DISTRIBUZIONE ALIMENTAZIONI DC

Alimentatore Esterno

MOLEX_39300060

J2

POWER +24V Stepper Motors
Stepper Motor GND
POWER GND
POWER 24V

J3 — JST B10B-XH-A — +24V

J3

+5V — JST B20B-PHDSS

J4

+3.3V

JST B20B-PHDSS

J5

DC/DC POWER SUPPLY MODULES

TENSIONI INGRESSO

POWER_24V

GND

TENSIONI USCITA

PWR_SUPPLY_OUT_12V — **Output +12V 9A**

PWR_SUPPLY_OUT_5V — **Output +5V 5A**

PWR_SUPPLY_OUT_3V3 — **Output +3.3V 5A**

PWR_SUPPLY_OUT_30V — **Output +30V 5A**

12V locale

SH1 / SH2 — JumperPower_NC — **Output +12V 7A**

+12V

J1 — **Alimentazione scheda RLB**

GND

MOLEX 39-28-1023

STEPPER_PW	driver Stepper Motors
SOL_24V	driver Solenoids
+24V	driver DC motor e barre LED
STAPLERPW_24V	stapler (scheda esterna)
STAPLERCMD_24V	stapler (scheda esterna)
DOT_24V	DOT MATRIX (scheda esterna)
CIS_24V	CIS (scheda esterna)

SH3

PH_5V	stadio ingresso fotocellule
+5V	logica 5v su scheda
STAPLER_5V	stapler (scheda esterna)
MICR_5V	micr (scheda esterna)
DOT_5V	dot matrix (scheda esterna)

SH4

+3.3V	logica 3v3 su scheda
CIS_3.3V	CIS (scheda esterna)

SH5

IKJ_30V	inkjet (scheda esterna)

TP1 TP2 TP3 — Testpoint PAD

TP4 TP5 TP6 — Testpoint PAD

Oscilloscope GND test points: equally spaced alongside PCB

J6 — Faston 6-3x0-8-90

Main connection to metal chassis

Title: Rototype - RPB		
Size: A4	Document Number: CONNETTORE INGRESSO ALIMENTAZIONE DC	Rev: 1.0
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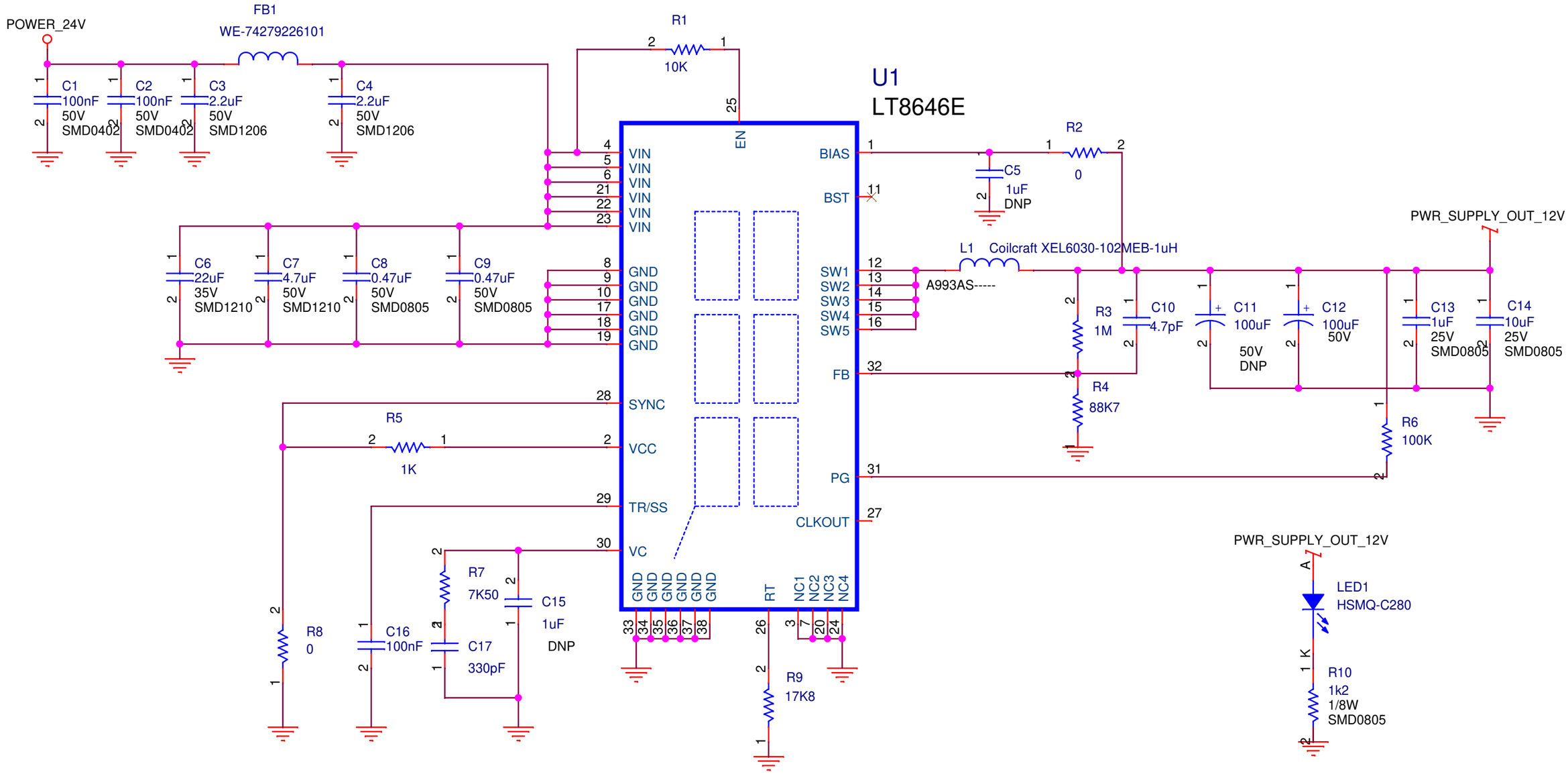
DC-DC 12V0 out



Title	Rototype - RPB	
Size A4	Document Number OUT +12V	Rev 1.0
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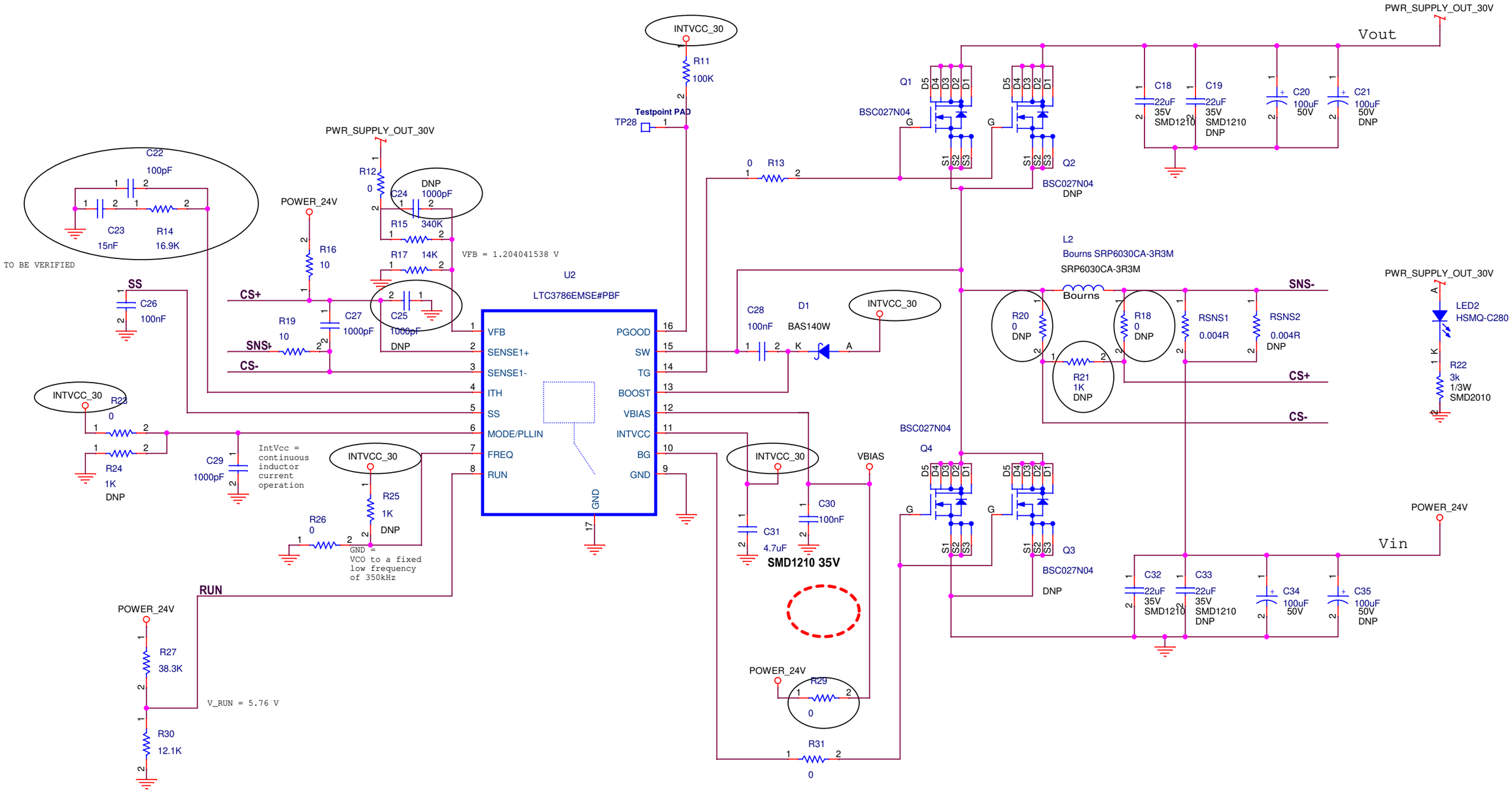
DC-DC 30Vout



Title	Rototype - RPB	
Size A3	Document Number OUT +30V	Rev 1.0
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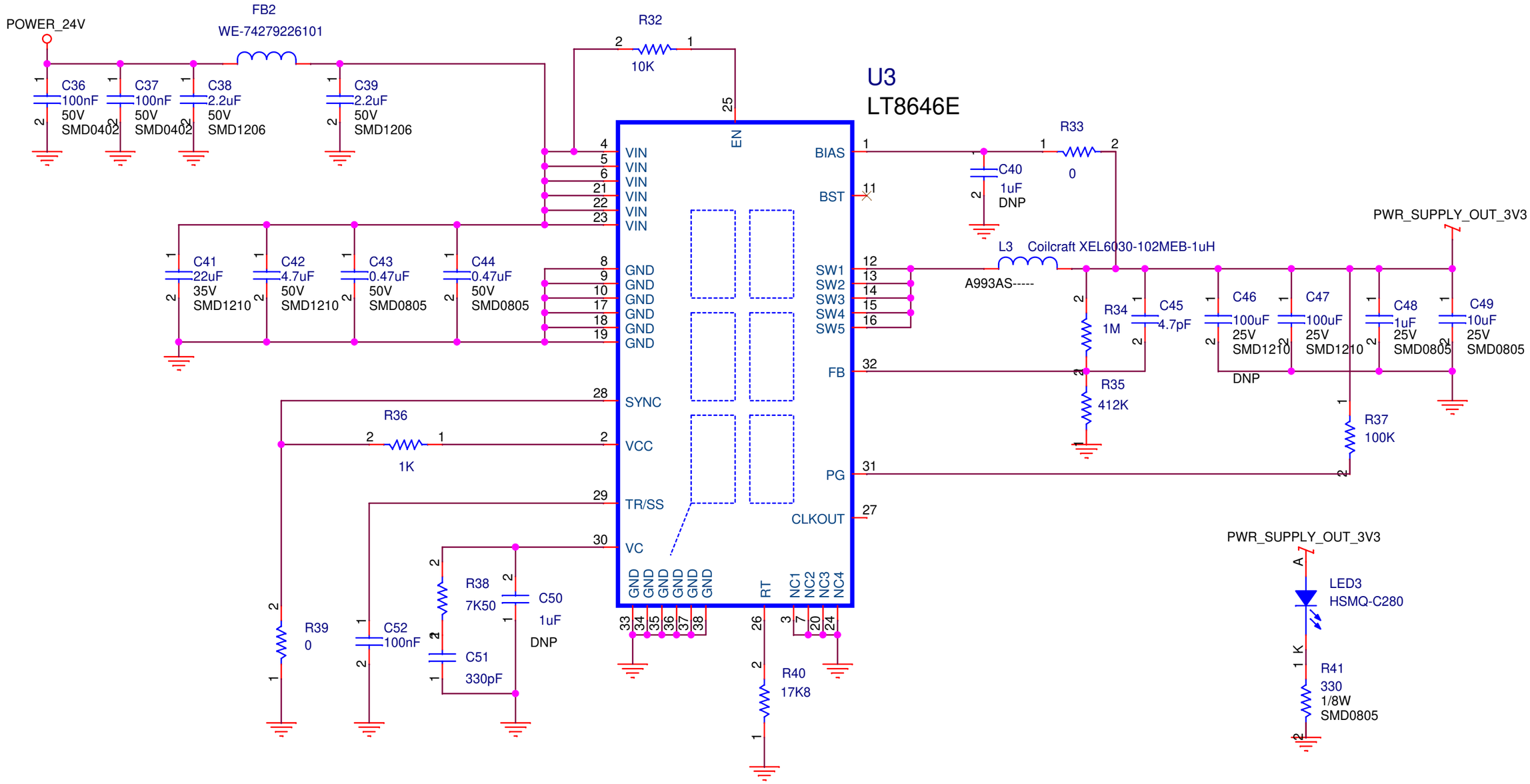
DC-DC 3V3out



