIENCY vs LOAD (48V Model)



DERATING LOAD(%) VS INPUT VOLTAGE

MODEL \ INPUT / VOLTAGE	180VAC	115VAC	100VAC	90VAC
RSP-2000-12	100%	95%	90%	80%
RSP-2000-24	100%	80%	75%	65%
RSP-2000-48	100%	80%	75%	65%

File Name:RSP-2000-SPEC 2013-11-01



2000W Single Output Power Supply

RSP-2000 series

Function Manual

1. Remote ON/OFF Control

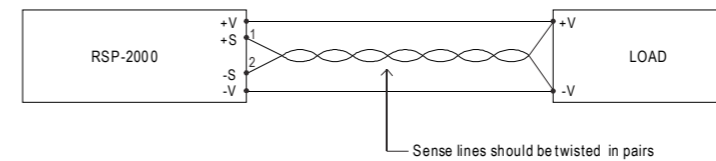
The PSU can be turned ON/OFF together or separately by using the "Remote ON/OFF" function.



Between ON/OFF and +5V-AUX	PSU Output
SW Open	ON
SW Short	OFF

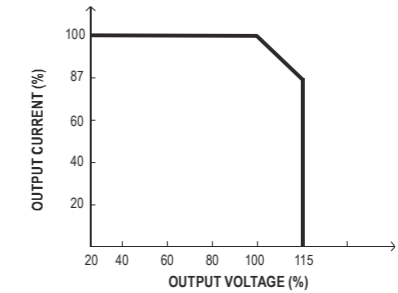
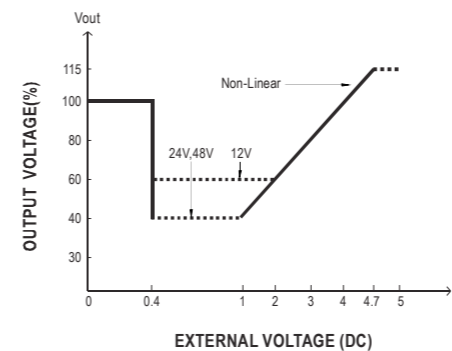
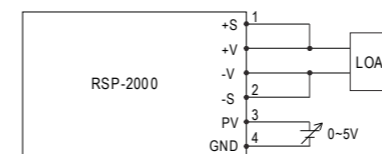
2. Remote Sense

The remote sense compensates voltage drop on the load wiring up to 0.5V.



3. Output Voltage Trimming

- (1) Output voltage can be trimmed between 40~115% of its rated value by the following method.
- (2) +S & +V, -S & -V also need to be connected on CN501.



MODEL \ PV / VOLTAGE	<0.4V	1V	2V	3V	4V	4.7V
RSP-2000-12	100%	60%	60%	80%	100%	115%
RSP-2000-24	100%	40%	60%	80%	100%	115%
RSP-2000-48	100%	40%	60%	80%	100%	115%

4. Front Panel Indicators & Corresponding Signal at Function Pins

Function	LED	Description	* Signal	PSU Output
DC-OK	GREEN	When output voltage $\geq 80\% \pm 5\%$ of V_o rated.	0 ~ 0.5V	ON
DC-NG	RED	When output voltage $\leq 80\% \pm 5\%$ of V_o rated.	4.5 ~ 5.5V	ON
T-OK	GREEN	When the internal temperature (TSW1 & TSW2 short) is within safe limit	0 ~ 0.5V	ON
T-ALARM	RED	When the internal temperature (TSW1 or TSW2 open) exceeds the limit of temperature alarm	4.5 ~ 5.5V	OFF

*Signal between function pin and "GND-AUX".

File Name:RSP-2000-SPEC 2013-11-01



2000W Single Output Power Supply

RSP-2000 series

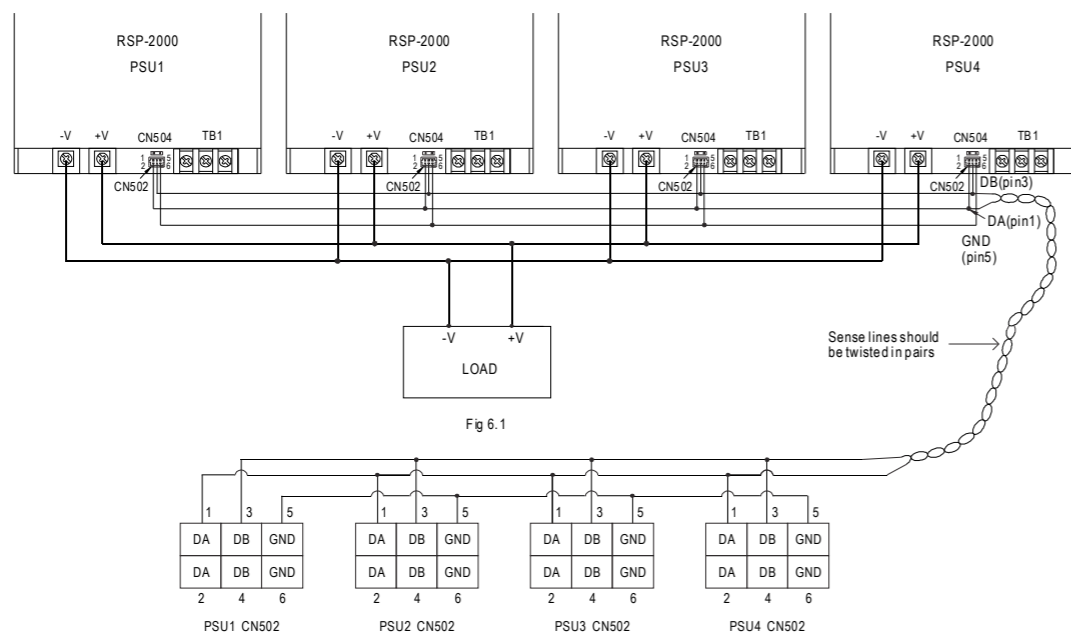
5. Current Sharing with Remote Sensing

RSP-2000 has the built-in active current sharing function and can be connected in parallel to provide higher output power :

- (1) Parallel operation is available by connecting the units shown as below.
(DA, DB and GND are connected mutually in parallel).
- (2) Difference of output voltages among parallel units should be less than 0.2V.
- (3) The total output current must not exceed the value determined by the following equation.
(output current at parallel operation)=(Rated current per unit)×(Number of unit)×0.9
- (4) In parallel operation 4 units is the maximum, please consult the manufacturer for applications of more connecting in parallel.
- (5) The power supplies should be paralleled using short and large diameter wiring and then connected to the load.
- (6) Under parallel operation, the minimum output load should be greater than 5% of total output load.
- (7) Under parallel operation ripple of the output voltage may be higher than the SPEC at light load condition. It will go back to normal ripple level once the output load is more than 5%.
- (8) CN502/CN504 Function pin connection

Parallel	PSU1		PSU2		PSU3		PSU4	
	CN502	CN504	CN502	CN504	CN502	CN504	CN502	CN504
1 unit	X	V	—	—	—	—	—	—
2 unit	V	V	V	V	—	—	—	—
3 unit	V	V	V	X	V	V	—	—
4 unit	V	V	V	X	V	X	V	V

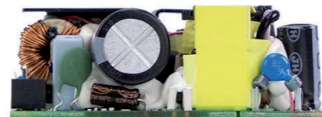
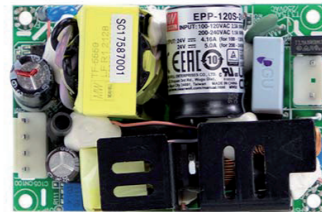
※ V is CN502/CN504 connected to plug pin, X is CN502/CN504 not connected to plug pin.



File Name:RSP-2000-SPEC 2013-11-01



120W 3"×2" Green Open Frame Power Supply **EPP-120S series**



Features

- 3"×2" Compact Size
- 120W convection, 150W peak (10sec.)
- EMI for both Class I & Class II configuration
- -30~+85°C wide range operating temperature
- No load power consumption<0.3W
- High efficiency up to 94%
- Protections: Short circuit / Overload / Over voltage / Over temperature
- Operating altitude up to 5000 meters (Note.5)
- 3 years warranty



Applications

- Industrial automation machinery
- Industrial control system
- Mechanical and electrical equipment
- Electronic instruments, equipments or apparatus

Description

EPP-120S is a 120W highly reliable green PCB type power supply with a high power density on the 3" by 2" footprint. It accepts 80~264VAC input and offers various output voltages between 12V and 48V. The working efficiency is up to 94% and the extremely low no load power consumption is down below 0.3W. EPP-120S is able to be used for both Class I (with FG) and Class II (no FG) system design. EPP-120S has the complete protection functions; it is complied with the international safety regulations such as TUV BS EN/EN62368-1, BS EN/EN60335-1, UL62368-1 and IEC62368-1. EPP-120S series serves as a high price-to-performance power supply solution for various industrial applications.

Model Encoding

EPP-120S-12

- Output voltage
- Rated wattage
- Series name

File Name:EPP-120S-SPEC 2021-09-15



120W 3"×2" Green Open Frame Power Supply **EPP-120S series**

SPECIFICATION

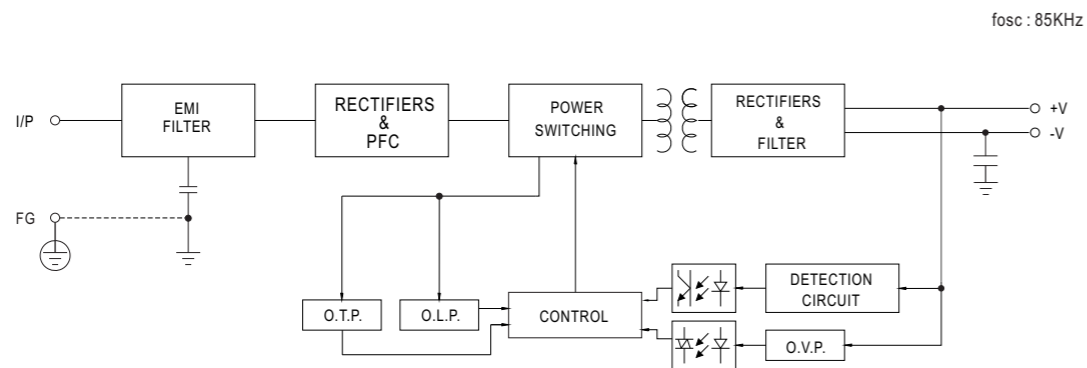
MODEL		EPP-120S-12	EPP-120S-15	EPP-120S-24	EPP-120S-27	EPP-120S-48	
OUTPUT	DC VOLTAGE	12V	15V	24V	27V	48V	
	CURRENT	Peak(10 sec.)	11.8A	9.5A	6.25A	5.55A	3.125A
		Convection	9.5A	7.6A	5A	4.44A	2.5A
	RATED POWER	Peak(10 sec.)	141.6W	142.5W	150W	149.8W	150W
		Convection	114W	114W	120W	119.9W	120W
	RIPPLE & NOISE (max.) Note.2	100mVp-p	120mVp-p	150mVp-p	150mVp-p	200mVp-p	
	VOLTAGE ADJ. RANGE	11.4~12.6V	14.3~15.8V	22.8~25.2V	25.6 ~ 28.4V	45.6 ~50.4V	
	VOLTAGE TOLERANCE Note.3	±2.0%	±2%	±1.0%	±1.0%	±1.0%	
	LINE REGULATION	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	
	LOAD REGULATION	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%	
SETUP, RISE TIME	600ms, 30ms/230VAC 600ms, 30ms/115VAC at full load						
HOLD UP TIME (Typ.)	15ms/230VAC 15ms/115VAC at full load						
INPUT	VOLTAGE RANGE Note.4	80 ~ 264VAC 113 ~ 370VDC					
	FREQUENCY RANGE	47 ~ 63Hz					
	POWER FACTOR	PF>0.94/230VAC PF>0.98/115VAC at full load					
	EFFICIENCY (Typ.)	91%	92%	93%	94%	93.5%	
	AC CURRENT (Typ.)	2.3A/115VAC 1.1A/230VAC					
	INRUSH CURRENT (Typ.)	COLD START 30A/115VAC 60A/230VAC					
	LEAKAGE CURRENT	<0.75mA/ 240VAC					
	PROTECTION	OVERLOAD	130~160% rated output power Protection type : Hiccup mode, recovers automatically after fault condition is removed				
OVER VOLTAGE		13.2 ~ 15.6V	16.5 ~ 19.5V	26.4 ~ 31.2V	29.7 ~ 35V	52.8 ~ 62.4V	
OVER TEMPERATURE		Protection type : Shut down o/p voltage, re-powers on to recover					
ENVIRONMENT	WORKING TEMP.	-30 ~ +85°C (Refer to "Derating Curve")					
	WORKING HUMIDITY	20 ~ 90% RH non-condensing					
	STORAGE TEMP.	-40 ~ +85°C					
	TEMP. COEFFICIENT	±0.03%/°C (0 ~ 50°C)					
	VIBRATION	10 ~ 500Hz, 2G 10min./1cycle, 60min. each along X, Y, Z axes					
OPERATING ALTITUDE (Note.5)	5000 meters						
SAFETY & EMC (Note 6)	SAFETY STANDARDS	UL62368-1, TUV BS EN/EN62368-1, BS EN/EN60335-1, IEC62368-1, EAC TP TC 004 approved					
	WITHSTAND VOLTAGE	I/P-O/P:4KVAC I/P-FG:2KVAC O/P-FG:1.5KVAC					
	ISOLATION RESISTANCE	I/P-O/P, I/P-FG, O/P-FG: 100M Ohms / 500VDC / 25°C / 70% RH					
	EMC EMISSION	Parameter	Standard		Test Level / Note		
		Conducted emission	BS EN/EN55032 (CISPR32)		Class B		
		Radiated emission	BS EN/EN55032 (CISPR32)		Class I : Class B , Class II : Class A		
		Harmonic current	BS EN/EN61000-3-2		Class A		
	Voltage flicker	BS EN/EN61000-3-3		-----			
	EMC IMMUNITY	Parameter	Standard		Test Level / Note		
		ESD	BS EN/EN61000-4-2		Level 3, 8KV air ; Level 3, 4KV contact		
RF field susceptibility		BS EN/EN61000-4-3		Level 3, 10V/m(80MHz~2.7GHz) Table 9_9~28V/m(385MHz~5.78GHz)			
EFT bursts		BS EN/EN61000-4-4		Level 3, 2KV			
Surge susceptibility		BS EN/EN61000-4-5		Level 4, 4KV/Line-FG; 2KV/Line-Line			
Conducted susceptibility		BS EN/EN61000-4-6		Level 3, 10V			
Magnetic field immunity		BS EN/EN61000-4-8		Level 4, 30A/m			
Voltage dip, interruption		BS EN/EN61000-4-11		95% dip 0.5 periods, 30% dip 25 periods, 95% interruptions 250 periods			
OTHERS	MTBF	470Khrs min. MIL-HDBK-217F (25°C)					
	DIMENSION	76.2*50.8*28mm (L*W*H) or 3" * 2" *1.1" inch					
	PACKING	0.13Kg; 100pcs/14Kg/1.13CUFT					
NOTE	<ol style="list-style-type: none"> All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25 of ambient temperature. Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf & 47uf parallel capacitor. Tolerance : includes set up tolerance, line regulation and load regulation. Derating may be needed under low input voltages. Please check the derating curve for more details. The ambient temperature derating of 3.5°C/1000m with fanless models and of 5°C/1000m with fan models for operating altitude higher than 2000m(6500ft). The power supply is considered a component which will be installed into a final equipment. All the EMC tests are been executed by mounting the unit on a 360mm*360mm metal plate with 1mm of thickness. The final equipment must be re-confirmed that it still meets EMC directives. For guidance on how to perform these EMC tests, please refer to "EMI testing of component power supplies." (as available on http://www.meanwell.com) <p>※ Product Liability Disclaimer : For detailed information, please refer to https://www.meanwell.com/serviceDisclaimer.aspx</p>						

File Name:EPP-120S-SPEC 2021-09-15

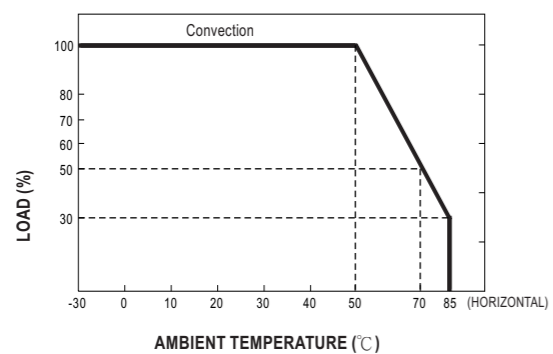


120W 3"x2" Green Open Frame Power Supply **EPP-120S** series

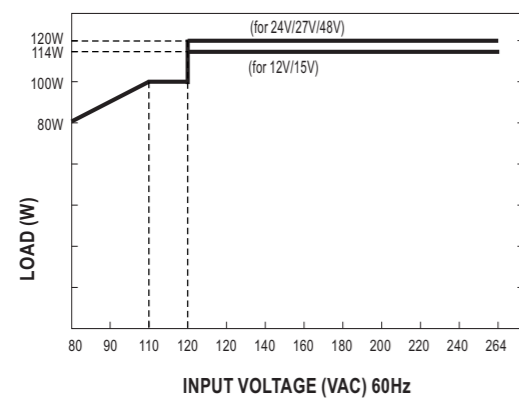
■ Block Diagram



■ Derating Curve



■ Output Derating VS Input Voltage



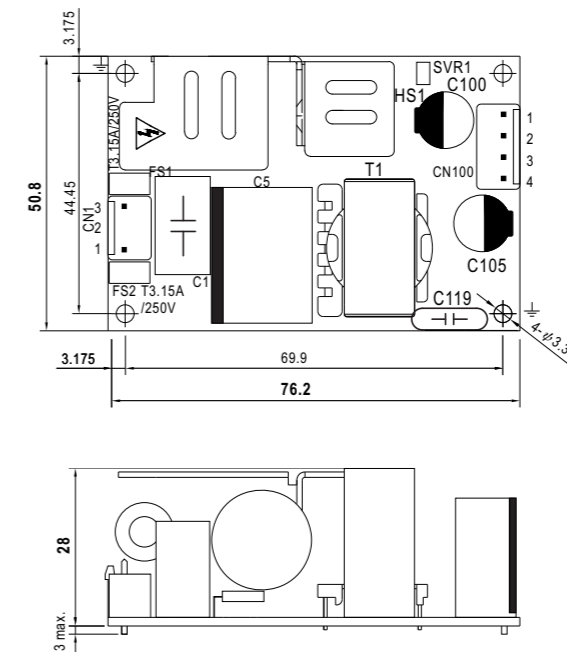
File Name:EPP-120S-SPEC 2021-09-15



120W 3"x2" Green Open Frame Power Supply **EPP-120S** series

■ Mechanical Specification

Unit:mm



AC Input Connector (CN1) : JST B3P-VH or equivalent

Pin No.	Assignment	Mating Housing	Terminal
1	AC/L	JST VHR or equivalent	JST SVH-21T-P1.1 or equivalent
2	No Pin		
3	AC/N		

DC Output Connector (CN2) : JST B4P-VH or equivalent

Pin No.	Assignment	Mating Housing	Terminal
1,2	+V	JST VHR or equivalent	JST SVH-21T-P1.1 or equivalent
3,4	-V		

⚠ 1.HS1 must have safety isolation distance with system case.

※Note :

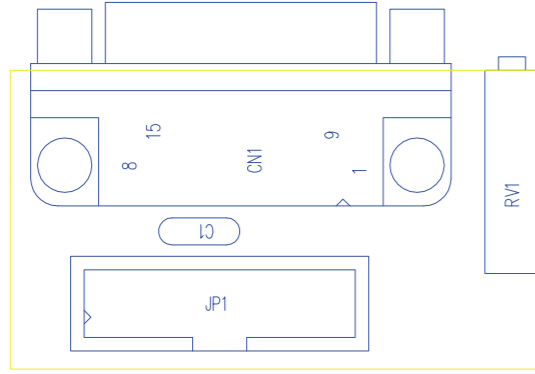
- EPP-120S model delivers EMI Class B for both conducted emission and radiated emission for the power supply, when configured into Class I (with FG) system.
- EPP-120S model delivers EMI Class B conducted emission and Class A radiated emission with King Core K5B RC (12*15*7) in output cable for the power supply when configured into Class II (no FG) system.

■ Installation Manual

Please refer to : <http://www.meanwell.com/manual.html>

File Name:EPP-120S-SPEC 2021-09-15

SLIN0380R01V01



DATA RILASCIO:

REV: 03

DIM.SCHEDA: VEDI QUOTE
TRATT: STANDARD COSTRUTTORE

MAT: FR4-74 1.6mm Cu 35um
VISTA POSITIVA

DIS. S.POL.
CTR. A2

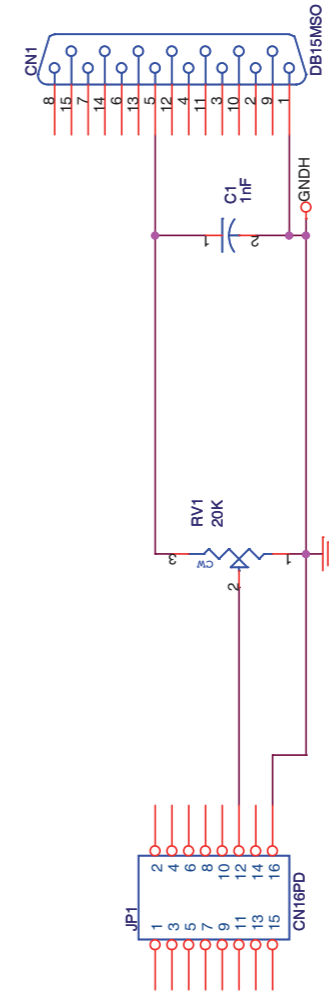
LATO PIANO DI MONTAGGIO
VISTA LATO COMPONENTI

DENOMINAZIONE

CODICE
SLIN0380R01V01

RVR ELETTRONICA S.P.A.

SCALA 1:1



CS1
CSIN0380R1

Project Name: PJ Green Line		Page: 1 of 1	Size: A4
Designer: Tommasi	Date: Wednesday, November 28, 2012	Project Code: RVR237	
File Location: \\Rvrut\filasciatl	Revision: 1.0	Description: Scheda com-bus	
Folder/File: /	Approval:	Part No.: SLIN0380R01V01	

SLIN0380R01V01

Scheda com-bus Revised: Wednesday, November 28, 2012

SLIN0380R01V01 Revision: 1.0

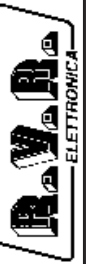
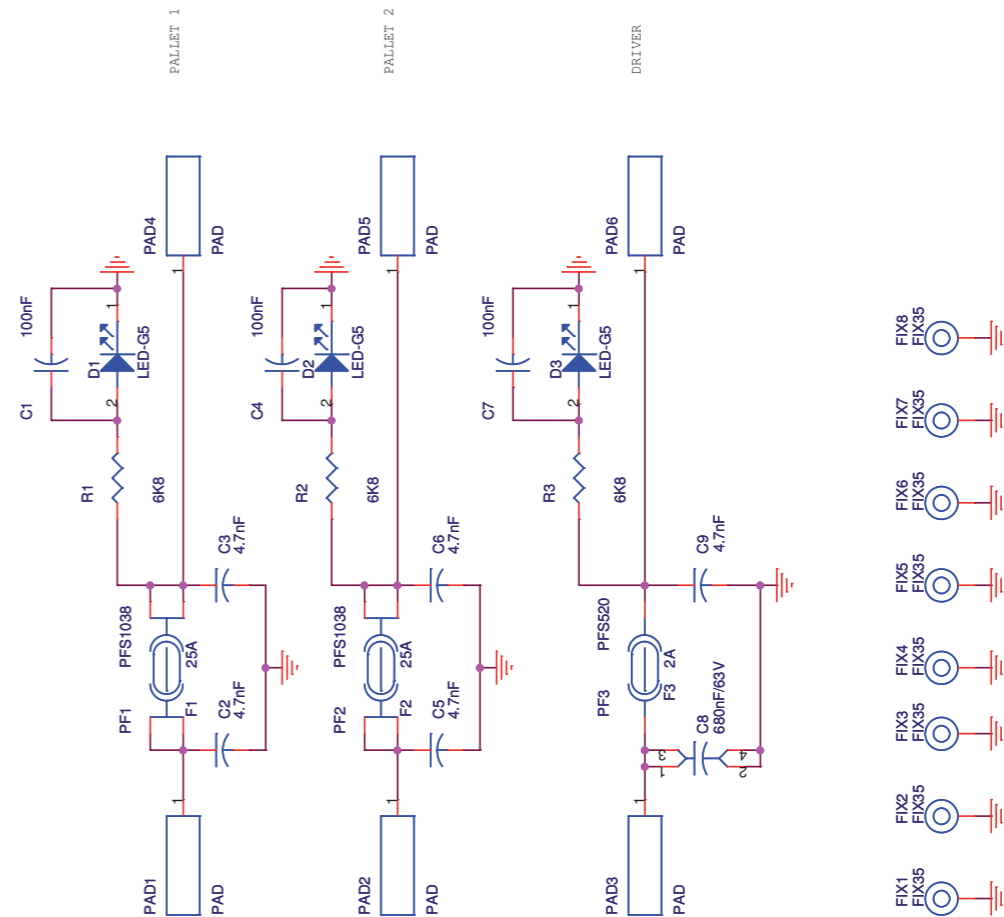
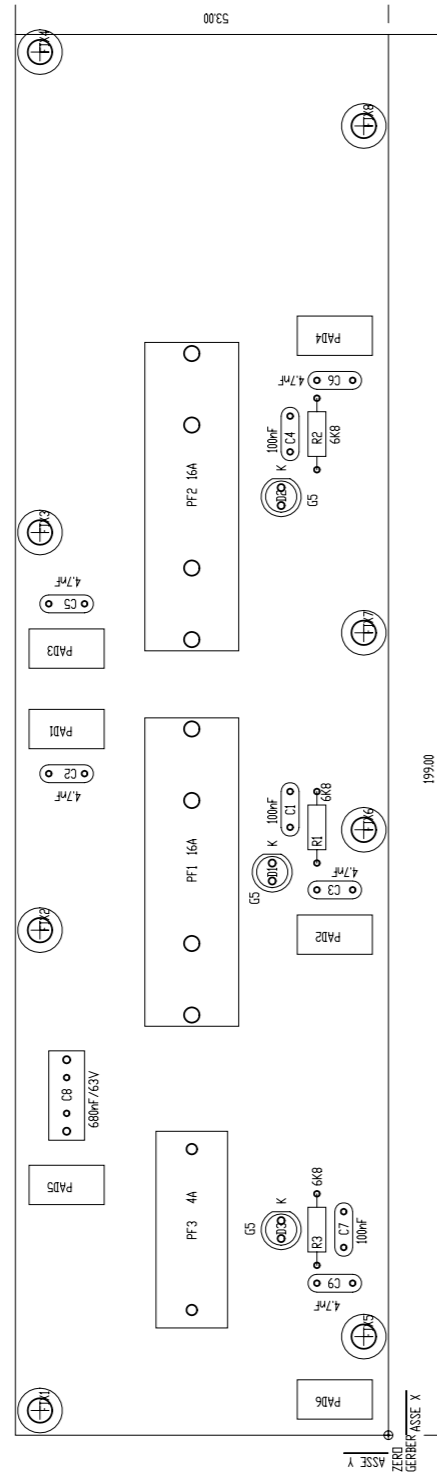
A. Tommasi

PJ Green Line

RVR237

Item	Quantity	Reference	Part	Description
1	1	CN1	DB15MSO	Connettore DB15 mas. cs 90°
2	1	CS1	CSIN0380R1	Circuito stampato
3	1	C1	1nF	Cond. ceramico p 5mm
4	1	JP1	CN16PD	Conn.M.C.S.Dritto 16P alette.
5	1	RV1	20K	Trimmer Rg H 3006

SLFUSTEX1K6LG



Description: FUSE BOARD	Size: A4	Page: 1 of 1
Designer: L. Gasperini	Rev. 1.2	Date: 11/08/2017
Part No.: SLFUSTEX1K6LG		