Title	Rototype - RPB	
Size A4	Document Number OUT +3V3	Rev 1.0
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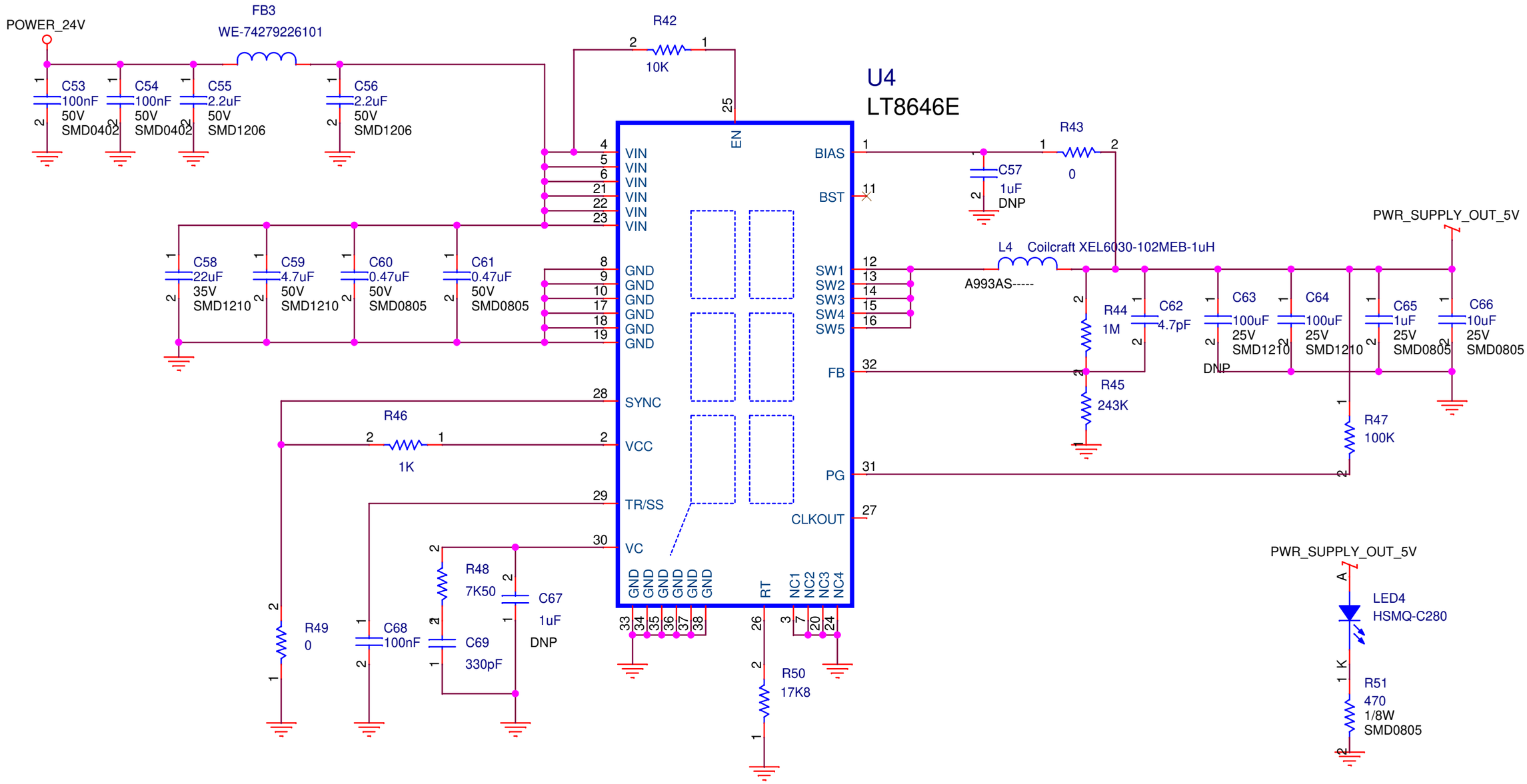
DC-DC 5Vout



Title	Rototype - RPB	
Size A4	Document Number OUT +5V	Rev 1.0
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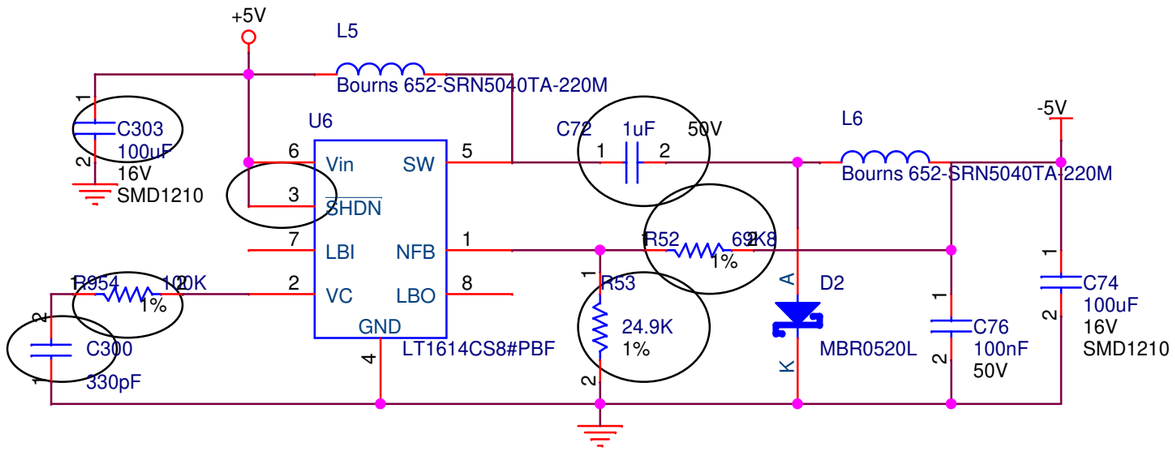
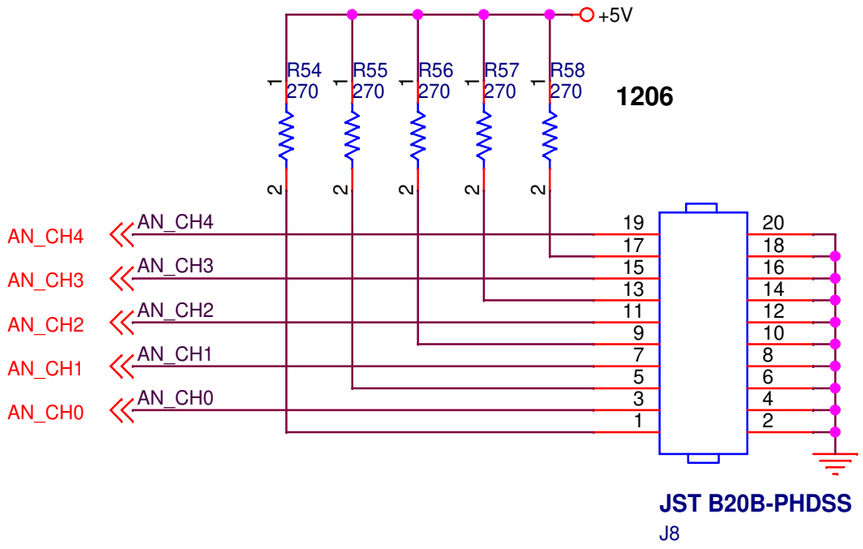
ADC alim e conn

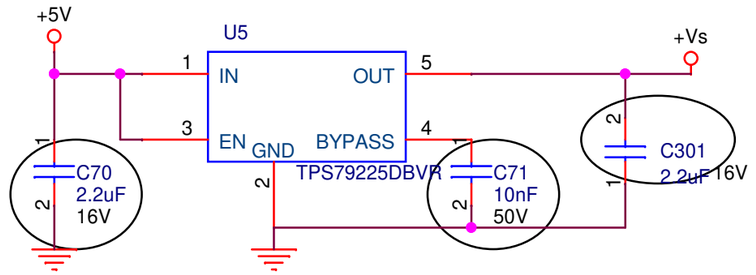
STADIO ALIMENTAZIONE AMPLIFICATORI CANALI ANALOGICI



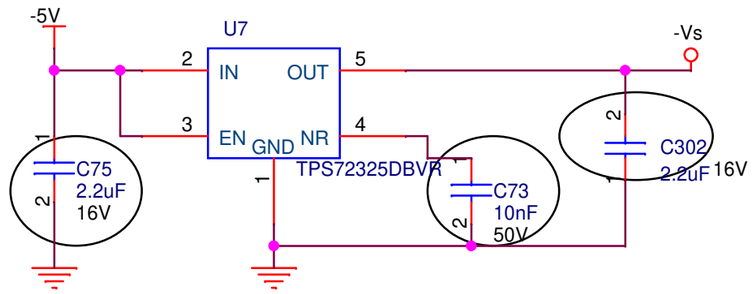


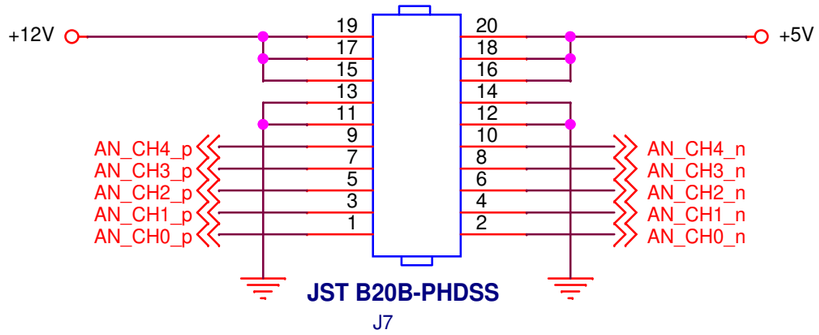
INGRESSI ANALOGICI SINGLE ENDED

Vs+ : +2V5 @ 100mA



Vs- : -2V5 @ 200mA





INGRESSI ANALOGICI DIFFERENZIALI

Title: Rototype - RPB		
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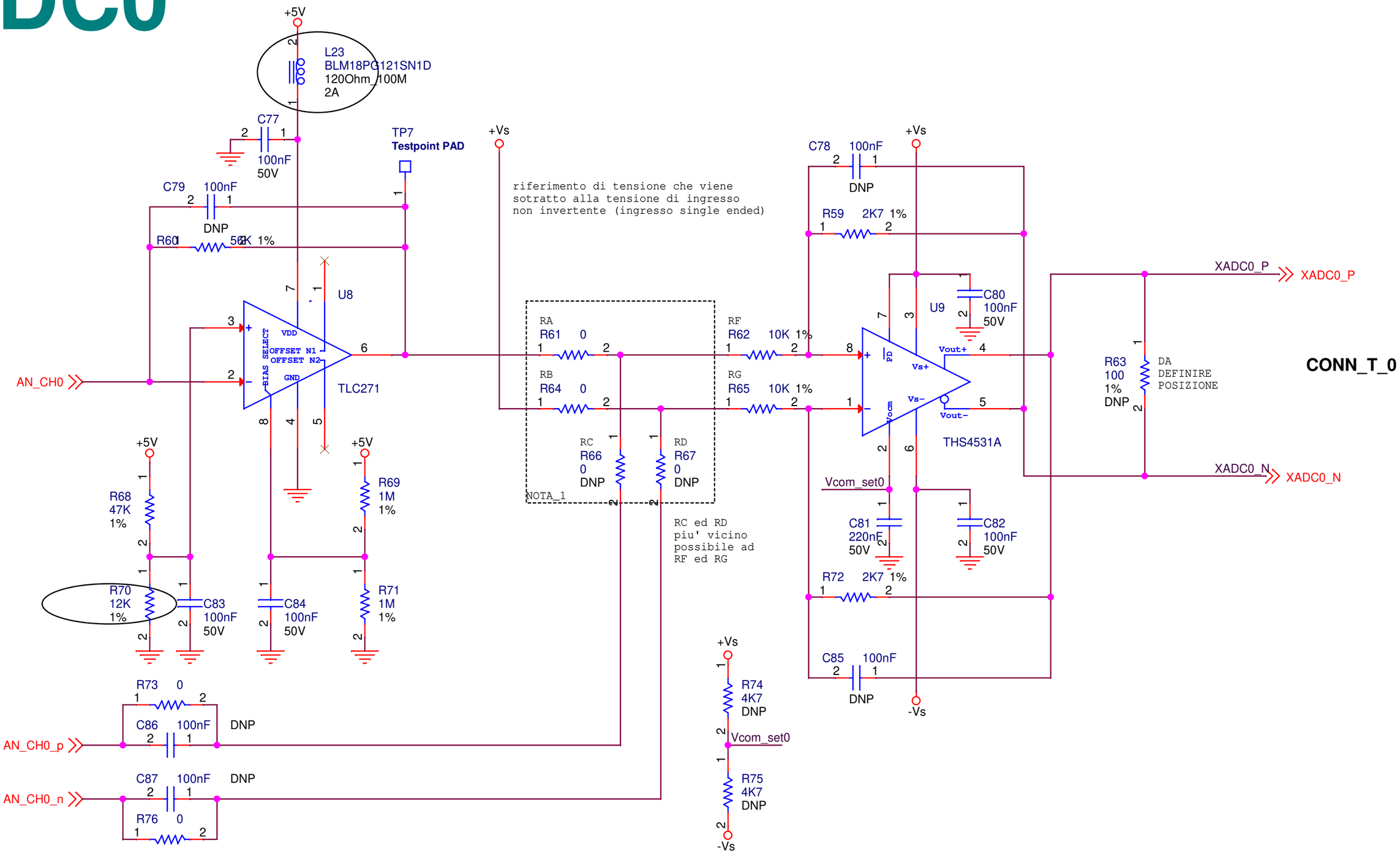
ADC0