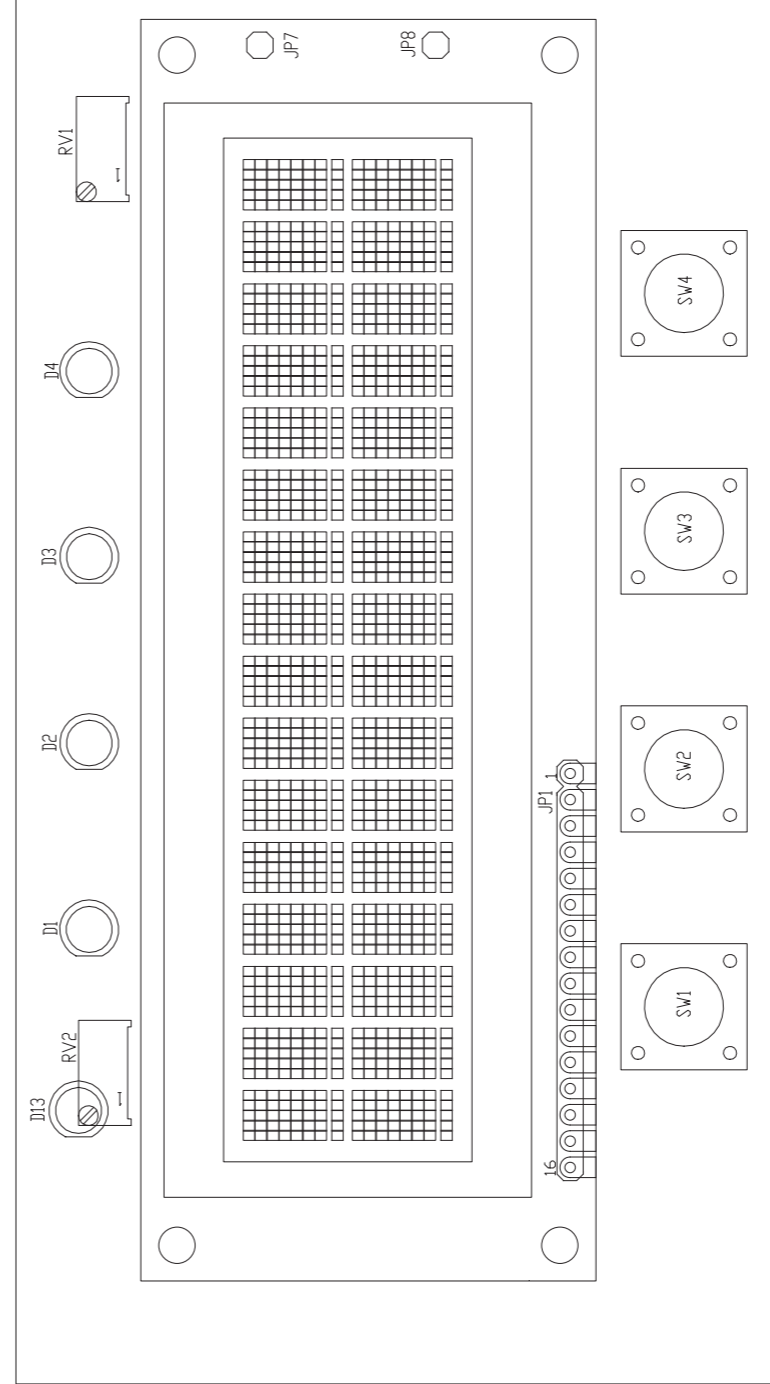
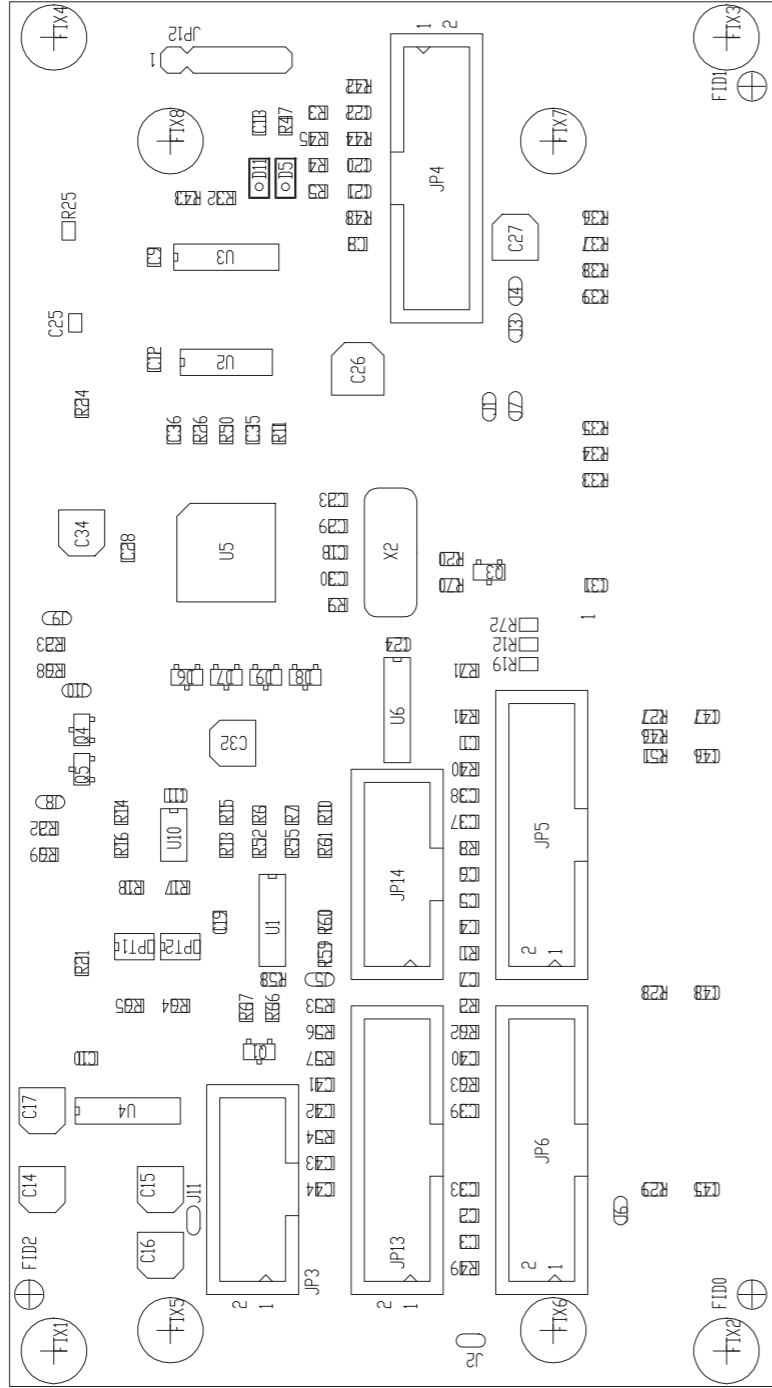
	NOME PROGETTO: TEX500LCD	NOME PARTE: SCHEDA FUSE			
	AUTORE: LUCA GASPERINI	DATA: 05/04/2004	REVISIONE: 1.0	SCALA: 1:1	SIZE: A4
ARCHIVIAZIONE ELETTRONICA: "CARTELLA PROGETTI" SU "UT_SRV"	CODICE PROGETTO: 012	CODICE DISEGNO: SLFUSTX500-1			
MATERIALE: <>	TRATTAMENTO: <>	PROFILO: <>	STATO: ESECUTIVO		

SLFUSTEX1K6LG

FUSE BOARD Revised: 11/08/2017
 SLFUSTEX1K6LG Revision: 1.2
 L. Gasperini

Item	Quantity	Reference	Part	Description
1	3	C1, C4, C7	100nF	Cond. ceramico multistrato p 5mm
2	5	C2, C3, C5, C6, C9	4.7nF	Cond. ceramico p 5mm
3	1	C8	680nF/63V	Cond. Poli. p 5/7.5/10mm
4	3	D1, D2, D3	LED-G5	LED Verde dia. 5mm
5	8	FIX1, FIX2, FIX3, FIX4, FIX5, FIX6, FIX7, FIX8	FIX35	Foro fissaggio 3.5mm
6	2	F1, F2	25A	Fusibile rapido 10x38mm
7	1	F3	2A	Fusibile rapido 5x20mm
8	6	PAD7, PAD8, PAD9, PAD10, PAD11, PAD12	PAD	Pad a saldare 5x10 mm
9	2	PF2, PF1	PFS1038	Portafusibile 10x38
10	1	PF3	PFS520	Portafusibile 5x20
11	3	R1, R2, R3	6K8	Res. 1/4W

SLPC0436R01V04



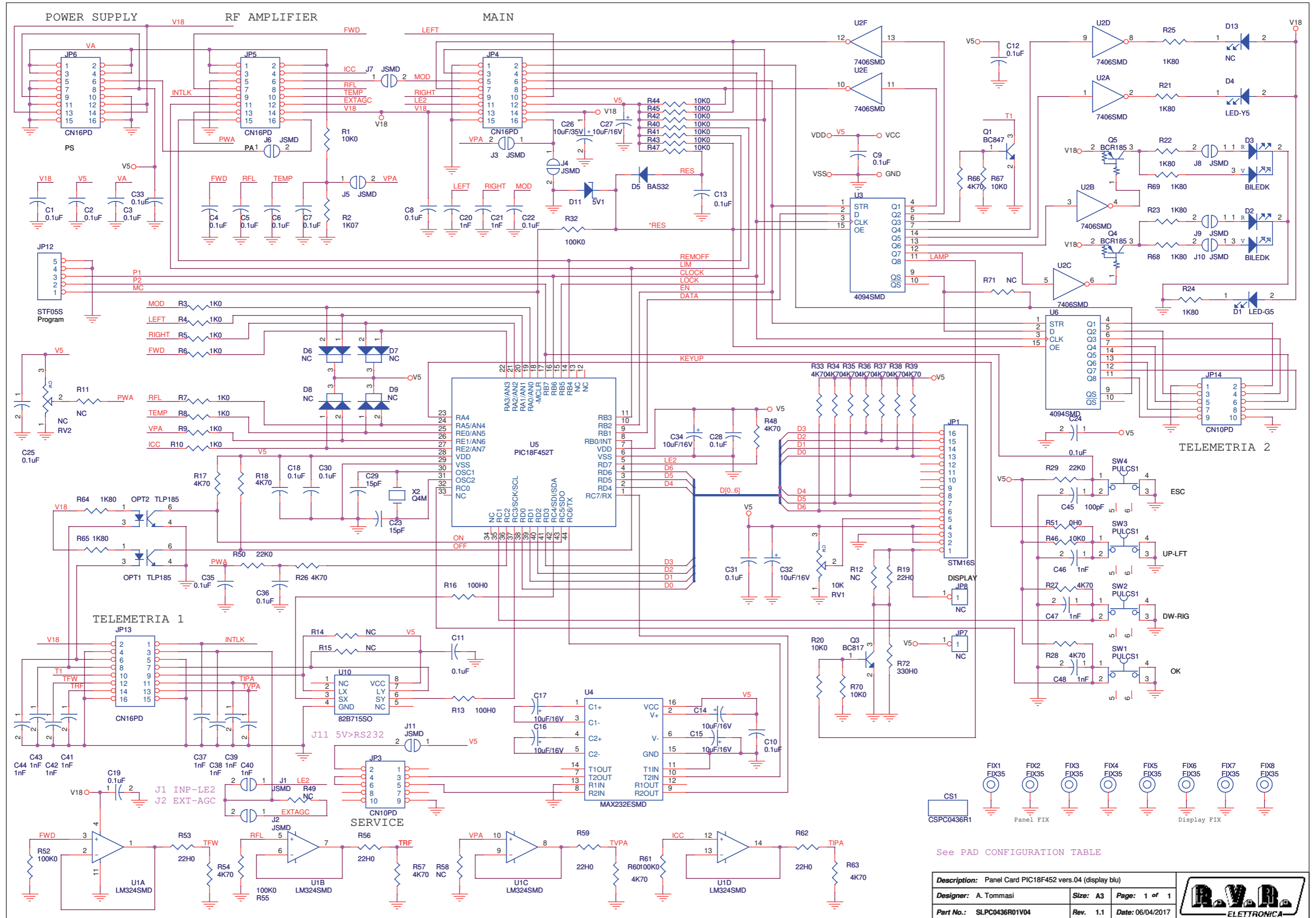
PRODUCT NAME : TEX-LCD, P.J-LCD, LINK, URP | PART NAME : SEM.SCH.PANEL CARD PIC18F452

DESIGNER : A. TOMMASI

DATE : 03/09/15 | REVISION : 1.0 | SCALE : 1:1 | SIZE : A4 | PAGE : 1 | DI : 1

ARCHIVING : "RVRUT" SERVER, "RILASCIATI" FOLDER | PROJECT CODE : <

DOCUMENT CODE : SLPC0436R01V-xx



See PAD CONFIGURATION TABLE

Description: Panel Card PIC18F452 vers.04 (display blu)		
Designer: A. Tommasi	Size: A3	Page: 1 of 1
Part No.: SLPC0436R01V04	Rev.: 1.1	Date: 06/04/2017

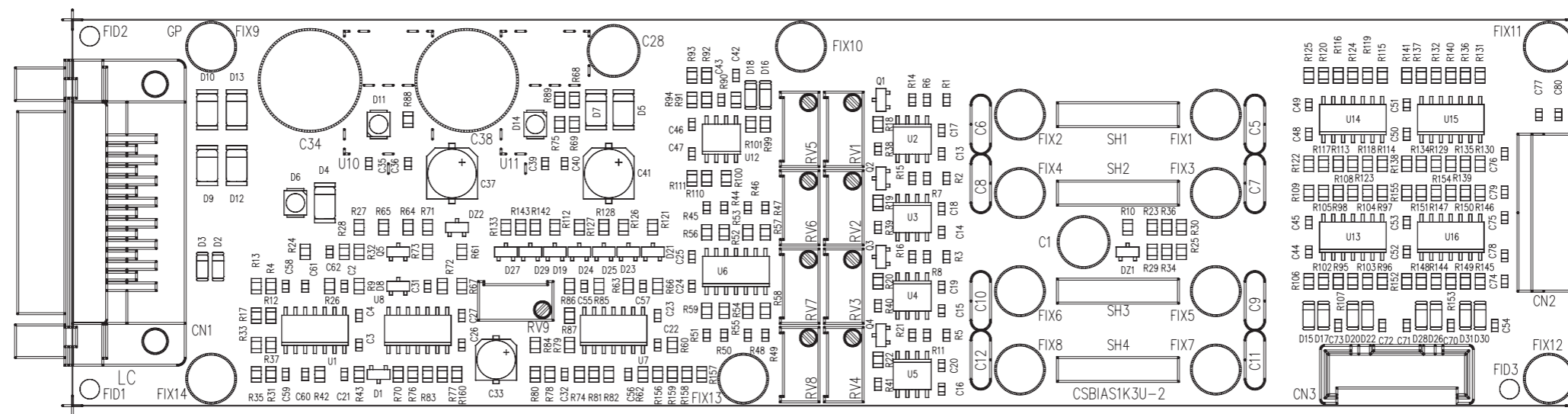


SLPC0436R01V04

Panel Card PIC18F452 vers.04 (display blu)
 SLPC0436R01V04 Revision: 1.1
 06/04/2017
 A. Tommasi

Item	Quantity	Reference	Part	Description
1	1	CS1	CSPC0436R1	Circuito stampato
2	24	C1,C2,C3,C4,C5,C6,C7,C8,C9,C10,C11,C12,C13,C18,C19,C22,C24,C25,C28,C30,C31,C33,C35,C36	0.1uF	Cond. SMD 0805
3	7	C14,C15,C16,C17,C27,C32,C34	10uF/16V	Cond. Elett. SMD d. 4mm
4	13	C20,C21,C37,C38,C39,C40,C41,C42,C43,C44,C46,C47,C48	1nF	Cond. SMD 0805
5	2	C23,C29	15pF	Cond. SMD 0805
6	1	C26	10uF/35V	Cond. Elett. SMD d. 5mm
7	1	C45	100pF	Cond. SMD 0805
8	1	D1	LED-G5	LED Verde dia. 5mm
9	2	D2,D3	BILEDK	Doppio led V-R 5mm Catodo com.
10	1	D4	LED-Y5	LED Giallo dia. 5mm
11	1	D5	BAS32	MINIMELF SMD Diode
12	4	D6,D7,D8,D9	NC	Doppio Diodo SMD SOT23
13	1	D11	5V1	MINIMELF SMD Zener Diode
14	1	D13	NC	LED Giallo dia. 5mm
15	8	FIX1,FIX2,FIX3,FIX4,FIX5,FIX6,FIX7,FIX8	FIX35	Foro fissaggio 3.5mm
16	1	JP1	STM16S	Strip femmina 16 pin
17	2	JP3,JP14	CN10PD	Connettore 10 poli Flat cs
18	4	JP4,JP5,JP6,JP13	CN16PD	Connettore 16 poli Flat cs
19	2	JP7,JP8	NC	Strip femmina 1 pin
20	1	JP12	STF05S	Strip femmina 5 pin
21	11	J1,J2,J3,J4,J5,J6,J7,J8,J9,J10,J11	JSMD	Pad SMD a saldare
22	2	OPT1,OPT2	TLP185	Optoisolatore SMD SO6
23	1	Q1	BC847	Trans. NPN SOT23
24	1	Q3	BC817	Trans. NPN SOT23
25	2	Q4,Q5	BCR185	Trans./Res. PNP SOT23
26	1	RV1	10K	Trimmer Rg V 3296W
27	1	RV2	NC	Trimmer Rg V 3296W
28	12	R1,R20,R40,R41,R42,R43,R44,R45,R46,R47,R67,R70	10K0	Res. SMD 0805 1%
29	1	R2	1K07	Res. SMD 0805 1%
30	8	R3,R4,R5,R6,R7,R8,R9,R10	1K0	Res. SMD 0805 1%
31	7	R11,R12,R14,R15,R49,R58,R71	NC	Res. SMD 0805 1%
32	2	R13,R16	100H0	Res. SMD 0805 1%
33	18	R17,R18,R26,R27,R28,R33,	4K70	Res. SMD 0805 1%

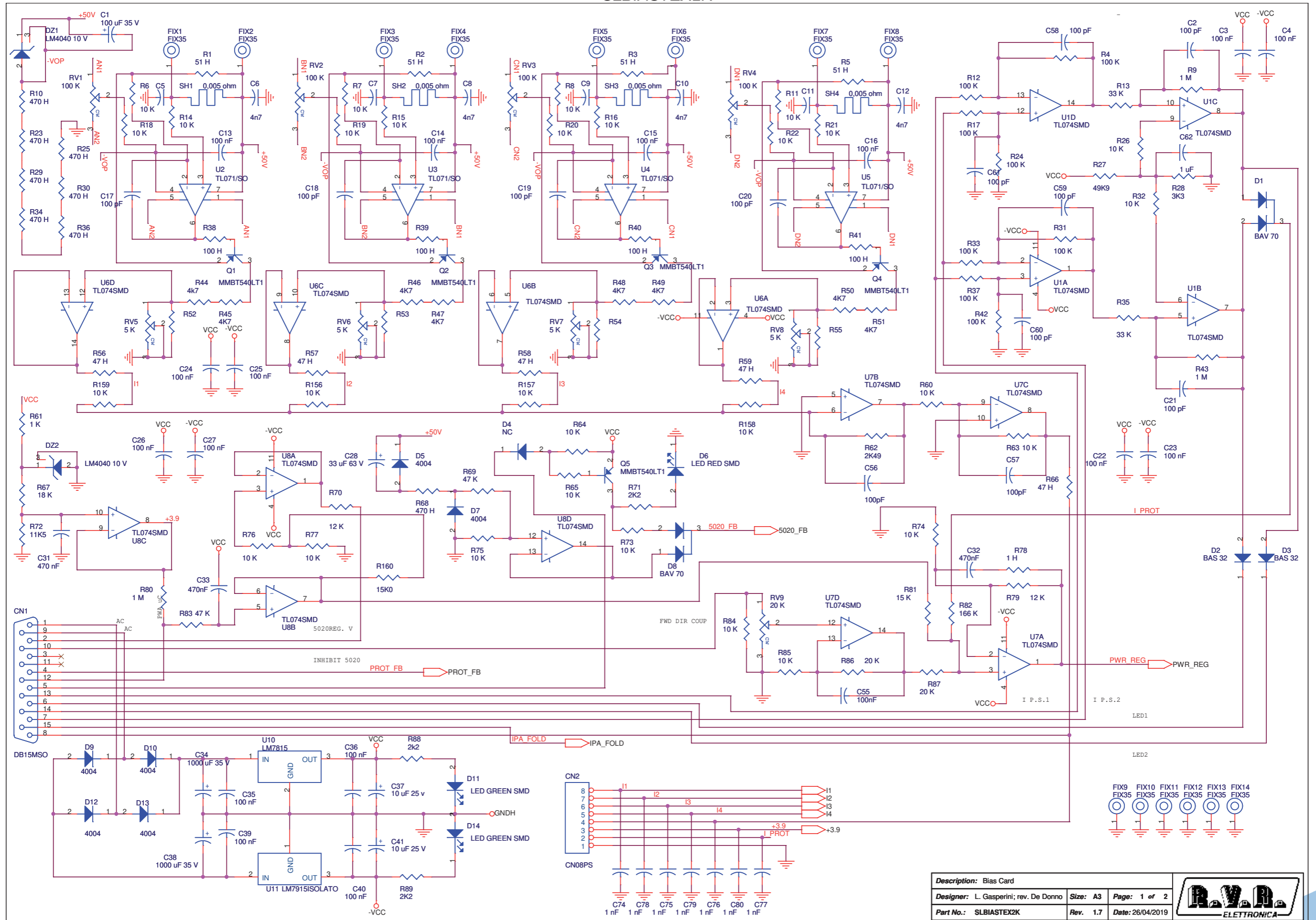
34	5	R19,R53,R56,R59,R62	22H0	Res. SMD 0805 1%
35	9	R21,R22,R23,R24,R25,R64,R65,R68,R69	1K80	Res. SMD 0805 1%
36	2	R29,R50	22K0	Res. SMD 0805 1%
37	4	R32,R52,R55,R61	100K0	Res. SMD 0805 1%
38	1	R51	0H0	Res. SMD 0805 1%
39	1	R72	330H0	Res. SMD 0805 1%
40	4	SW1,SW2,SW3,SW4	PULCS1	Pulsante cs
41	1	U1	LM324SMD	Quad Op. SMD SO14
42	1	U2	7406SMD	Hex inv OC SMD SO14
43	2	U3,U6	4094SMD	Shift Reg. SMD SO16
44	1	U4	MAX232ESMD	RS232 Driver SMD SO16
45	1	U5	PIC18F452T	TQFP44 SMD Microprocessor
46	1	U10	82B715SO	IIC Bus driver SMD SO8
47	1	X2	Q4M	Quarzo SMD HC49SMD



Nome Progetto: TEX1000		Pagina: 1 di 1		Size: A4
Autore: Ufficio Tecnico	Data: 22/01/04	Codice Progetto: 010		
Nome PC in Rete: \\UT_SRV\PROGETTI	Revisione: 1.2	Nome Parte: Scheda Bias TEX1000/PJ1000C		
File/Cartella: MANUALI\TEX1000\SLBIAS1K3U-2\bias1k3u-2.dwg	Autorizzazione:	Codice: SLBIAS1K3U-2		
Scala: /	Materiale: /	Trattamento: /	Profilo: /	

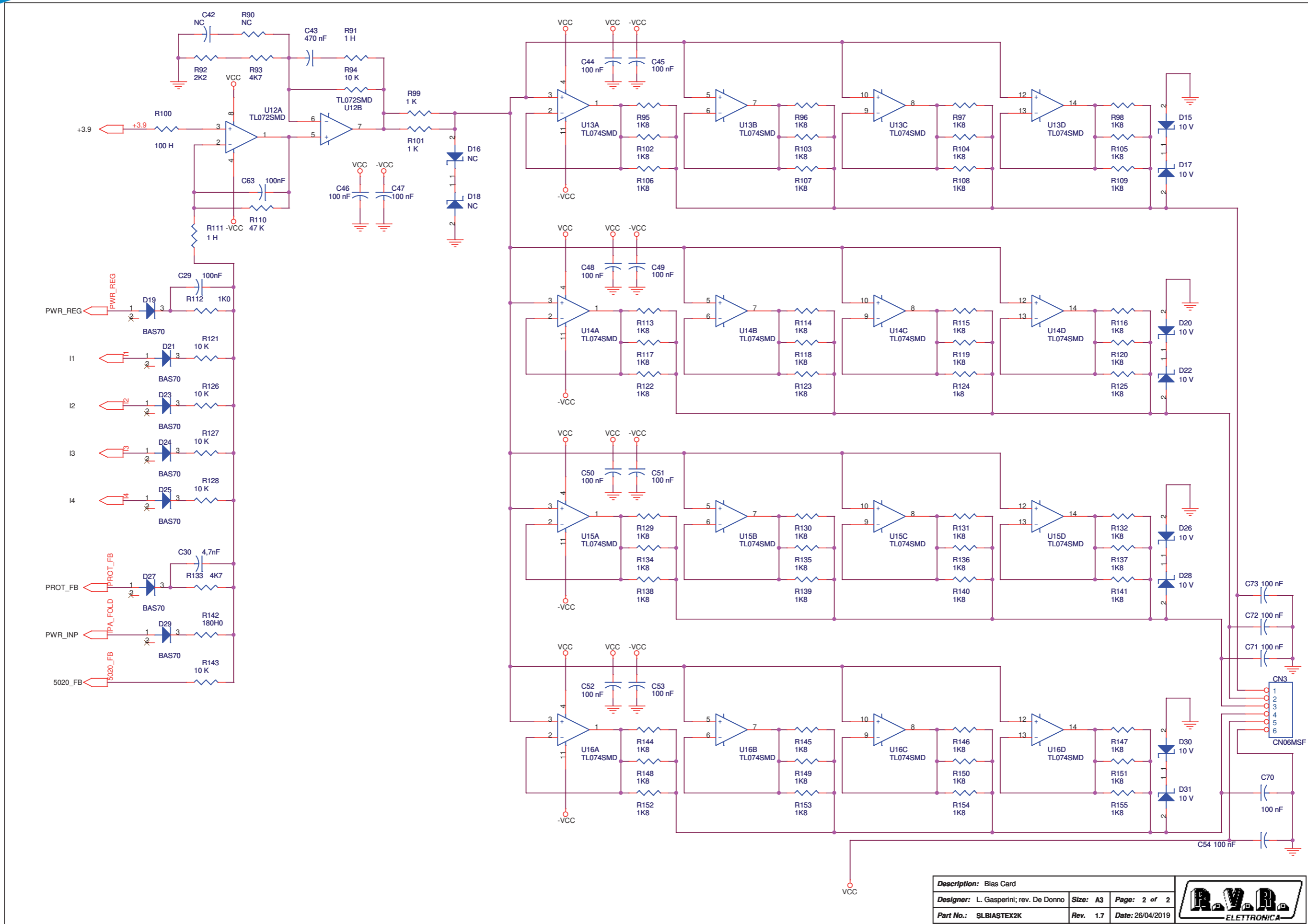


SLBIASTEX2K



Description: Bias Card			
Designer: L. Gasperini; rev. De Donno	Size: A3	Page: 1 of 2	
Part No.: SLBIASTEX2K	Rev.: 1.7	Date: 26/04/2019	

SLBIASTEX2K



Description: Bias Card			
Designer: L. Gasperini; rev. De Donno	Size: A3	Page: 2 of 2	
Part No.: SLBIASTEX2K	Rev. 1.7	Date: 26/04/2019	

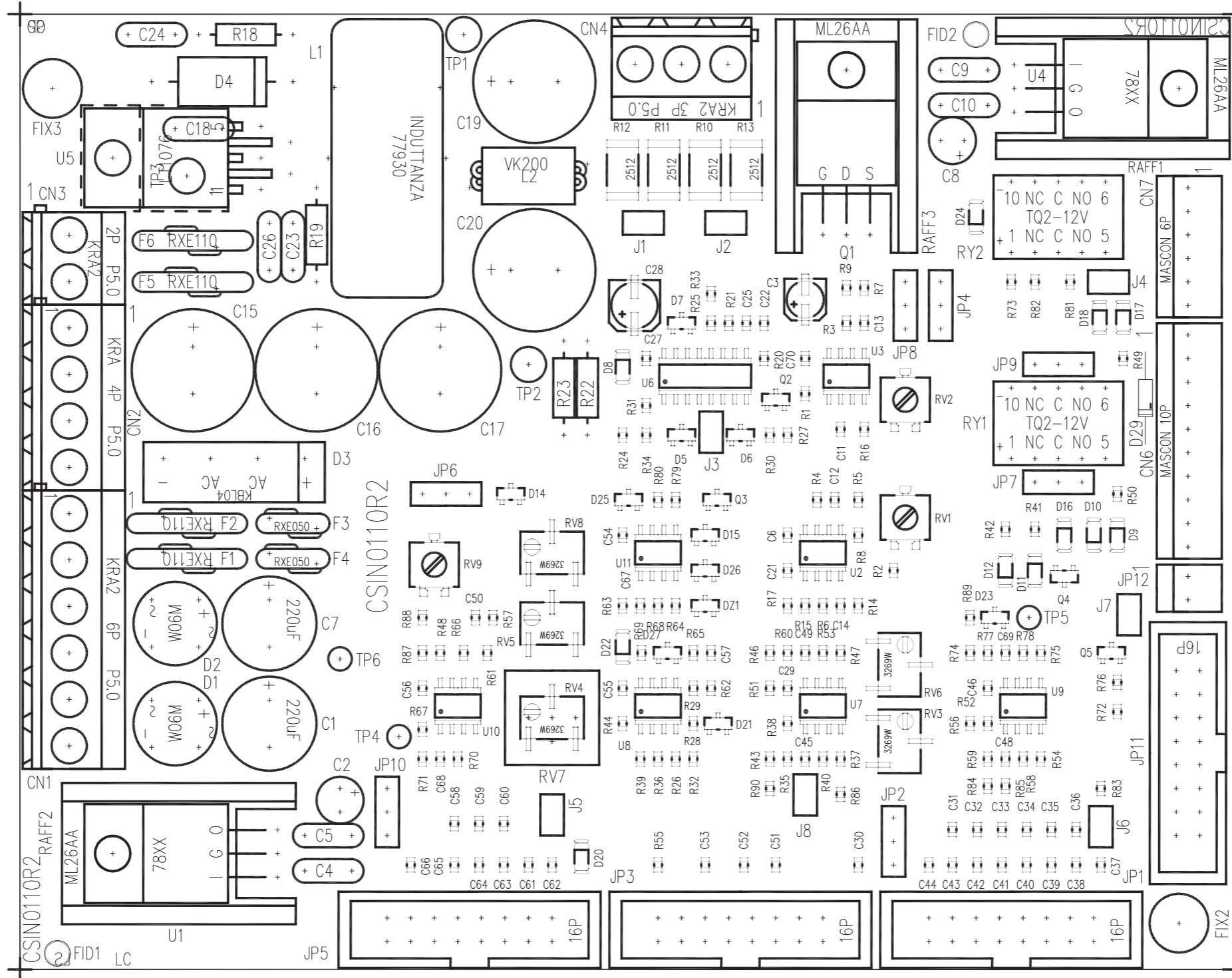


SLBIATESTX2K

BIAS Card Revised: 26/04/2019
 SLBIATESTX2K Revision: 1.7
 L. Gasperini; rev. De Donno