NOTA_1
Ingressi sigle ended in corrente (sensori ottici) : montare RA e RB e non montare RC ed RD
Ingressi Differenziali : non montare RA ed RB e montare RC ed RD

Title: Rototype - RPB		
Size: A4	Document Number: ADC0	Rev: 1.0
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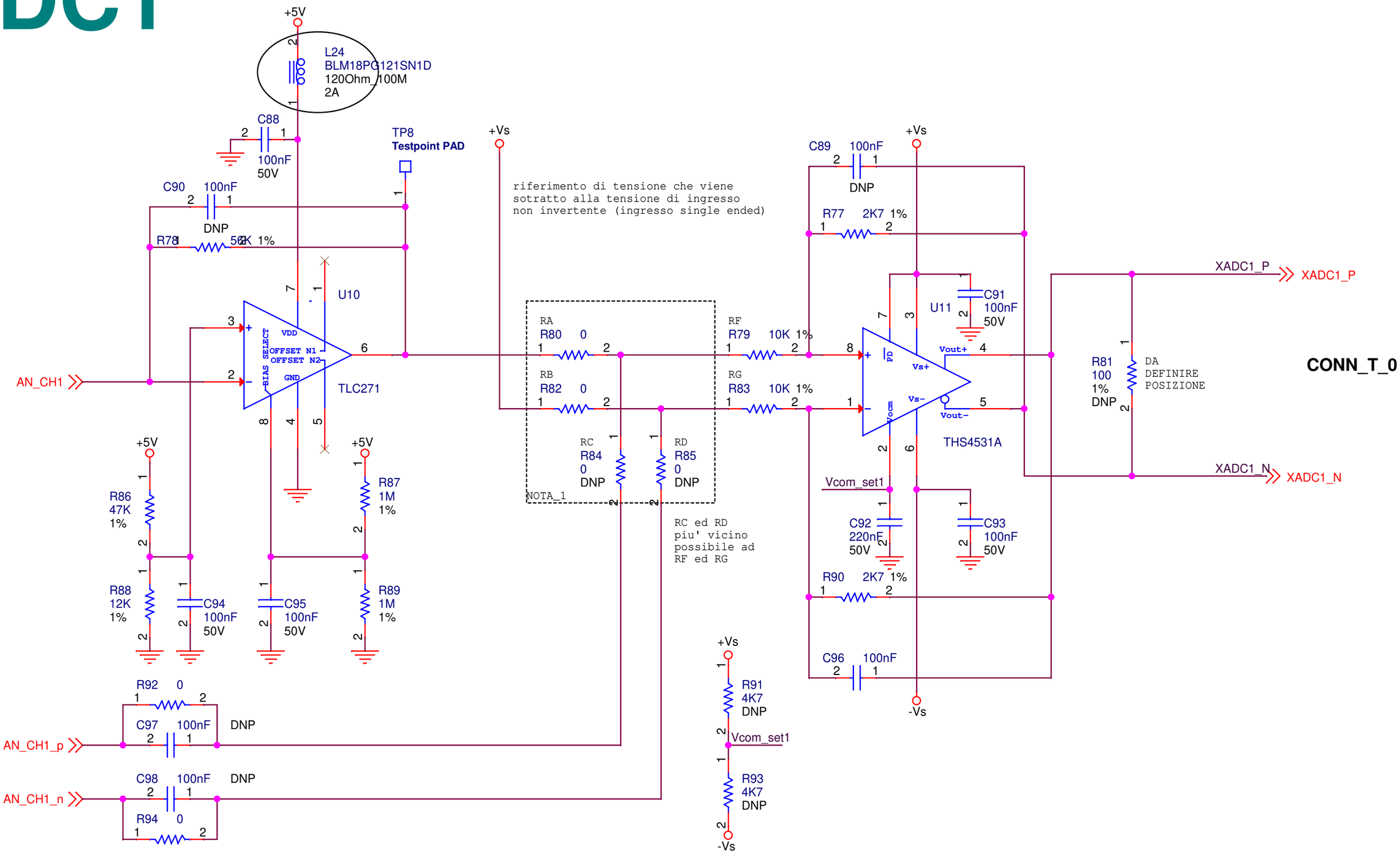
ADC1



NOTA_1
Ingressi sigle ended in corrente (sensori ottici) : montare RA e RB e non montare RC ed RD
Ingressi Differenziali : non montare RA ed RB e montare RC ed RD

Title: Rototype - RPB		
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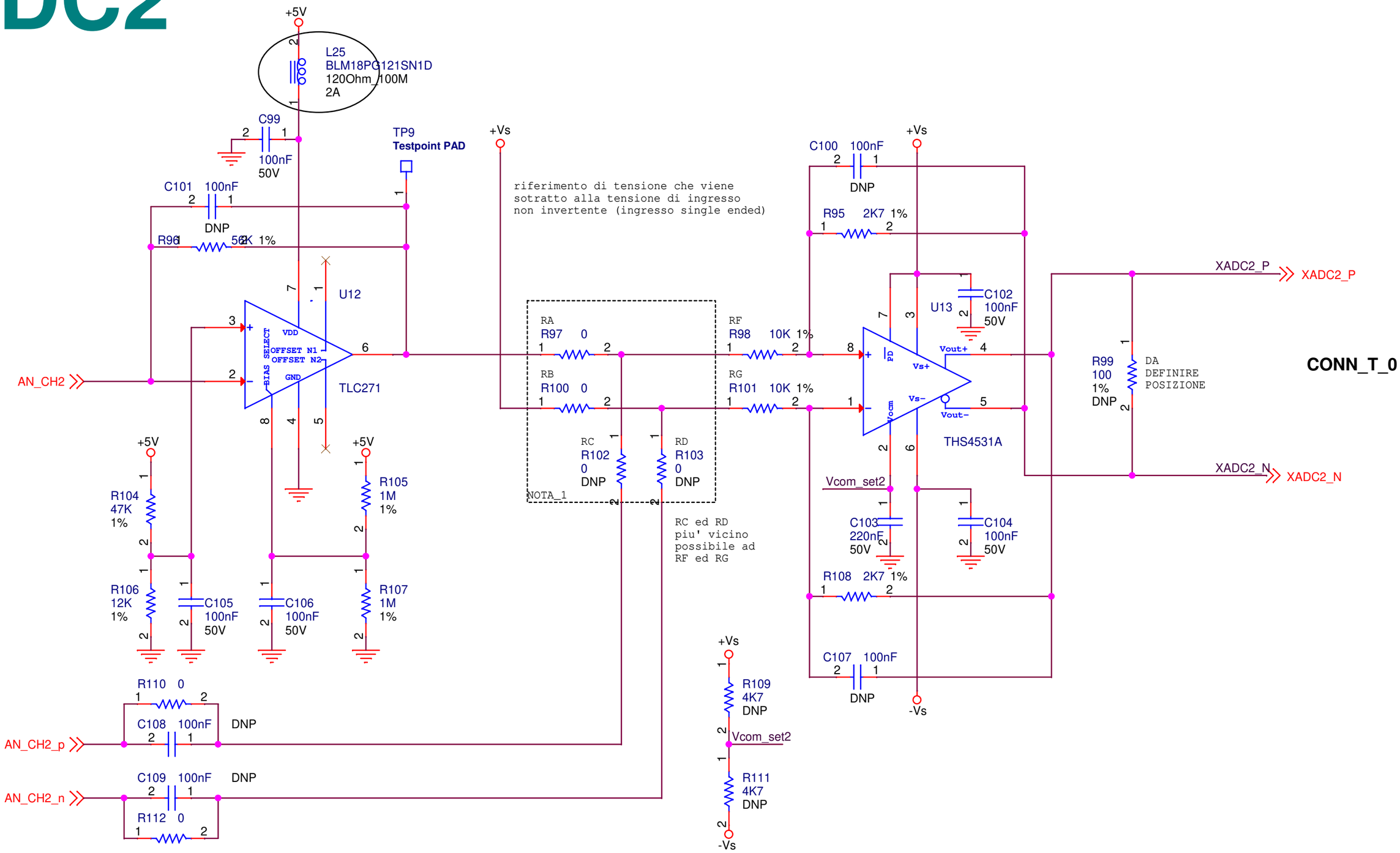
ADC2



NOTA_1
Ingressi sigle ended in corrente (sensori ottici) : montare RA e RB e non montare RC ed RD
Ingressi Differenziali : non montare RA ed RB e montare RC ed RD

Title: Rototype - RPB		
Size: A4	Document Number: ADC2	Rev: 1.0
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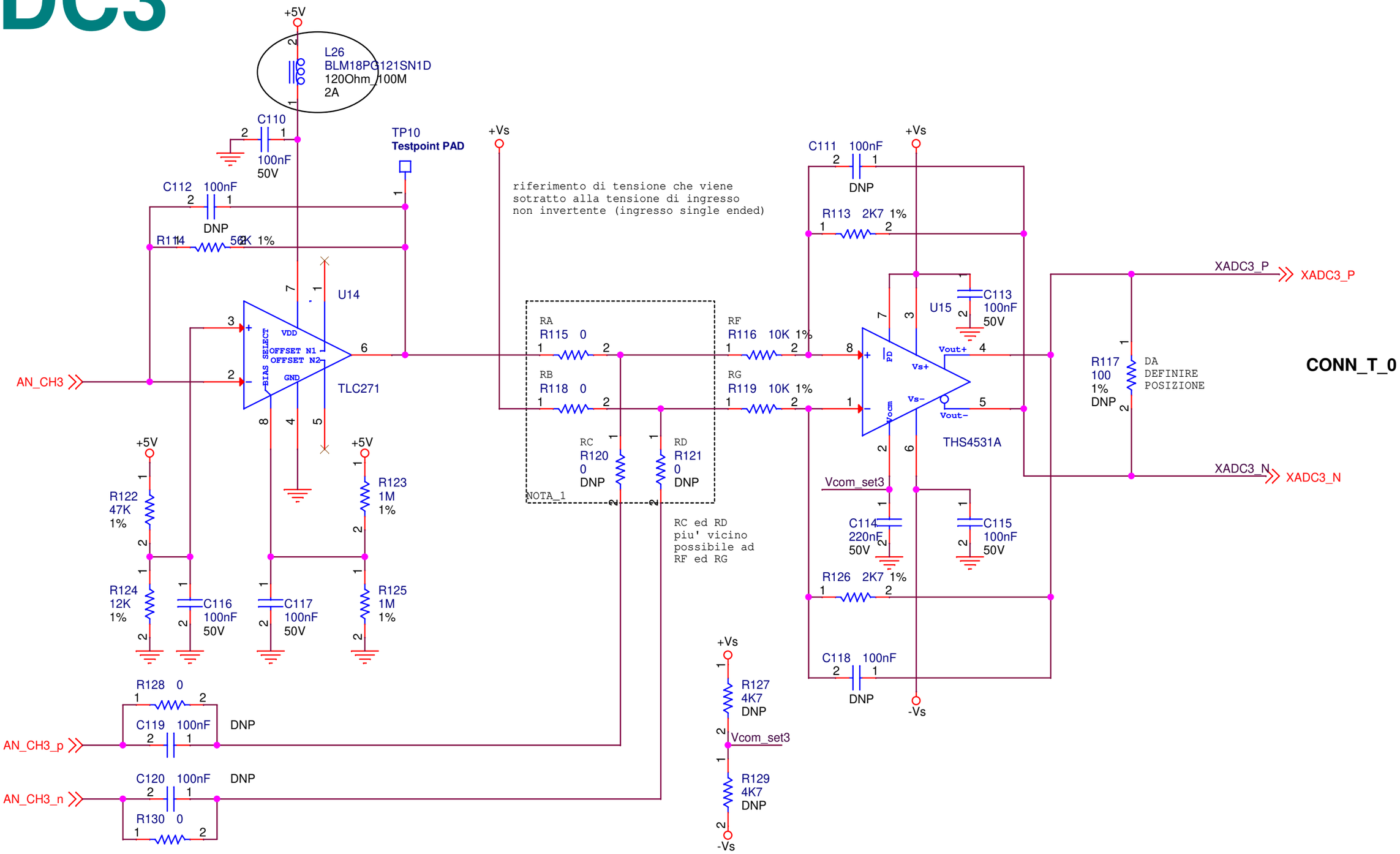
ADC3



NOTA_1
Ingressi sigle ended in corrente (sensori ottici) : montare RA e RB e non montare RC ed RD
Ingressi Differenziali : non montare RA ed RB e montare RC ed RD