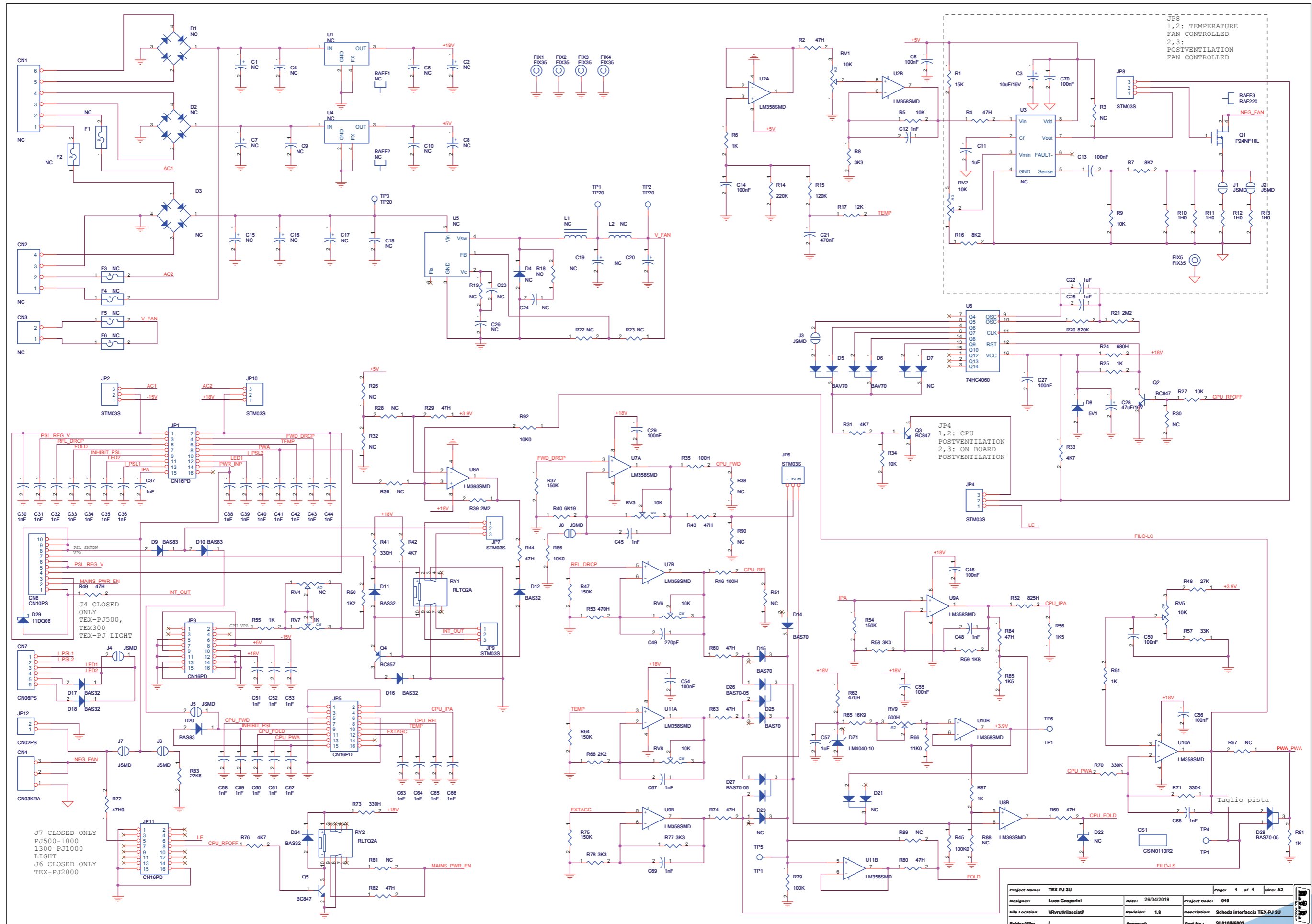
Item	Q.ty	Reference	Part
1	1	CN1	DB15MSO
2	1	CN2	CN08PS
3	1	CN3	CN06MSF
4	1	C1	100 uF 35 V
5	12	C2, C17, C18, C19, C20, C21, C56, C57, C58, C59, C60, C61	100 pF
6	34	C3, C4, C13, C14, C15, C16, C22, C23, C24, C25, C26, C27, C35, C36, C39, C40, C44, C45, C46, C47, C48, C49, C50, C51, C52, C53, C54, C70, C71, C72, C73, C55, C29, C63	100 nF
7	8	C5, C6, C7, C8, C9, C10, C11, C12	4n7
8	1	C30	4n7 0805
9	1	C28	33 uF 63 V
10	3	C31, C43, C32	470 nF
11	2	C37, C41	10 uF 25 V
12	1	C33	470nF
13	2	C34, C38	1000 uF 35 V
14	7	C42, R90, R142, D16, D18, D4	NC
15	7	C74, C75, C76, C77, C78, C79, C80	1 nF
16	1	C62	1 uF
17	2	DZ2, DZ1	LM4040 10 V
18	2	D8, D1	BAV 70
19	2	D3, D2	BAS 32
20	6	D5, D7, D9, D10, D12, D13	4004
21	3	D6	LED SMD RED 3X2,6 MM
22		D11, D14	LED SMD GREEN 3X2,6 MM
23	8	D15, D17, D20, D22, D26, D28, D30, D31	10 V
24	7	D19, D21, D23, D24, D25, D27, D29	BAS70
25	14	FIX1, FIX2, FIX3, FIX4, FIX5, FIX6, FIX7, FIX8, FIX9, FIX10, FIX11, FIX12, FIX13, FIX14	FIX35
26	5	Q1, Q2, Q3, Q4, Q5	MMBT540LT1
27	4	RV1, RV2, RV3, RV4	100K
28	4	RV5, RV6, RV7, RV8	5K
29	1	RV9	20K
30	4	R1, R2, R3, R5	51 H
31	8	R4, R12, R17, R24, R31, R33, R37, R42	100 K
32	35	R6, R7, R8, R11, R14, R15, R16, R18, R19, R20, R21, R22, R26, R32, R60, R63, R64, R65, R73, R74, R75, R76, R77, R84, R85, R94, R121, R126, R127, R128, R143, R156, R157, R158, R159	10 K
33	3	R9, R43, R80	1 M
34	8	R10, R23, R25, R29, R30, R34, R36, R68	470 H
35	2	R35, R13	33 K
36	1	R27	49K9
37	1	R28	3K3
38	5	R38, R39, R40, R41, R100	100 H
39	14	R44, R45, R46, R47, R48, R49, R50, R51, R52, R53, R54, R55, R93, R133	4K7
40	5	R56, R57, R58, R59, R66	47 H
41	4	R61, R99, R101, R112	1 K
42	1	R62	2K49
43	1	R67	18 K
44	3	R69, R83, R110	47 K
45	2	R70, R79	12 K
46	4	R71, R88, R89, R92	2K2
47	1	R72	11K5
48	3	R78, R91, R111	1 H
49	2	R81, R160	15 K
50	1	R82	165 K

Item	Q.ty	Reference	Part
51	2	R86, R87	20 K
52	48	R95, R96, R97, R98, R102, R103, R104, R105, R106, R107, R108, R109, R113, R114, R115, R116, R117, R118, R119, R120, R122, R123, R124, R125, R129, R130, R131, R132, R134, R135, R136, R137, R138, R139, R140, R141, R144, R145, R146, R147, R148, R149, R150, R151, R152, R153, R154, R155	1K8
53	1	R142	180 H
54	4	SH1, SH2, SH3, SH4	0,005 ohm
55	8	U1, U6, U7, U8, U13, U14, U15, U16	TL074SMD
56	4	U2, U3, U4, U5	TL071/SO
57	1	U10	LM7815
58	1	U11	LM7912ISOLATO
59	1	U12	TL072SMD



	PRODUCT NAME:	TEX-LCD	PART NAME:	INTERFACE CARD					
	DESIGNER:	L. GASPERINI	DATE:	29/07/2015					
ARCHIVING:	"RVRUT" SERVER, "RILASCIATI" FOLDER	REVISION:	1.1	SCALE:	2:1	SIZE:	A3	PAGE:	1 DI 1
PROJECT CODE:	010	DOCUMENT CODE:	SL010IN5003						

SL010IN5003



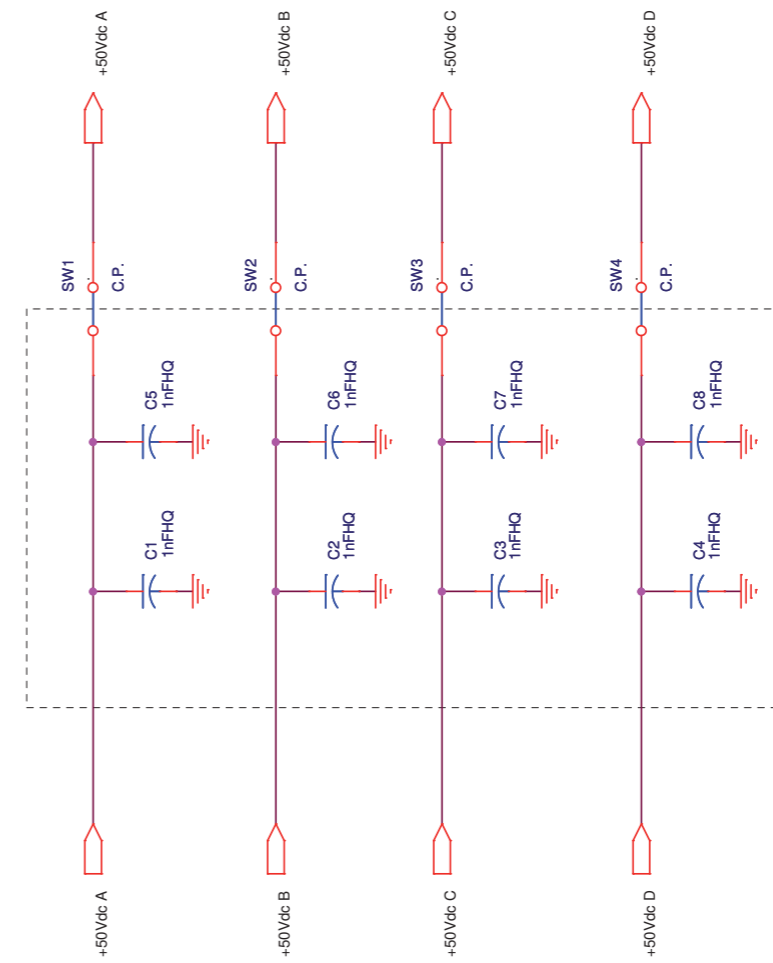
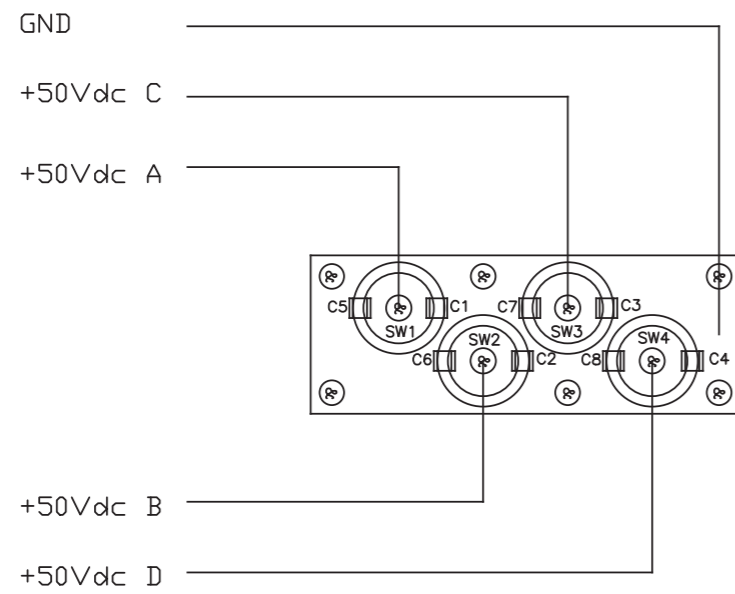
Project Name:	TEX-PJ 3U	Page:	1 of 1	Size:	A2
Designer:	Luca Gasparini	Date:	26/04/2019	Project Code:	010
File Location:	WVrvr\frilasciati\	Revision:	1.8	Description:	Scheda interfaccia TEX-PJ 3U
Folder/File:	/	Approval:		Part No.:	SL010IN5003

SL010IN5003

Scheda interfaccia TEX-PJ 3U Revised: 26/04/2019
 SL010IN5003 Revision: 1.8
 Luca Gasperini
 TEX-PJ 3U