Title: Rototype - RPB		
Size: A4	Document Number: ADC3	Rev: 1.0
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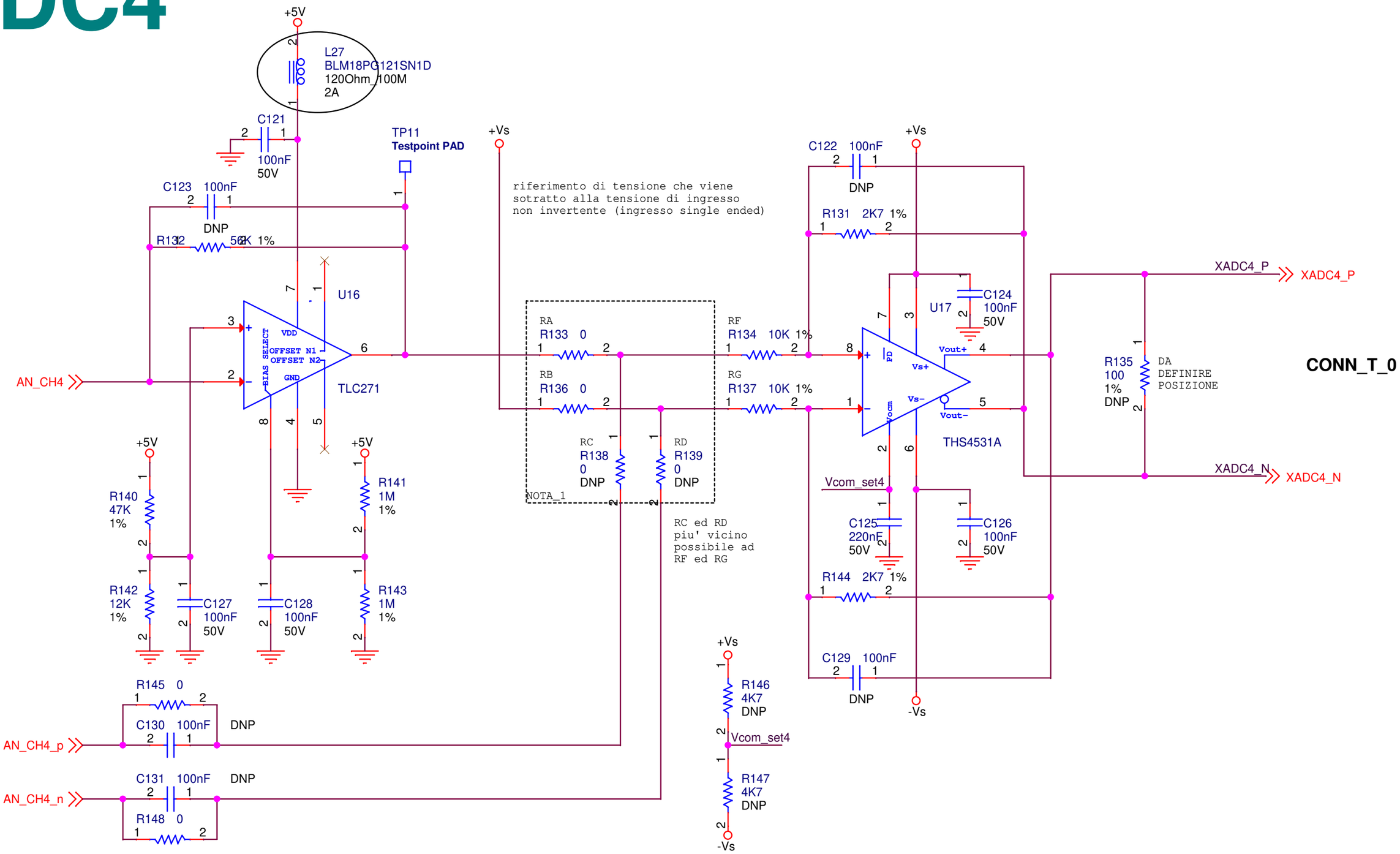
ADC4



NOTA_1
Ingressi sigle ended in corrente (sensori ottici) : montare RA e RB e non montare RC ed RD
Ingressi Differenziali : non montare RA ed RB e montare RC ed RD

Title: Rototype - RPB		
Size: A4	Document Number: ADC4	Rev: 1.0
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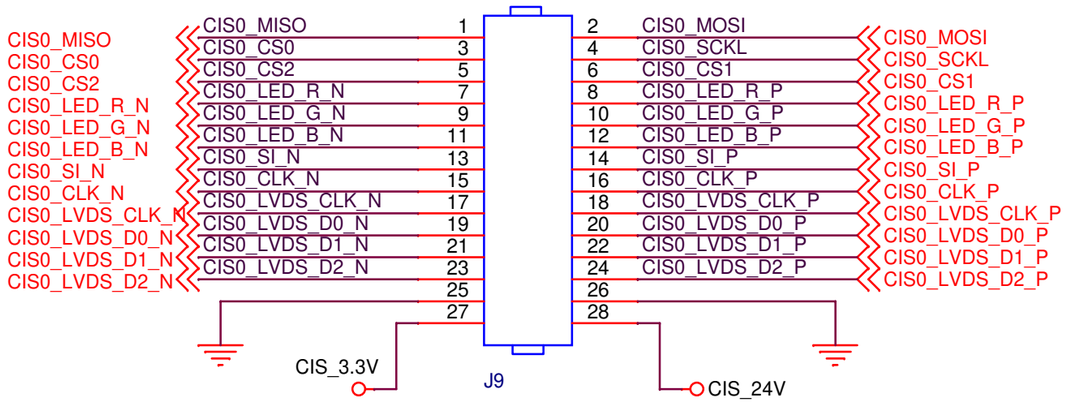
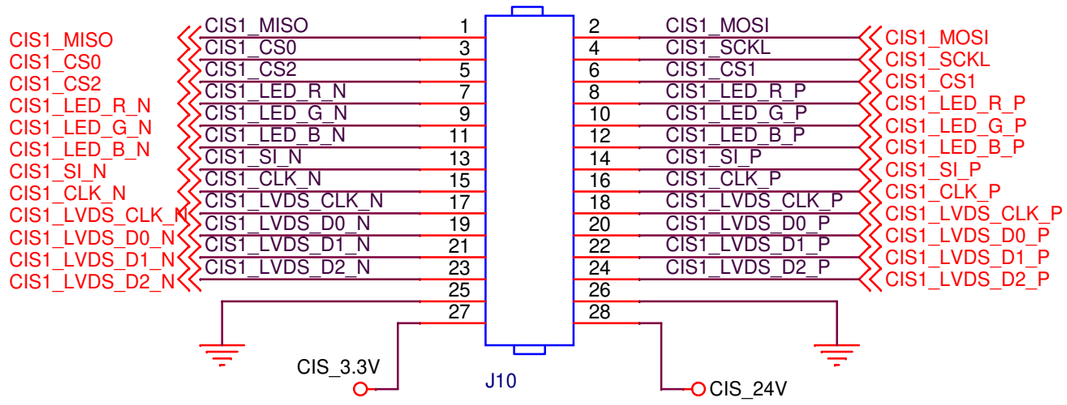
CONNETTORI CIS

JST B28B-PHDSS



JST B28B-PHDSS



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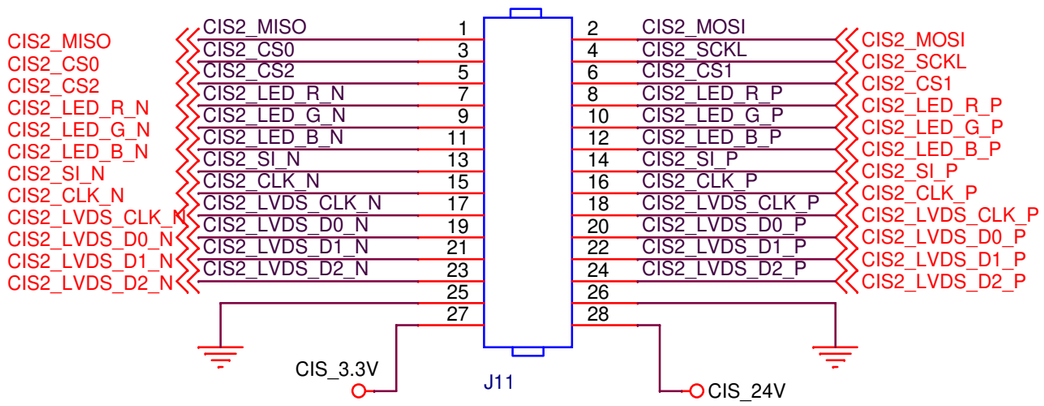

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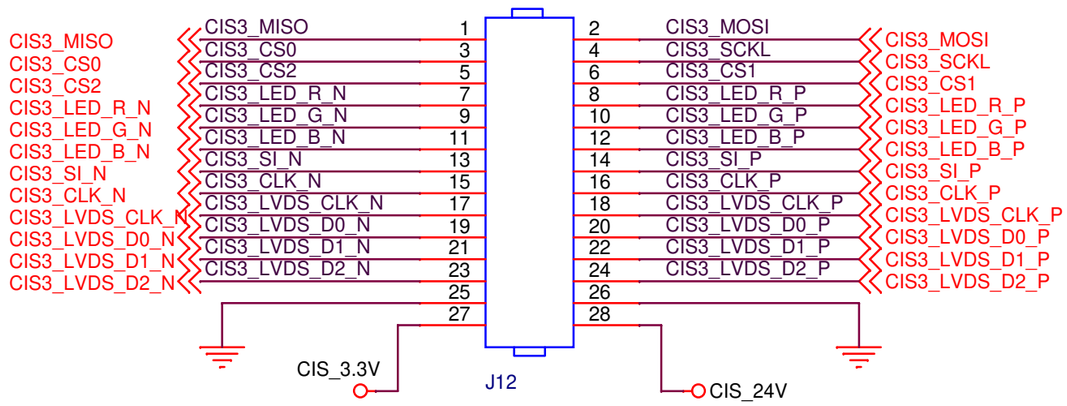

Title: Rototype - RPB		
Size: A4	Document Number: CONNETTORI CIS	Rev: 1.0
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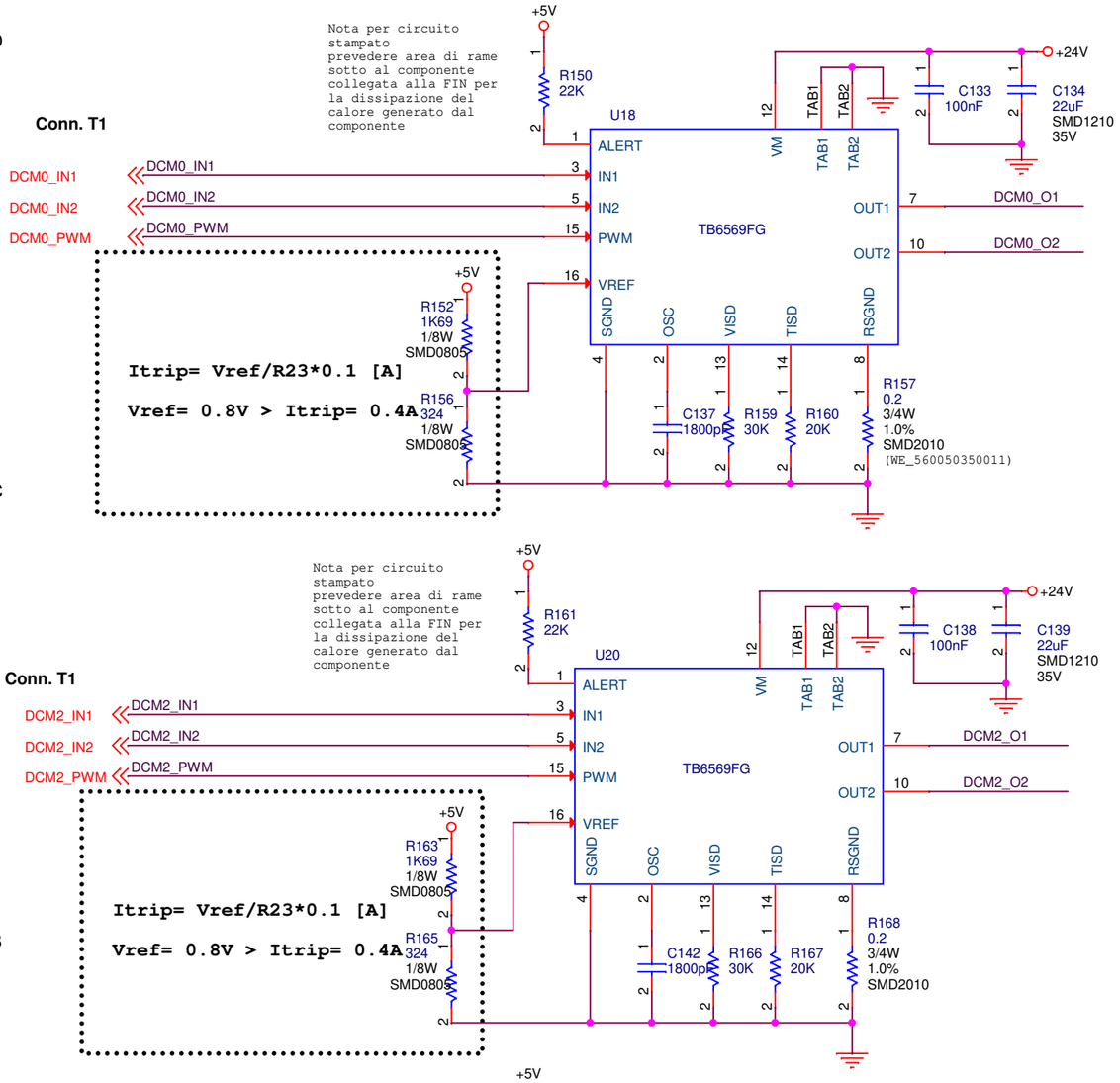
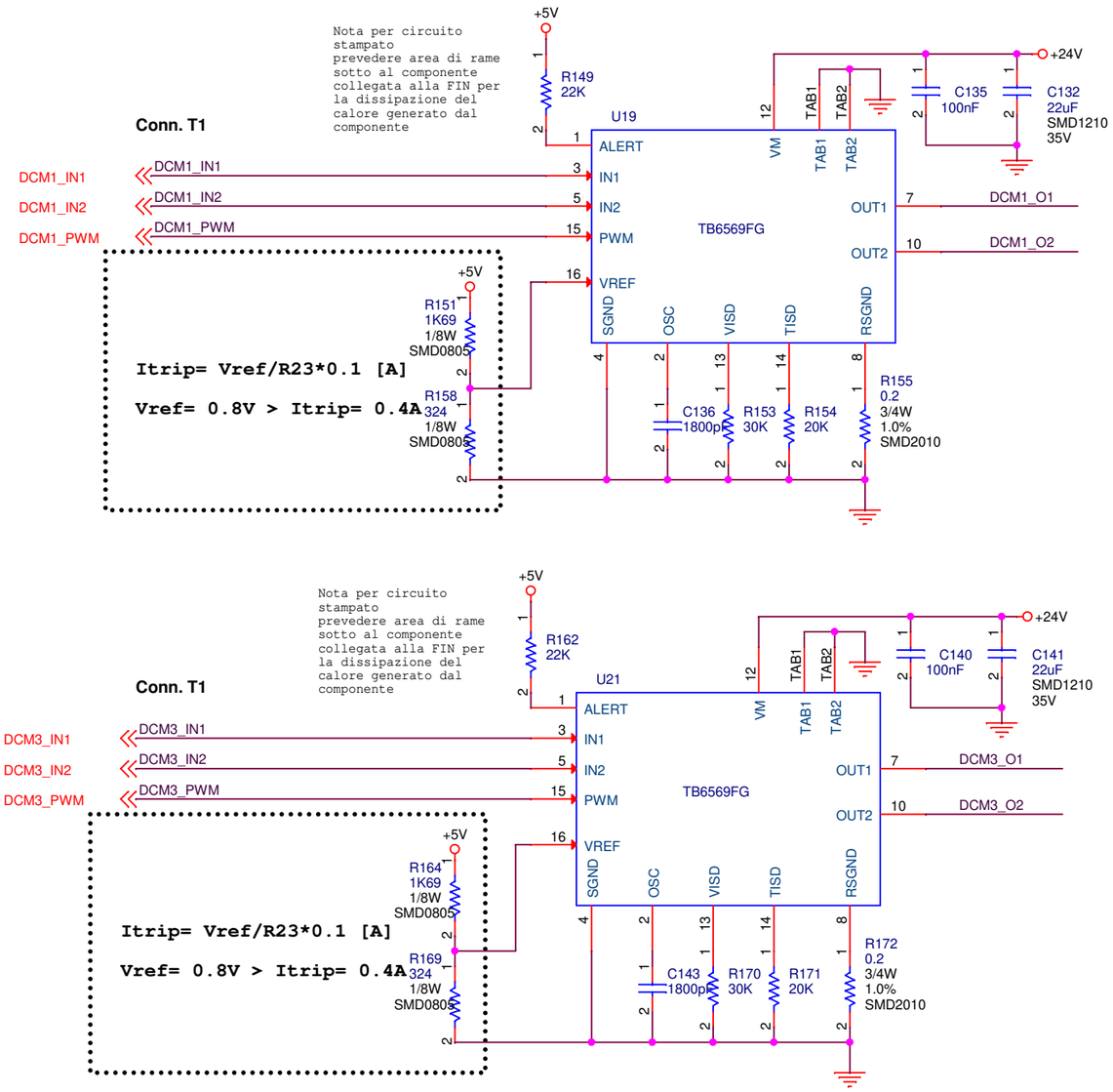
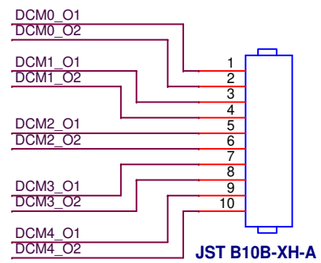
MOTORE DC