Item	Quantity	Reference	Part	Description			
1	1	CN1	NC	Conn. tipo KRA a 6 poli			
2	1	CN2	NC	Conn. tipo KRA a 4 poli			
3	1	CN3	NC	Conn. tipo KRA a 2 poli			
4	1	CN4	CN03KRA	Conn. tipo KRA a 3 poli			
5	1	CN6	CN10PS	Connettore 10 poli Mascon			
6	1	CN7	CN06PS	Connettore 6 poli Mascon			
7	1	CS1	CSIN0110R2	Circuito stampato			
8	2	C1,C7	NC	Cond. Elettr. Dia 10 P5.08			
9	2	C2,C8	NC	Cond. Elettr. Dia 5 P2.54			
10	1	C3	10uF/16V	Cond. Elettr. SMD d. 4mm			
11	8	C4,C5,C9,C10,C18,C23,C24,C26	NC	Cond. ceramico multistrato p 5mm			
12	11	C6,C13,C14,C27,C29,C46,C50,C54,C55,C56,C70	100nF	Cond. SMD 0805			
13	4	C11,C22,C25,C57	1uF	Cond. SMD 0805			
14	33	C12,C30,C31,C32,C33,C34,C35,C36,C37,C38,C39,C40,C41,C42,C43,C44,C45,C48,C51,C52,C53,C58,C59,C60,C61,C62,C63,C64,C65,C66,C67,C68,C69	1nF	Cond. SMD 0805			
15	5	C15,C16,C17,C19,C20	NC	Cond. Elettr. Dia 13 P5.08			
16	1	C21	470nF	Cond. SMD 0805			
17	1	C28	47uF/16V	Cond. Elettr. SMD d. 5mm			
18	1	C49	270pF	Cond. SMD 0805			
19	1	DZ1	LM4040-10	Diode Zener SMD SOT23			
20	2	D1,D2	NC	Ponte diodi tondi W			
21	1	D3	NC	Ponte diodi KBL/KBU			
22	1	D4	NC	Diode plastico P600			
23	2	D5,D6	BAV70	Doppio Diode SMD SOT23			
24	1	D8	5V1	MINIMELF SMD Zener Diode			
25	3	D9,D10,D20	BAS83	MINIMELF SMD Diode			
26	6	D11,D12,D16,D17,D18,D24	BAS32	MINIMELF SMD Diode			
27	3	D14,D15,D25	BAS70	Diode SMD SOT23			
28	3	D26,D27,D28	BAS70-05	Doppio Diode SMD SOT23			
29	1	D22	NC	MINIMELF SMD Zener Diode			
30	3	D23, D7, D21	NC	Diode SMD SOT23			
31	1	D29	11DQ06	Diode Schottky			
32	5	FIX1, FIX2, FIX3, FIX4, FIX5	FIX35	Foro fissaggio 3.5mm			
33	1	F1	NC	Fusibile autorip. 13mm			
34	5	F2,F3,F4,F5,F6	NC	Fusibile autorip. 7mm			
35	4	JP1,JP3,JP5,JP11	CN16PD	Conn.M.C.S.Dritto 16P alette			
36	7	JP2,JP4,JP6,JP7,JP8,JP9,JP10	STM03S	Strip maschio 3 pin			
37	1	JP12	CN02PS	Connettore 2 poli Mascon			
38	8	J1,J2,J3,J4,J5,J6,J7,J8	JSMD	Pad SMD a saldare			
39	1	L1	NC	Induttanza toroidale			
40	1	L2	NC	Induttanza cilindrica VK200			
41	1	Q1	P24NF10L	Trans. FET N TO220			
42	3	Q2,Q3,Q5	BC847	Trans. NPN SOT23			
43	1	Q4	BC857	Trans. PNP SOT23			
44	2	RAFF1,RAFF2	NC	Dissipatore TO220			
45	1	RAFF3	RAF220	Dissipatore TO220			
46	2	RV1,RV2	10K	Trimmer SMD			
47	4	RV3,RV5,RV6,RV8	10K	Trimm. multi SMD 3269			
48	1	RV4	NC	Trimm. multi SMD 3269			
49	1	RV7	1K	Trimmer Rg V 3386P			
50	1	RV9	500H	Trimmer SMD			
51	2	RY1,RY2	RLTQ2A	Rele' TQ2			
52	1	R1	15K	Res. SMD 0805			
53	14	R2,R4,R29,R43,R44,R49,R60,R63,R69,R72,R74,R80,R82,R84	47H	Res. SMD 0805			
54	13	R3,R26,R28,R30,R32,R36,R38,R51,R67,R81,R88,R89,R90	NC	Res. SMD 0805			
55	6	R5,R9,R27,R34,R86,R92	10K	Res. SMD 0805			
56	6	R6,R25,R55,R61,R87,R91	1K	Res. SMD 0805			
57	2	R7,R16	8K2	Res. SMD 0805			
58	4	R8,R58,R77,R78	3K3	Res. SMD 0805			
59	4	R10,R11,R12,R13	1H0	Res. SMD 2512 1%			
60	1	R14	220K	Res. SMD 0805			
61	1	R15	120K	Res. SMD 0805			
62	1	R17	12K	Res. SMD 0805			
63	4	R18,R19,R22,R23	NC	Res. 1/4W			
64	1	R20	820K	Res. SMD 0805			
65	2	R21,R39	2M2	Res. SMD 0805			
66	1	R24	680H	Res. SMD 0805			
67	4	R31,R33,R42,R76	4K7	Res. SMD 0805			
68	2	R35,R46	100H	Res. SMD 0805			
69	5	R37,R47,R54,R64,R75	150K	Res. SMD 0805			
70	1	R40	6K19	Res. SMD 0805			
71	2	R41,R73	330H	Res. SMD 0805			
72	2	R45,R79	100K	Res. SMD 0805			
73	1	R48	27K	Res. SMD 0805			
74	1	R50	1K2	Res. SMD 0805			
75	1	R52	825H	Res. SMD 0805			
76	2	R53,R62	470H	Res. SMD 0805			
77	2	R56,R85	1K5	Res. SMD 0805			
78	1	R57	33K	Res. SMD 0805			
79	1	R59	1K8	Res. SMD 0805			
80	1	R65	16K9	Res. SMD 0805			
81	1	R66	11K0	Res. SMD 0805			
82	1	R68	2K2	Res. SMD 0805			
83	2	R70,R71	330K	Res. SMD 0805			
84	1	R83	22K6	Res. SMD 0805			
85	3	TP1,TP2,TP3	TP20	Foro dia. 2mm			
86	3	TP4,TP5,TP6	TP1	Test point			
87	2	U1,U4	NC	Stabilizzatore TO220F Isolato			
88	5	U2,U7,U9,U10,U11	LM358SMD	Dual Op. SMD SO8			
89	1	U3	NC	Fan controller SO8			
90	1	U5	NC	Regolatore switching			
91	1	U6	74HC4060	Divider SMD SO16			
92	1	U8	LM393SMD	Dual Op. SMD SO8			
93	7	Ponticello per connettore strip da CS	JUMPER	JUMPER			

SLFILPJ1KM



Description: Passthrough Card	Page: 1 of 1
Designer: Franceschi A.	Rev. 2.1
Part No.: SLFILPJ1KM	Date: 17/06/2013

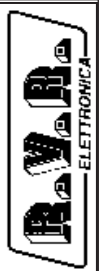
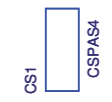
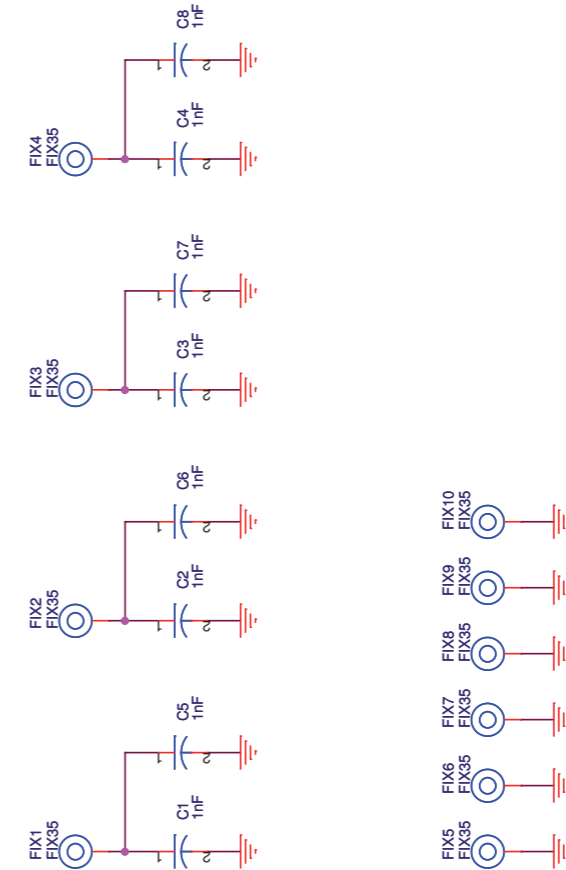
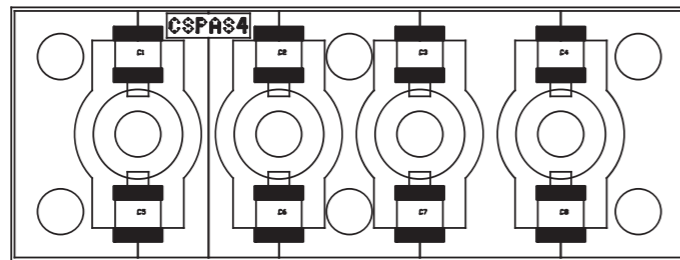
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	DESIGNER : FRANCESCHI A.	DATE : 17/06/13	REVISION : 1.0	SCALE : 1:1	SIZE : A4
ARCHIVING : 'RVRUT' SERVER, 'RILASCIATI' FOLDER	PROJECT CODE : 252	DOCUMENT CODE : SLFILPJ1KM			

SLFILPJ1KM

Passthrough Card Revised: 17/06/2013
SLFILPJ1KM Revision: 2.1
Franceschi A.

Item	Quantity	Reference	Part
1	8	C1, C2, C3, C4, C5, C6, C7, C8	1nFHQ
2	4	SW1, SW2, SW3, SW4	C.P.

SLFIPAS4R01V01



Description: PASS THROUGH FILTER	Size: A4	Page: 1 of 1
Designer: G. DE DONNO	Rev: 1.0	Date: 02/10/2017
Part No.: SLFIPAS4R01V01		

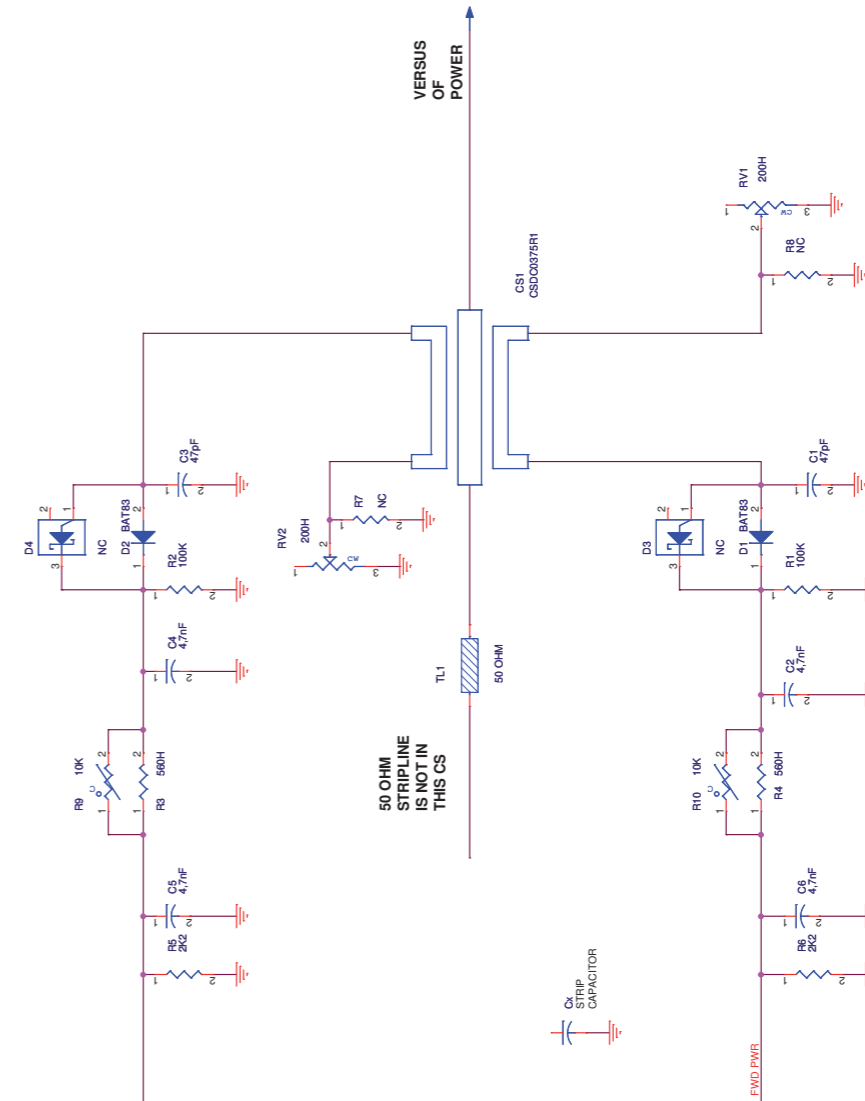
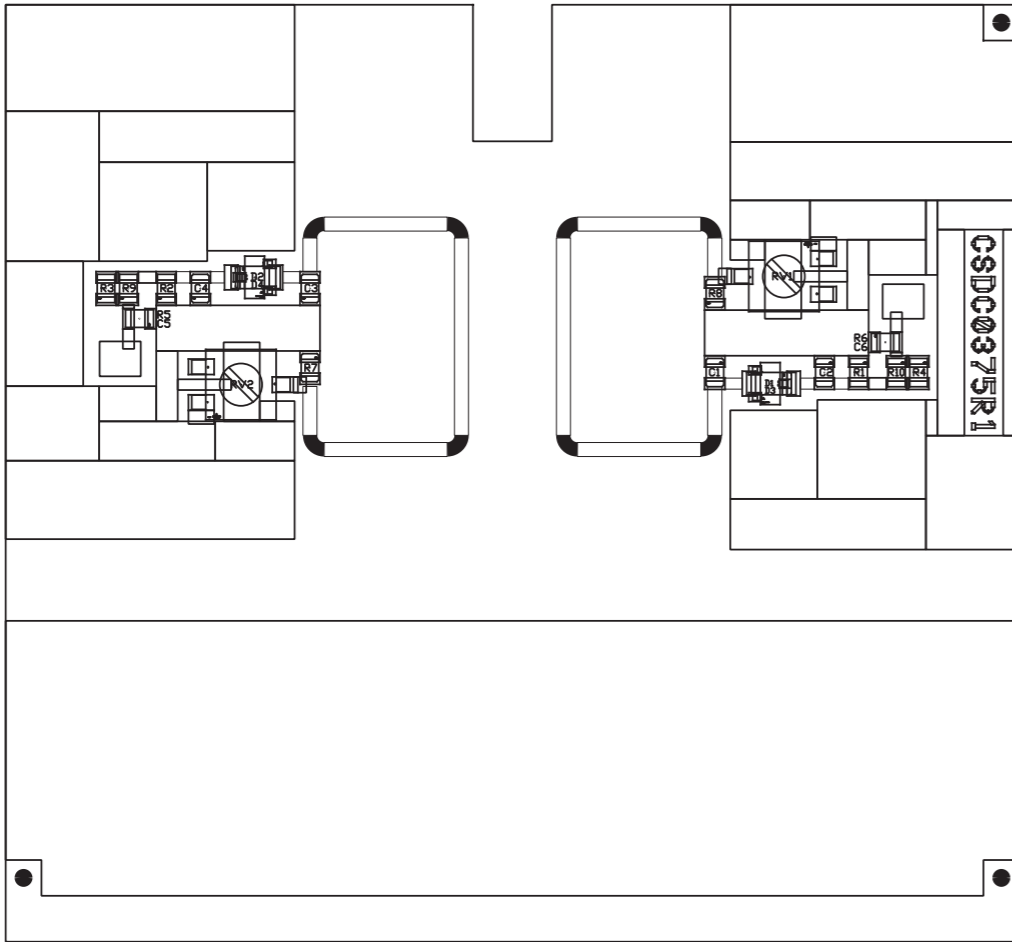
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	DESIGNER : G. DE DONNO	DATE : 02/10/17	REVISION : 1.0	SCALE : 2:1
ARCHIVING : 'RVTRUT' SERVER, 'RILASCIATI' FOLDER	PROJECT CODE : <>	DOCUMENT CODE : SLFIPAS4R01V01		