Title	Rototype - RPB	
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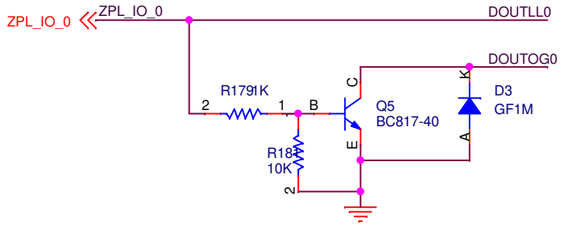
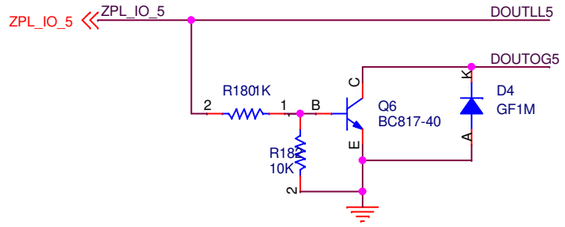
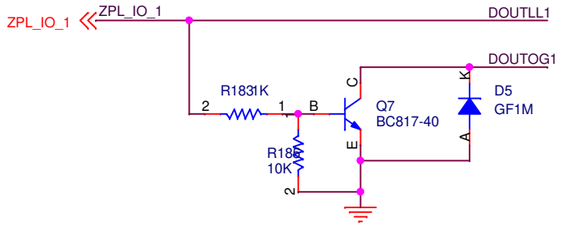
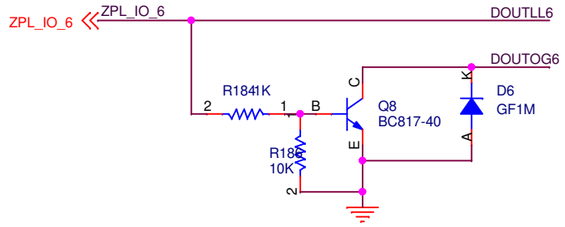
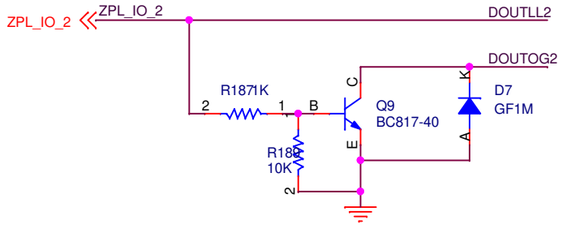
DIGITAL OUTPUTS

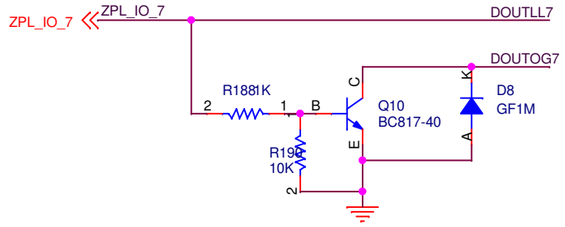


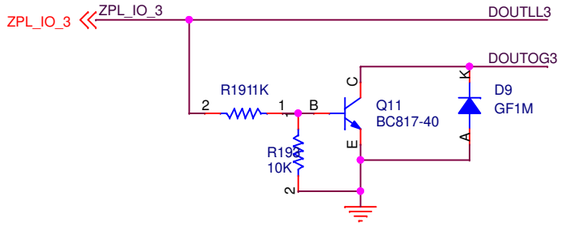


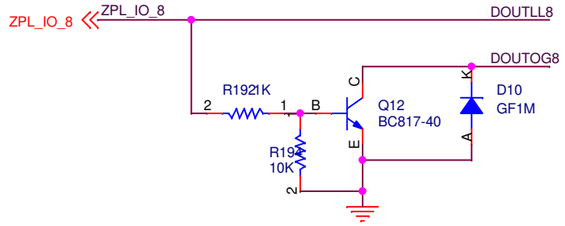


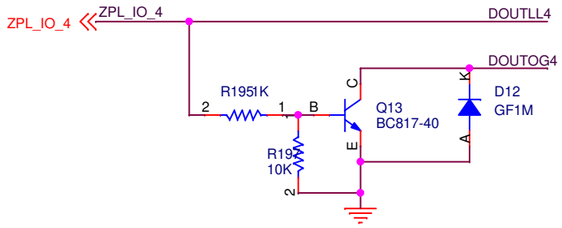


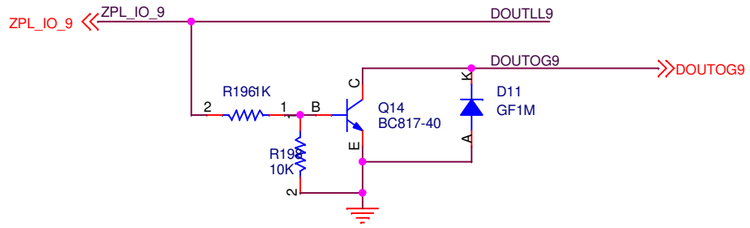


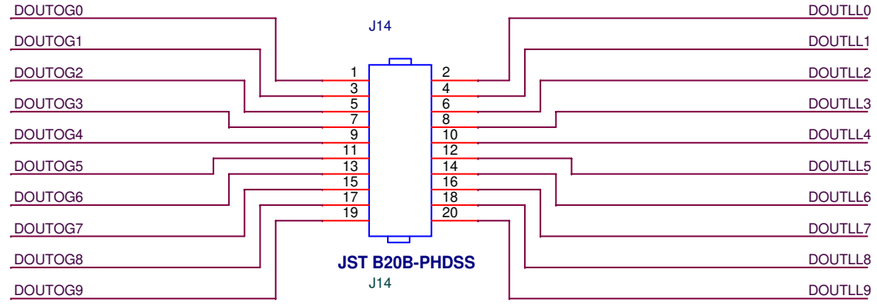












DOUTOG9 e' riportato anche sul connettore STAPLER quindi utilizzabile in alternativa sui due connettori

Title: Rototype - RPB		
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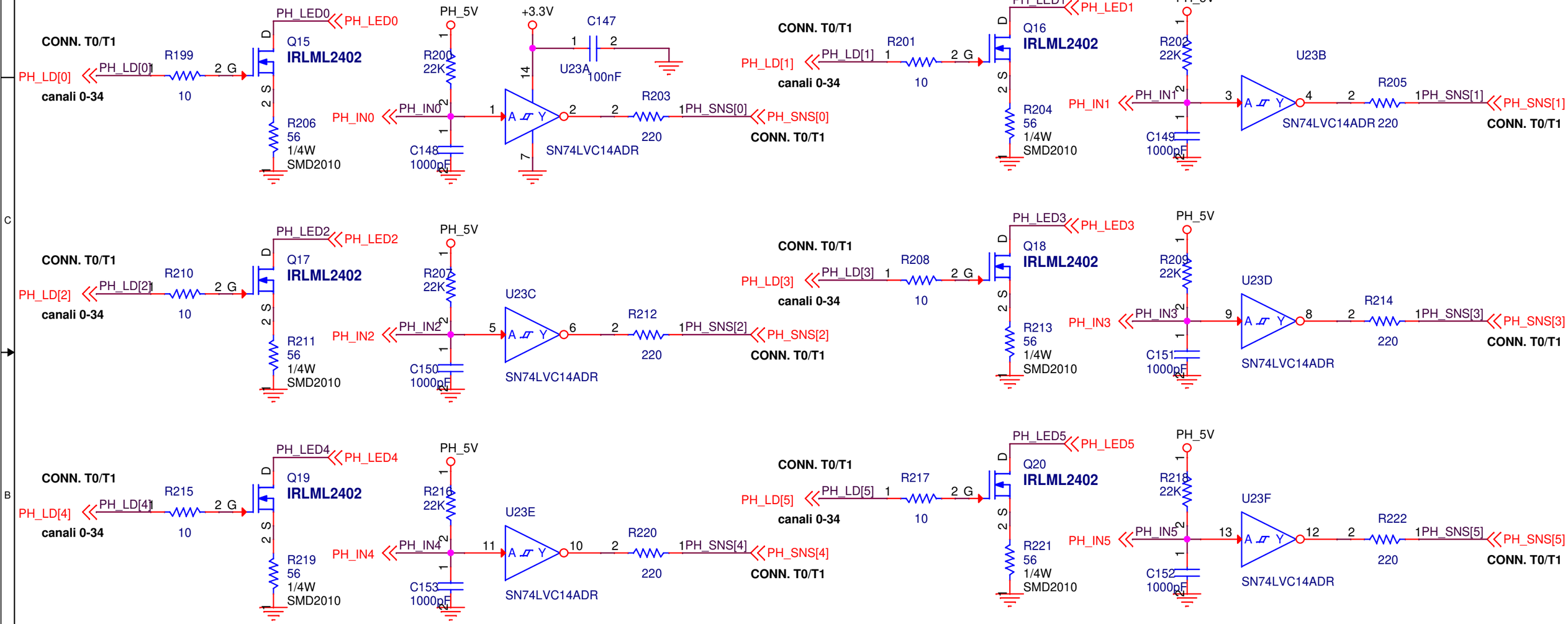
INGRESSI DIGITALI 0..5