SLFIPAS4R01V01

PASS THROUGH FILTER Revised: 02/10/2017
 SLFIPAS4R01V01 Revision: 1.0
 G. DE DONNO

Item	Quantity	Reference	Part
1	1	CS1	CSPAS4 Circuito stampato
2	8	C1, C2, C3, C4, C5, C6, C7, C8	1nF Cond. SMD 1212 HQ
3	16	FIX1, FIX2, FIX3, FIX4, FIX5, FIX6, FIX7, FIX8, FIX9, FIX10	FIX35 Foro fissaggio 3.5mm

SLDC0375R01V01



Description: Directional Coupler	
Designer: Franceschi A.	Sheet: 1 of 1
Part No.: SLDC0375R01V01	Rev.: 1.2 Date: 03/10/2019

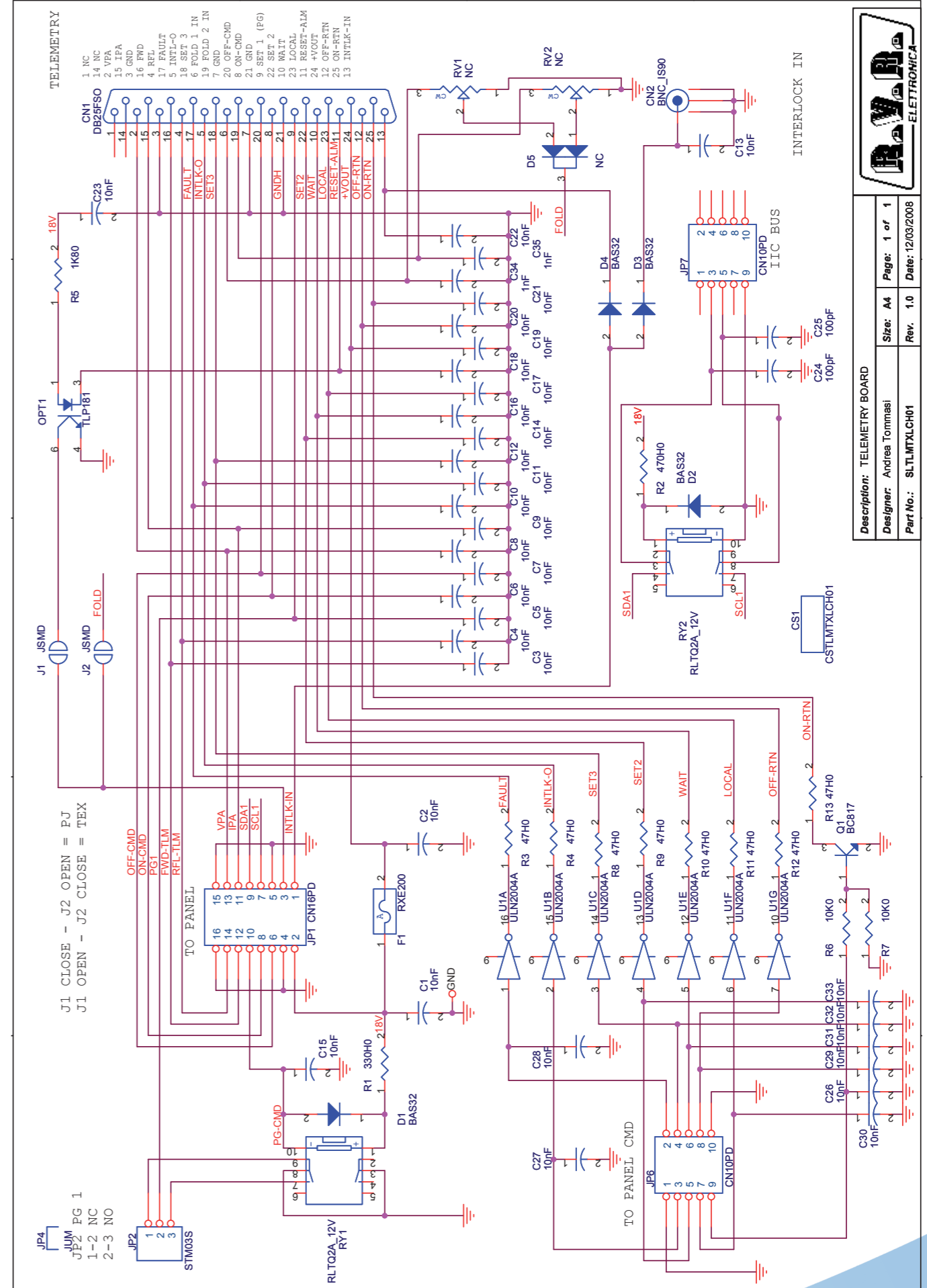
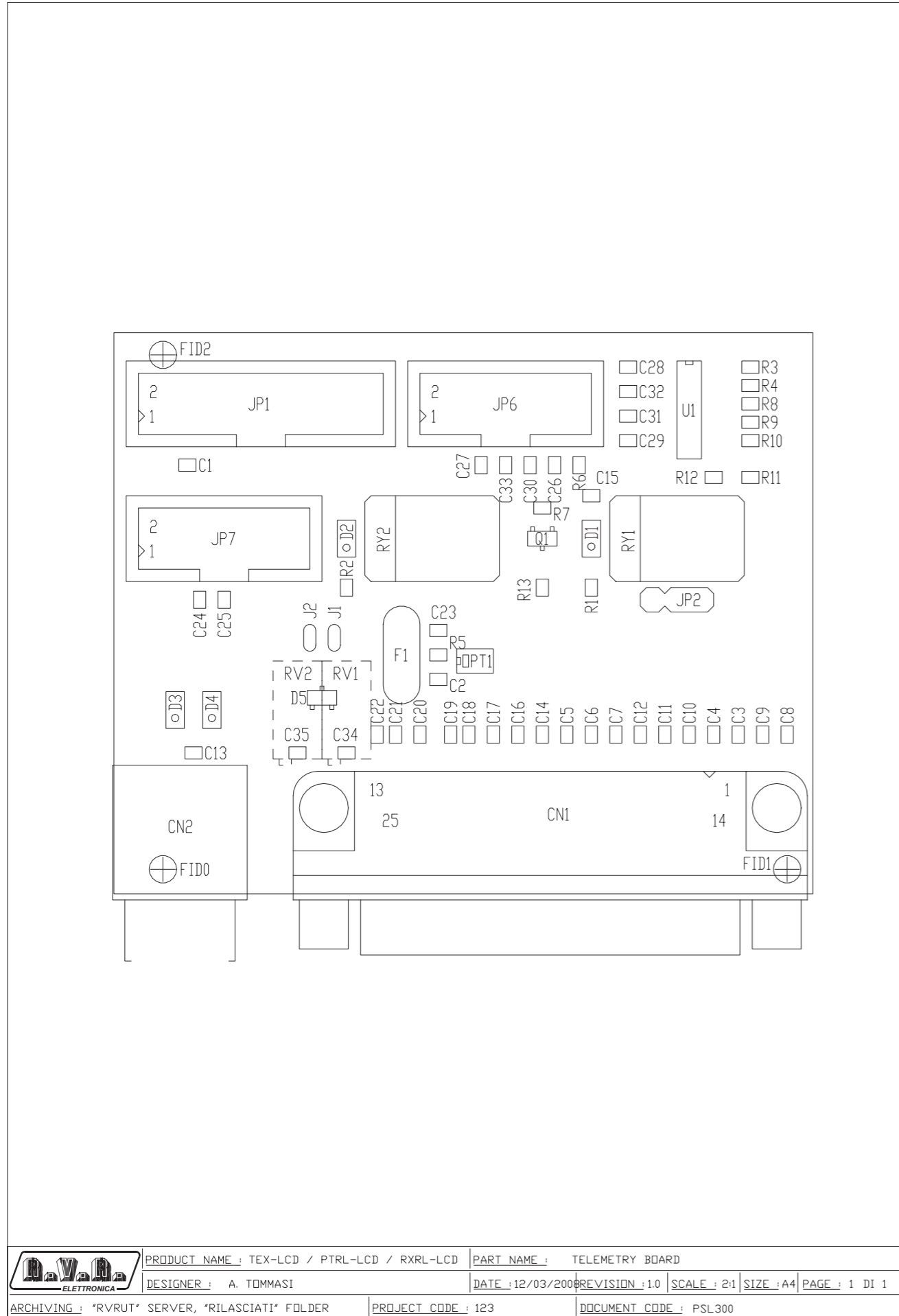
	PRODUCT NAME : TEX-LCD GREEN LINE	PART NAME : DIRECTIONAL COUPLER			
	DESIGNER : FRANCESCHI A.	DATE : 03/10/19	REVISION : 1.2	SCALE : 2:1	SIZE : A4
ARCHIVING : 'RVRUT' SERVER, 'RILASCIATI' FOLDER	PROJECT CODE : <>	DOCUMENT CODE : SLDC0375R01V**			

SLDC0375R01V01

DIRECTIONAL COUPLER Revised: 03/10/2019
 SLDC0375R01V01 Revision: 1.2
 Franceschi A.

Item	Quantity	Reference	Part	{description}
1	1	CS1	CSDC0375R1	
2	1	Cx	27pFTFL	
3	2	C3, C1	47pF	Cond. SMD 0805
4	4	C2, C4, C5, C6	4,7nF	Cond. SMD 0805
5	2	D3, D4	NC	
6	2	D1, D2	BAT83	MINIMELF Diode
7	2	RV2, RV1	200H	Trimmer SMD
8	2	R1, R2	100K	Res. SMD 0805
9	2	R3, R4	560H	Res. SMD 0805
10	2	R5, R6	2K2	Res. SMD 0805
11	2	R9, R10	10K	Res. NTC SMD 0805
12	2	R7, R8	NC	Res. SMD 0805
13	1	TL1	50 OHM	Linea strip CS