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Size A4	Document Number DIGITAL PHOTO channel 0..5	Rev 1.0
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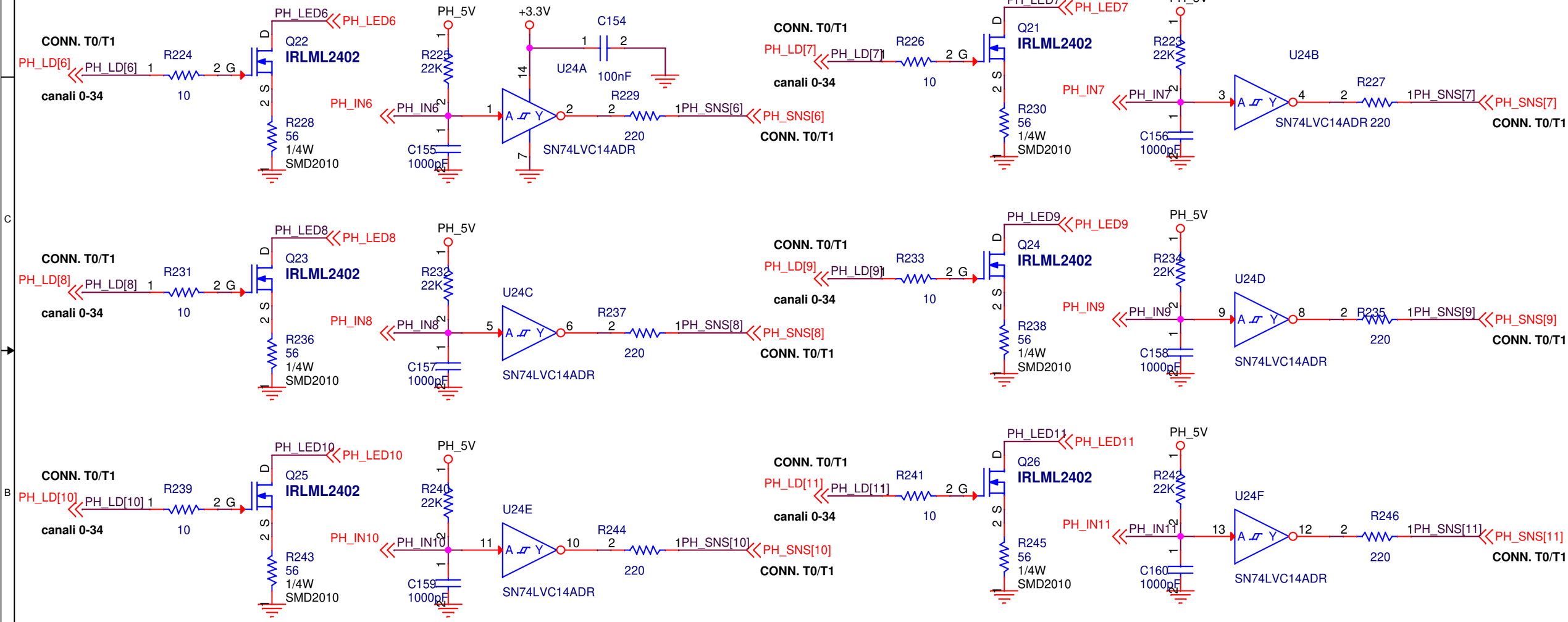
INGRESSI DIGITALI 6..11



Title	Rototype - RPB	
Size A4	Document Number DIGITAL PHOTO channel 6..11	Rev 1.0
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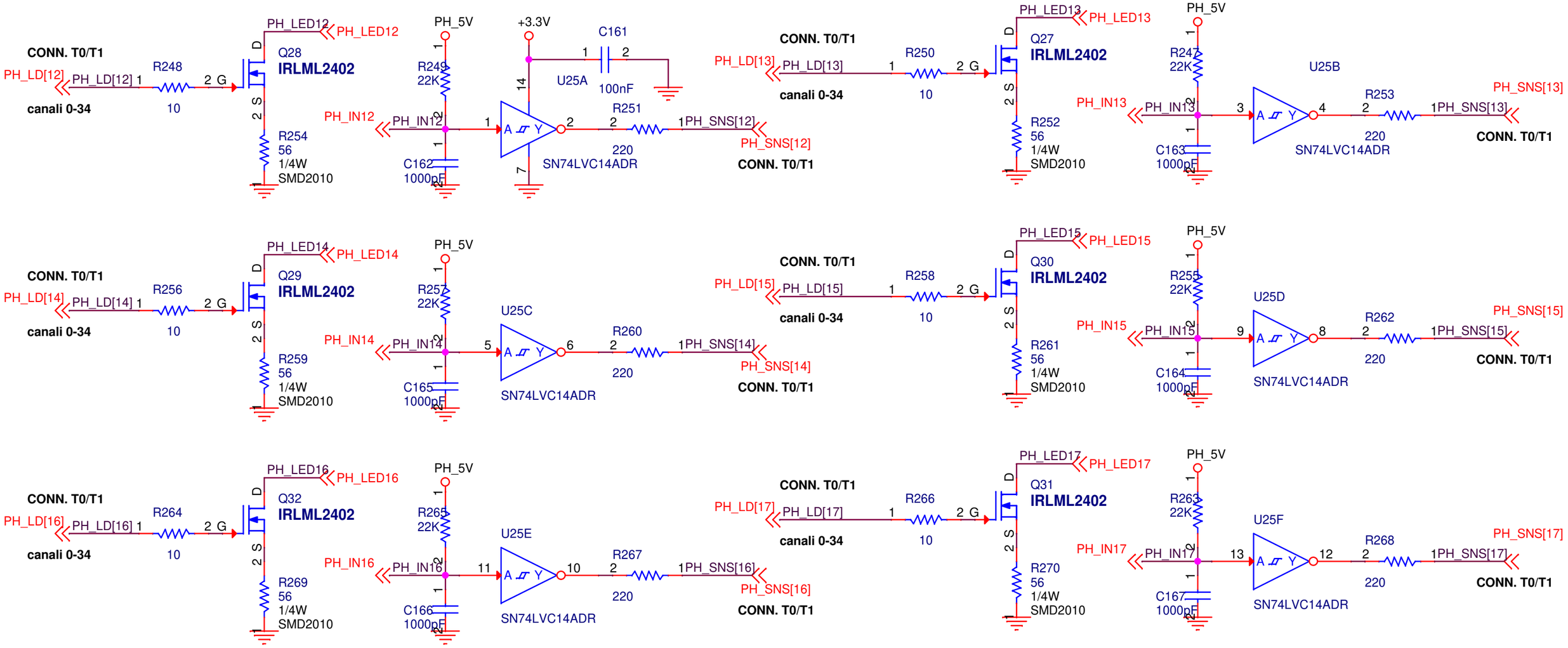
INGRESSI DIGITALI 12..17



Title	Rototype - RPB	
Size A4	Document Number DIGITAL PHOTO channel 12..17	Rev 1.0
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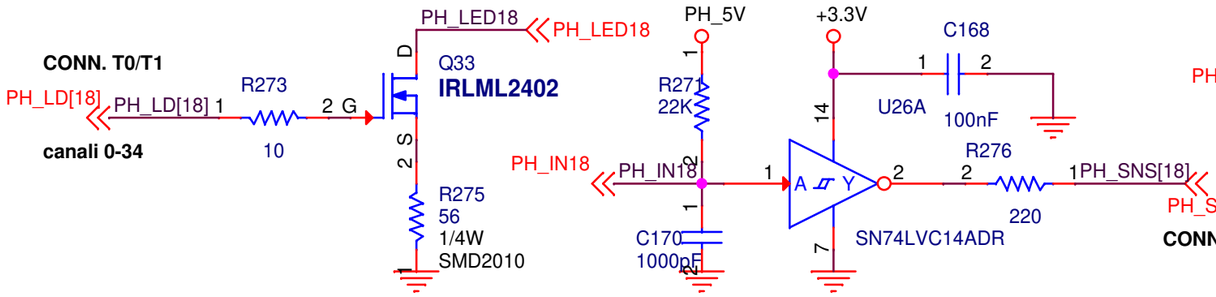
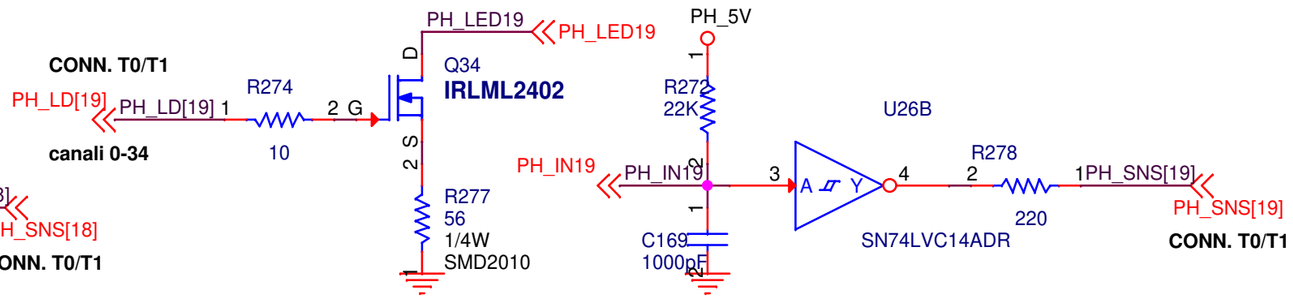
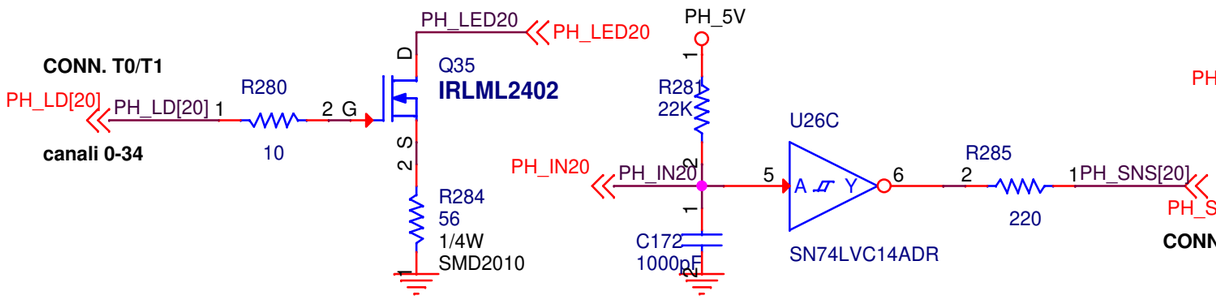
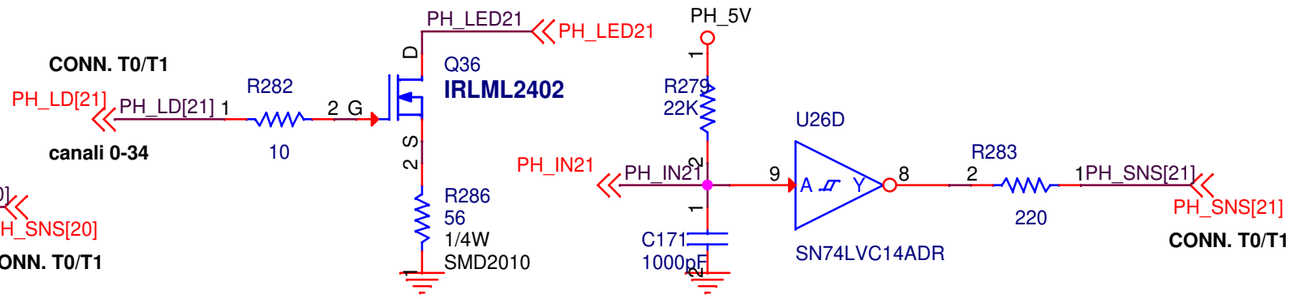
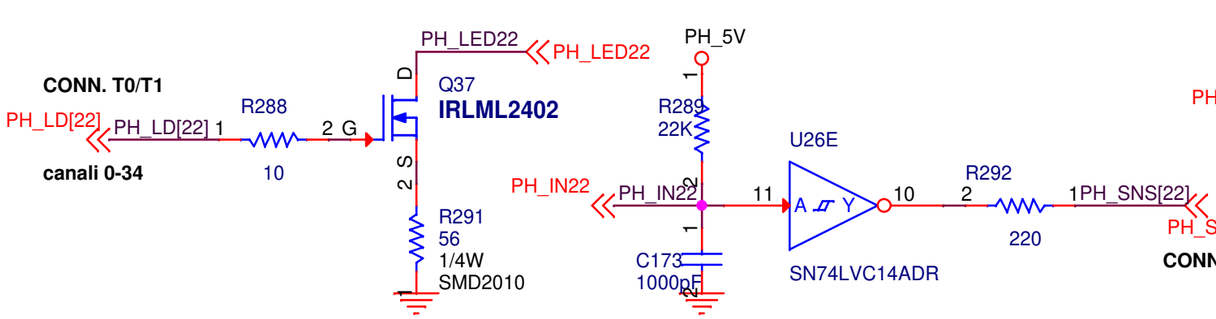
INGRESSI DIGITALI 18..23

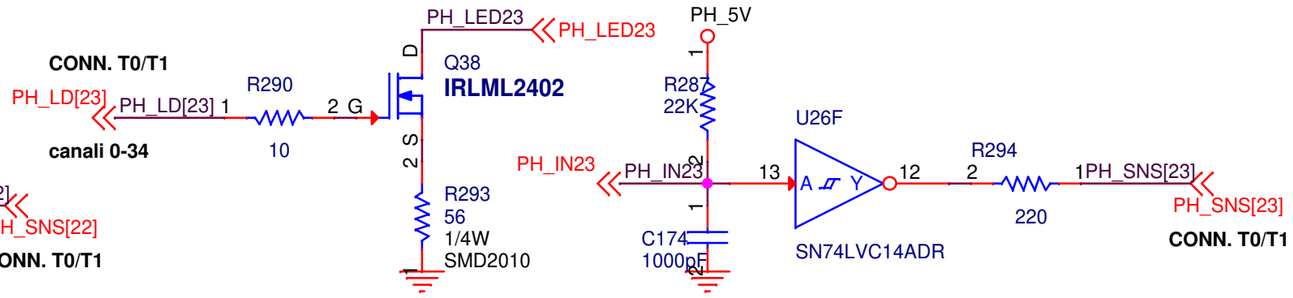












Title: Rototype - RPB		
Size: A4	Document Number: DIGITAL PHOTO channel 18..23	Rev: 1.0
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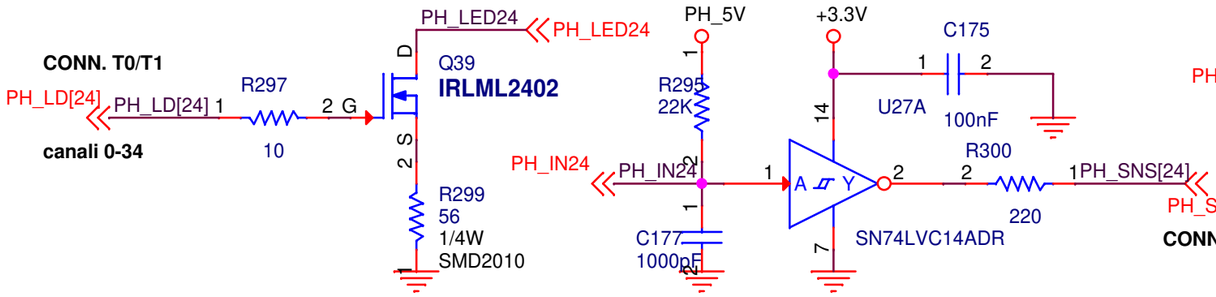
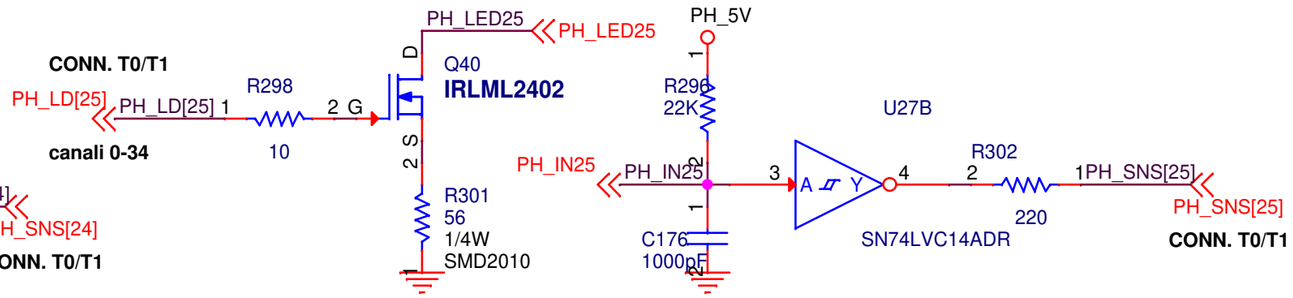
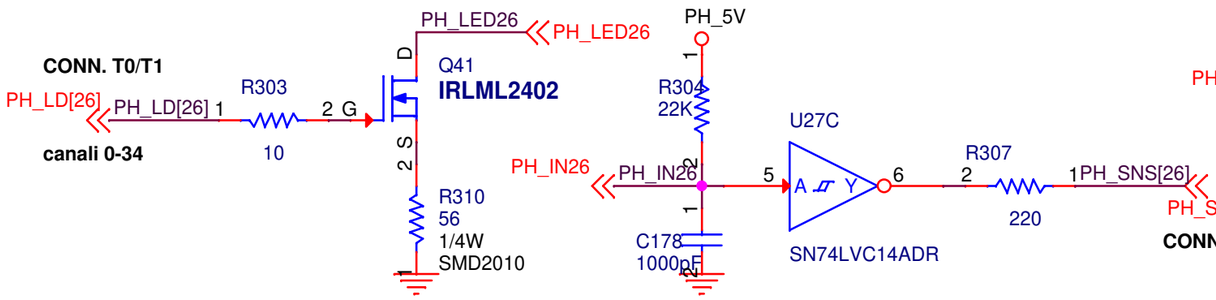
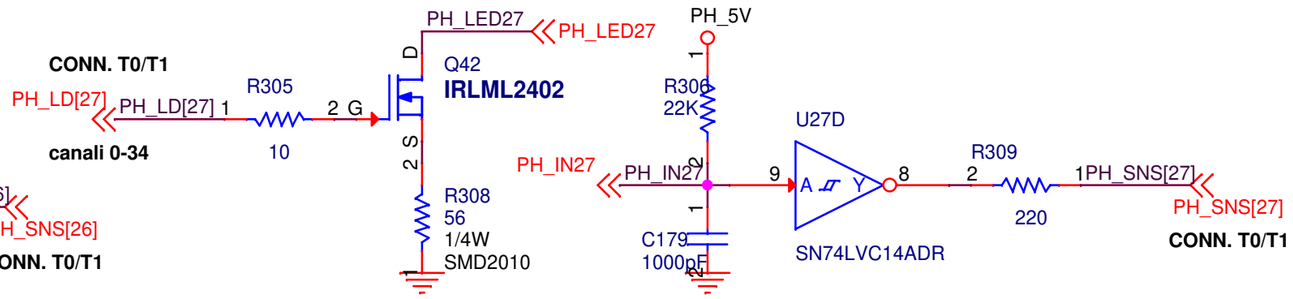
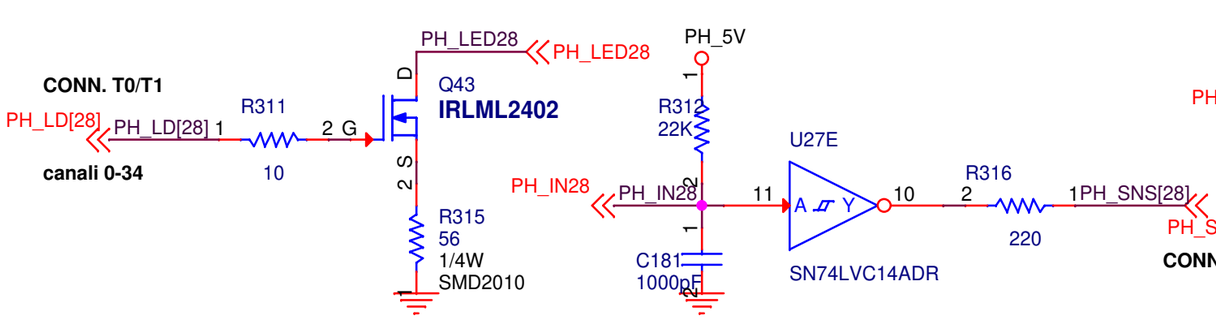
INGRESSI DIGITALI 24..29

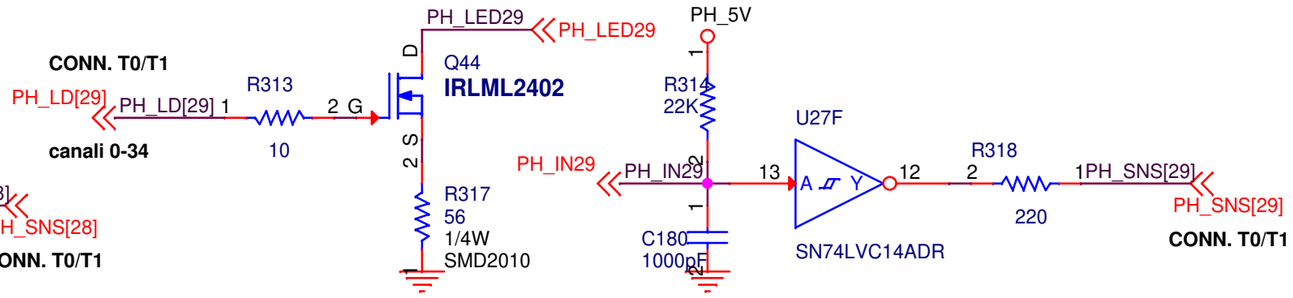












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Size A4	Document Number DIGITAL PHOTO channel 24..29	Rev 1.0
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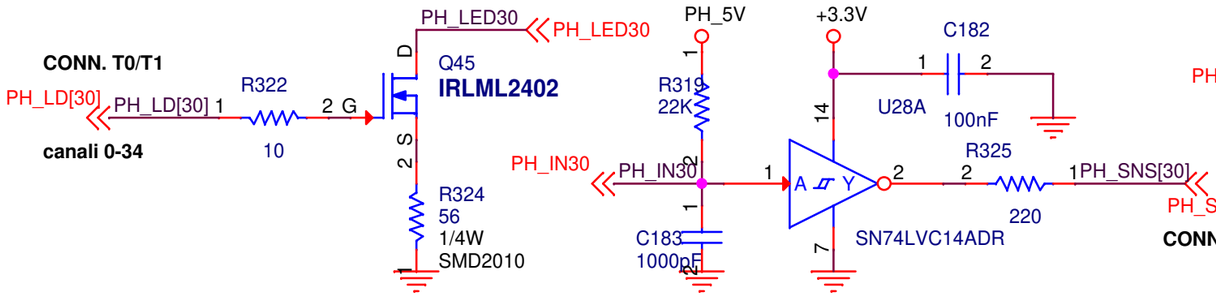
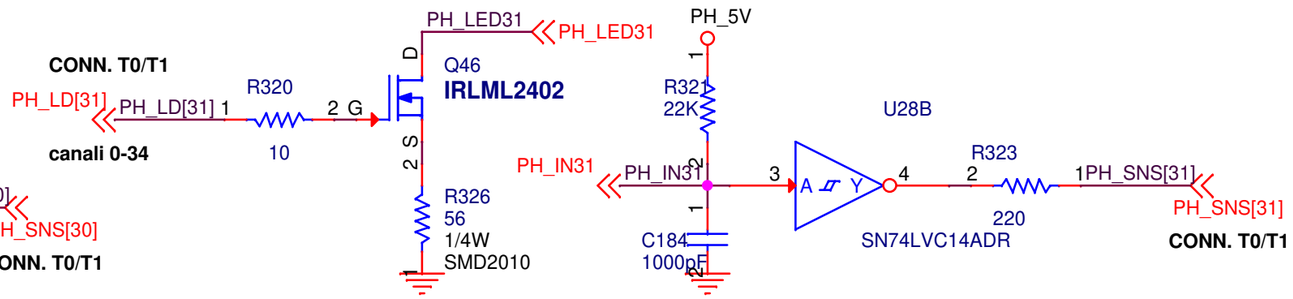
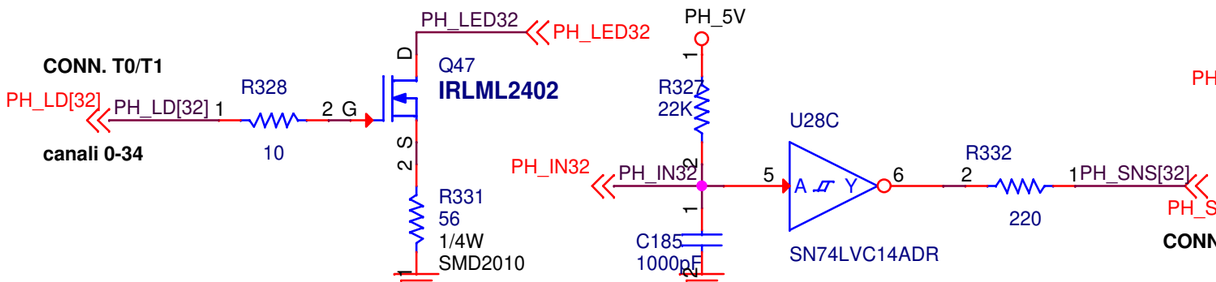
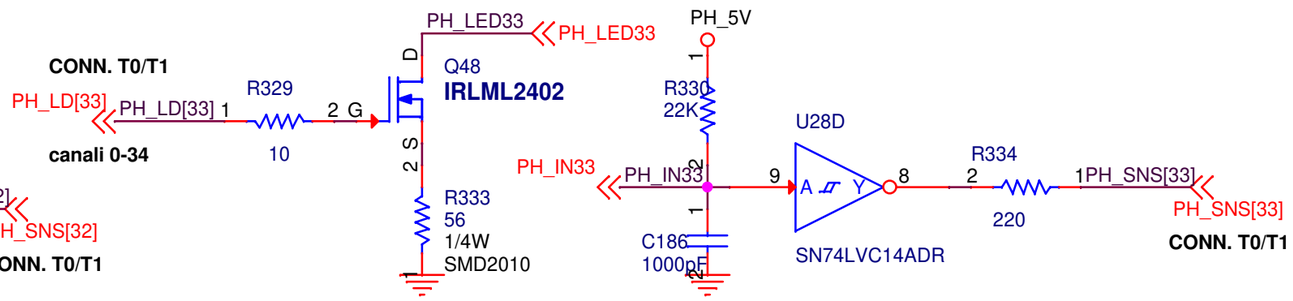
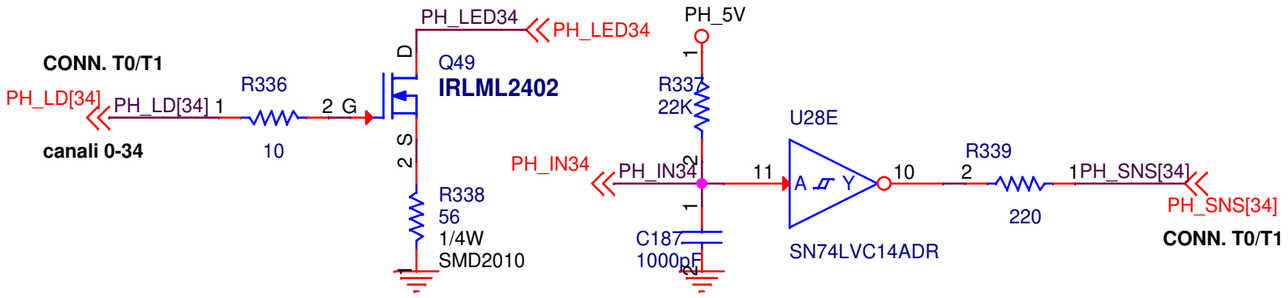
INGRESSI DIGITALI 30..34