SLTLMTXLCH01

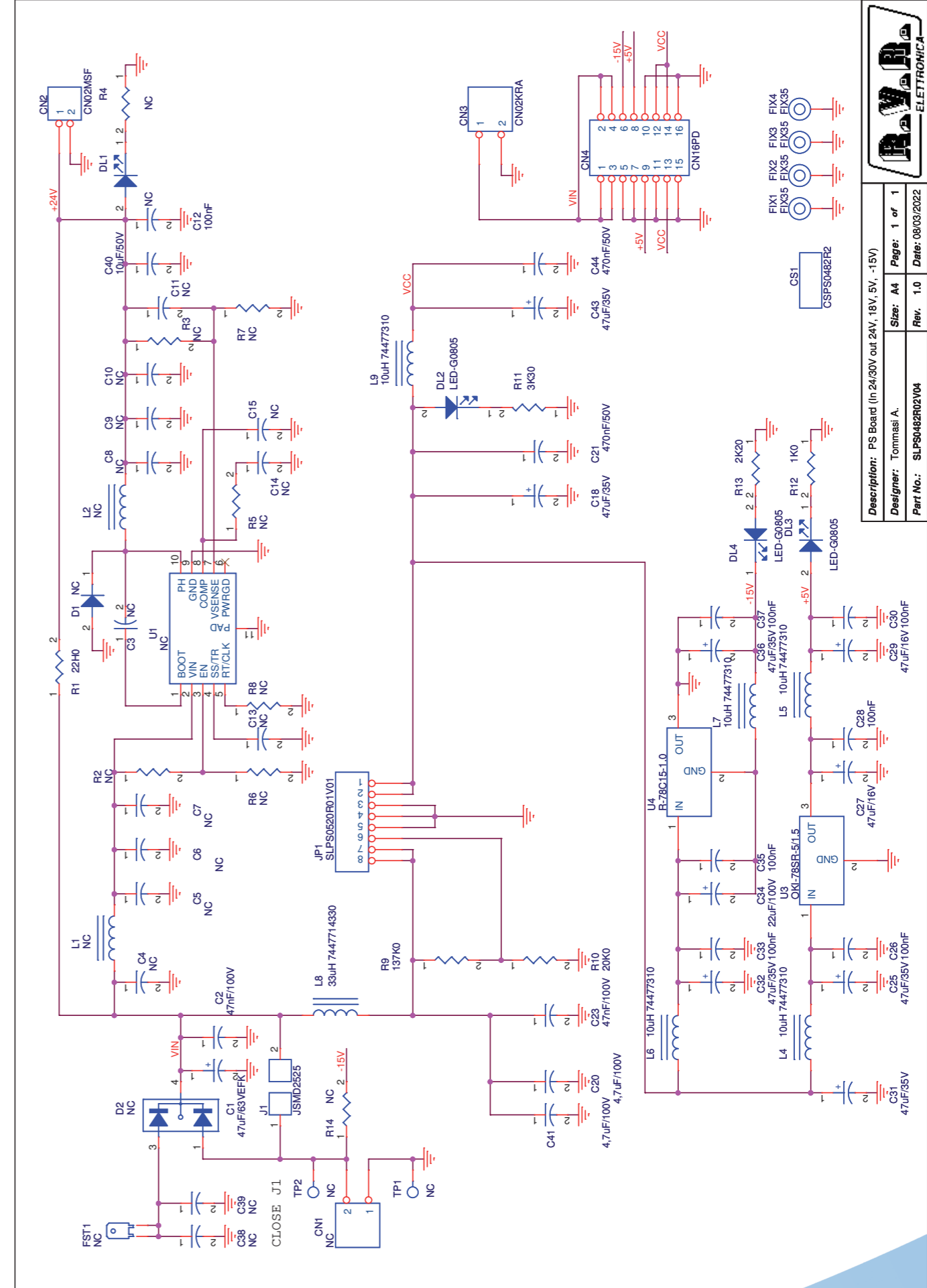
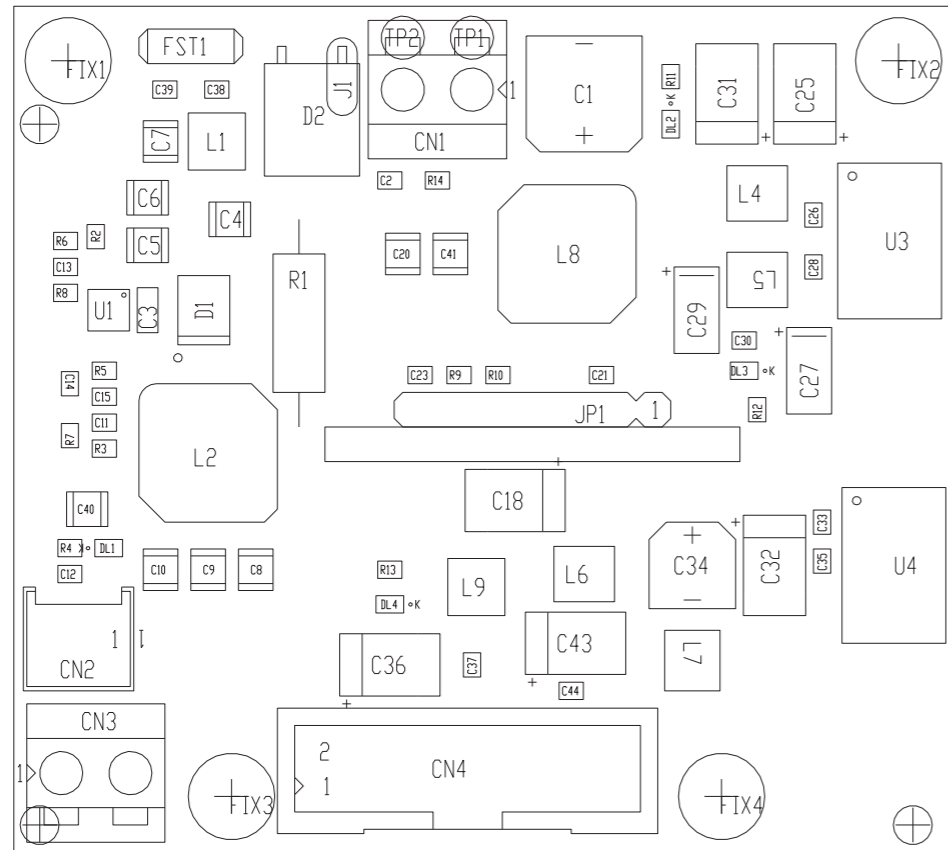


SLTLMTXLCH01

TELEMETRY BOARD Revised: 12/03/2008
 SLTLMTXLCH01 Revision: 1.0
 TEX-LCD/RXRL-LCD/PTRL-LCD
 RVR123
 Andrea Tommasi

Item	Quantity	Reference	Part	Description
1	1	CN1	DB25FSO	Connettore DB25 femm. cs 90°
2	1	CN2	BNC_IS90	Connettore BNC metallico 90°
3	1	CS1	CSTLMTXLCH01	Circuito stampato
4	31	C1,C2,C3,C4,C5,C6,C7,C8, C9,C10,C11,C12,C13,C14, C15,C16,C17,C18,C19,C20, C21,C22,C23,C26,C27,C28, C29,C30,C31,C32,C33	10nF	Cond. SMD 0805
5	2	C24,C25	100pF	Cond. SMD 0805
6	2	C34,C35	1nF	Cond. SMD 0805
7	4	D1,D2,D3,D4	BAS32	MINIMELF SMD Diode
8	1	D5	NC	Doppio Diodo SMD SOT23
9	1	F1	RXE200	Fusibile autorip. 7mm
10	1	JP1	CN16PD	Connettore 16 poli Flat cs
11	1	JP2	STM03S	Strip maschio 3 pin
12	1	JP4	JUM	Ponticello Jumper
13	2	JP6,JP7	CN10PD	Connettore 10 poli Flat cs
14	2	J1,J2	JSMD	Pad SMD a saldare
15	1	OPT1	TLP181	Optoisolatore SMD SO6
16	1	Q1	BC817	Trans. NPN SOT23
17	2	RV1,RV2	NC	Trimmer Rg H 3296X
18	2	RY1,RY2	RLTQ2A_12V	Rele' TQ2
19	1	R1	330H0	Res. SMD 0805 1%
20	1	R2	470H0	Res. SMD 0805 1%
21	8	R3,R4,R8,R9,R10,R11,R12, R13	47H0	Res. SMD 0805 1%
22	1	R5	1K80	Res. SMD 0805 1%
23	2	R6,R7	10K0	Res. SMD 0805 1%
24	1	U1	ULN2004A	Seven Inv. Buffer OC

SLPS0482R02V04



	PRODUCT NAME : <	PART NAME : POWER SUPPLY				
	DESIGNER : A. TOMMASI	DATE : 08/02/22	REVISION : 1.0	SCALE : 2:1	SIZE : A4	PAGE : 1 DI 1
ARCHIVING : 'RVrut' SERVER, 'RILASCIATI' FOLDER		PROJECT CODE : <	DOCUMENT CODE : SLPS0482R01VXX			

R.V.R. ELETTRONICA

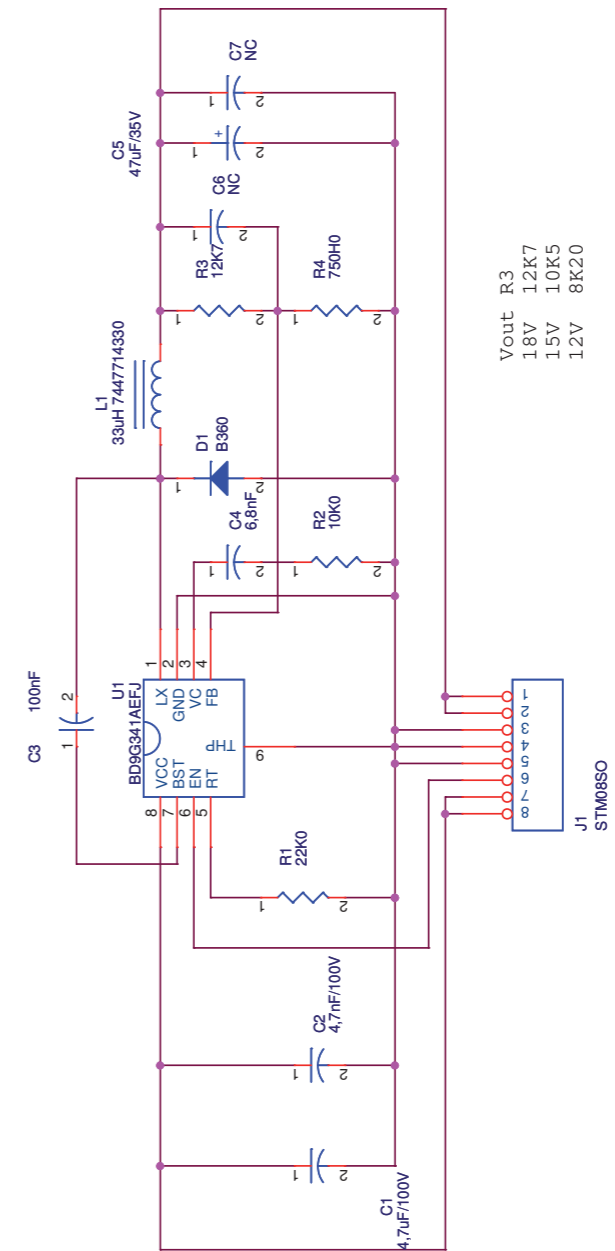
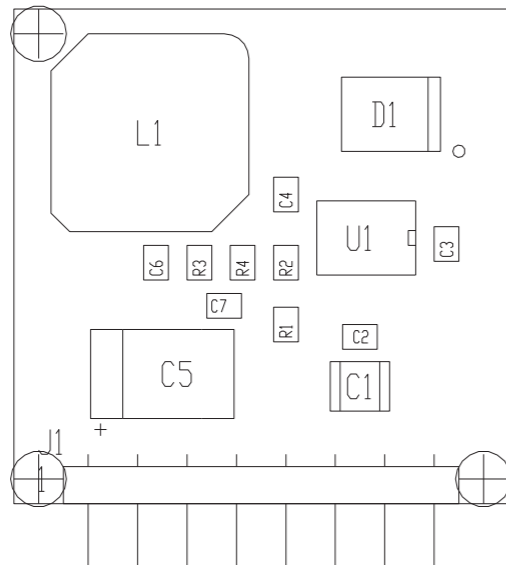
Description: PS Board (in 24V/30V out 24V, 18V, 5V, -15V)
 Designer: Tommasi A.
 Part No.: SLPS0482R02V04
 Size: A4
 Page: 1 of 1
 Rev. 1.0
 Date: 08/03/2022

SLPS0482R02V04

PS Board (In 24/30V out 24V, 18V, 5V, -15V) Revised: 08/03/2022
 SLPS0482R02V04 Revision: 1.0
 Tommasi A.

Item	Quantity	Reference	Part	Description
1	1	CN1	NC	KRA Conn. a 2 poli
2	1	CN2	CN02MSF	2 way Lumberg conn. MSF p 2.5mm
3	1	CN3	CN02KRA	KRA Conn. a 2 poli
4	1	CN4	CN16PD	16 way pcb conn. with holder
5	1	CS1	CSPS0482R2	Printed Circuit board
6	1	C1	47uF/63VEFK	SMD electr. cap. 8mm
7	2	C2, C23	47nF/100V	0805 SMD capacitor
8	1	C3	NC	1206 SMD capacitor
9	7	C4, C5, C6, C7, C8, C9, C10	NC	1210 SMD capacitor
10	2	C11, C15	NC	0805 COG SMD capacitor
11	7	C12, C26, C28, C30, C33, C35, C37	100nF	0805 SMD capacitor
12	4	C13, C14, C38, C39	NC	0805 SMD capacitor
13	6	C18, C25, C31, C32, C36, C43	47uF/35V	SMD tantalium cap. size D
14	2	C20, C41	4,7uF/100V	1210 SMD capacitor
15	2	C21, C44	470nF/50V	0805 SMD capacitor
16	2	C27, C29	47uF/16V	SMD tantalium cap. size C
17	1	C34	22uF/100V	SMD electr. cap. 6.3mm
18	1	C40	10uF/50V	1210 SMD capacitor
19	1	DL1	NC	Green LED SMD 0805
20	3	DL2, DL3, DL4	LED-G0805	Green LED SMD 0805
21	1	D1	NC	SMD diode case SMB
22	1	D2	NC	Dual diode schottky SMD DPAK
23	4	FIX1, FIX2, FIX3, FIX4	FIX35	3.5mm Fixing hole
24	1	FST1	NC	PCB faston p. 5.08
25	1	JP1	SLPS0520R01V01	Switching PS Board
26	1	J1	JSMD2525	SMD pad 2 x 2.5x2.5 mm
27	1	L1	NC	Wurth LQS40xx series inductor
28	1	L2	NC	Wurth PD10xx series inductor
29	5	L4, L5, L6, L7, L9	10uH 74477310	SMD Vertical Ind. WE PD2 series
30	1	L8	33uH 7447714330	Wurth PD10xx series inductor
31	1	R1	22H0	2W resistor
32	8	R2, R3, R4, R5, R6, R7, R8, R14	NC	0805 1% SMD res.
33	1	R9	137K0	0805 1% SMD res.
34	1	R10	20K0	0805 1% SMD res.
35	1	R11	3K30	0805 1% SMD res.
36	1	R12	1K0	0805 1% SMD res.
37	1	R13	2K20	0805 1% SMD res.
38	2	TP1, TP2	NC	TP Hole dia. 1.3mm
39	1	U1	NC	Step down DC2DC conv.
40	1	U3	OKI-78SR-5/1.5	Switch. voltage reg. SIP3
41	1	U4	R-78C15-1.0	Switch. voltage reg. SIP3

SLPS0520R01V01



PRODUCT NAME : POWER SUPPLY PART NAME : 18V SWITCHING POWER SUPPLY MODULE
 DESIGNER : A. TOMMASI DATE : 12/11/21 REVISION : 1.0 SCALE : 3:1 SIZE : A4 PAGE : 1 DI 1

ARCHIVING : *RVRUT* SERVER, *RILASCIATI* FOLDER PROJECT CODE : <> DOCUMENT CODE : SLPS0520R01V01



Description: 18V Switching Power Supply Module
 Designer: Tommasi Size: A4 Page: 1 of 1
 Part No.: SLPS0520R01V01 Rev. 1.0 Date: 12/11/2021

CS1
CSPS0520R1

SLPS0520R01V01

18V Switching Power Supply Module Revised: Friday, November 12, 2021
 SLPS0520R01V01 Revision: 1.0
 Tommasi

Item	Quantity	Reference	Part	Description
1	1	CS1	CSPS0520R1	Printed Circuit board
2	1	C1	4,7uF/100V	1210 SMD capacitor
3	1	C2	4,7nF/100V	0805 SMD capacitor
4	1	C3	100nF	0805 SMD capacitor
5	1	C4	6,8nF	0805 SMD capacitor
6	1	C5	47uF/35V	SMD tantalium cap. size D
7	2	C6, C7	NC	0805 SMD capacitor
8	1	D1	B360	SMD diode cont. SMB
9	1	J1	STM08SO	Male strip 8 pin 90°
10	1	L1	33uH 7447714330	Würth PD10xx series inductor
11	1	R1	22K0	0805 SMD res.
12	1	R2	10K0	0805 SMD res.
13	1	R3	12K7	0805 SMD res.
14	1	R4	750H0	0805 SMD res.
15	1	U1	BD9G341AEFJ	Switching regulator