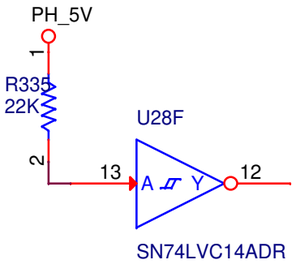












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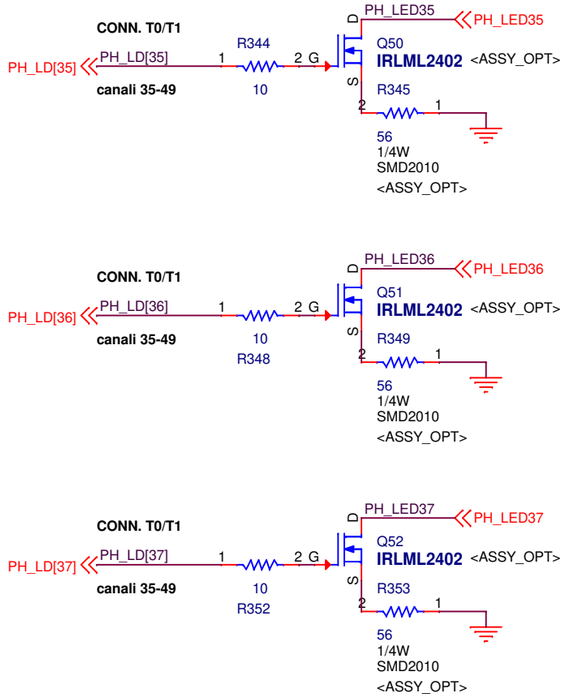
INGRESSI DIGITALI 35-40

NOTA:
La selezione della alimentazione dei led agisce su un intero connettore,quindi per un minimo di 5 led

NOTA:
Questo segnale e' di alimentazione per cui deve essere adeguatamente dimensionato



Title	Rototype - RPB	
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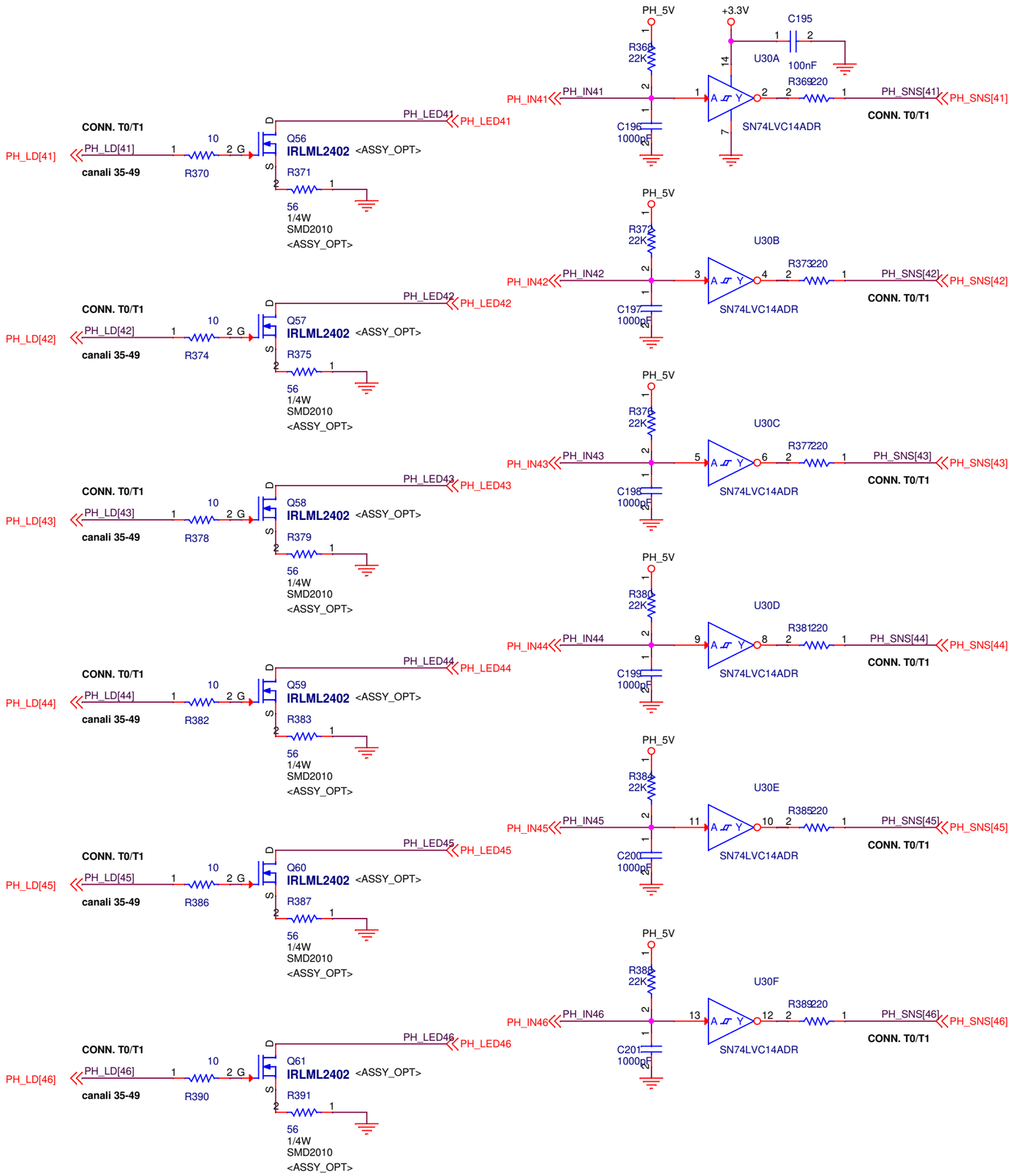
INGRESSI DIGITALI 41-46

NOTA:
La selezione della alimentazione dei led agisce su un intero connettore,quindi per un minimo di 5 led

NOTA:
Questo segnale e' di alimentazione per cui deve essere adeguatamente dimensionato



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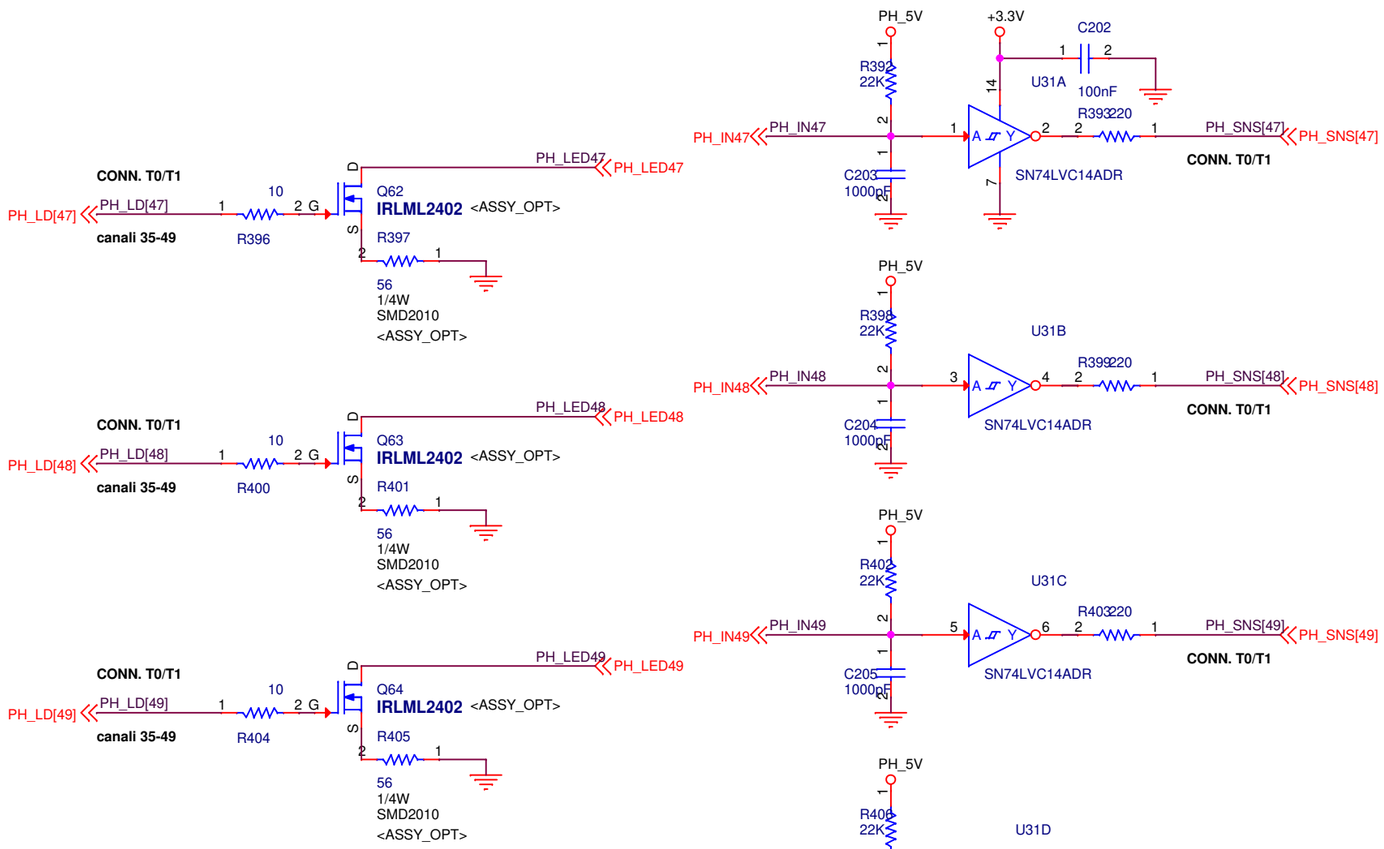
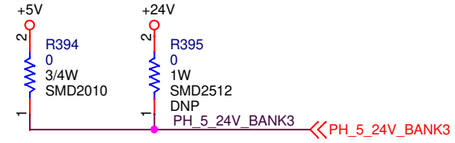
INGRESSI DIGITALI 47-49



NOTA:
La selezione della alimentazione dei led agisce su un intero connettore,quindi per un minimo di 5 led



NOTA:
Questo segnale e' di alimentazione per cui deve essere adeguatamente dimensionato

Title: Rototype - RPB		
Size: A3	Document Number: DIGITAL PHOTO 47-49	Rev: 1.0
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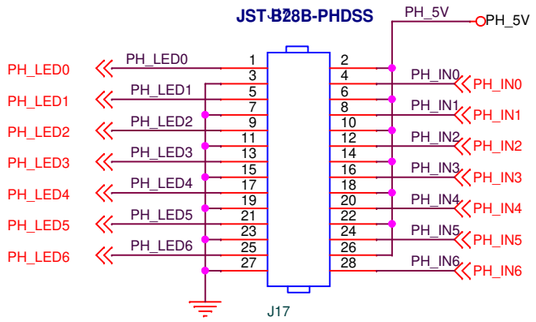
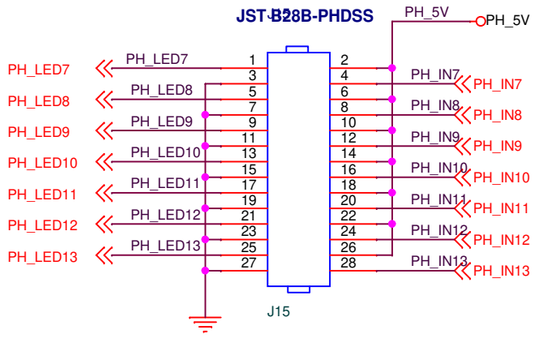
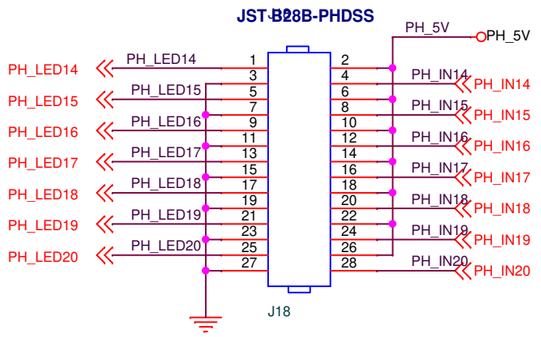
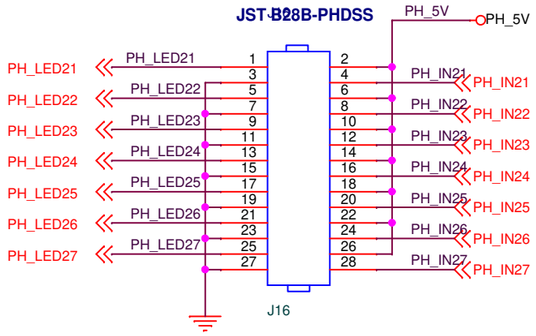
INGRESSI DIGITALI Connectors

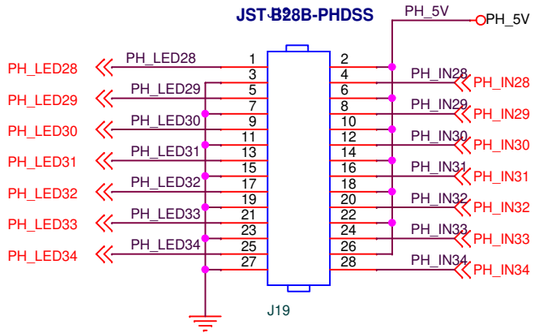
CANALI 0-34





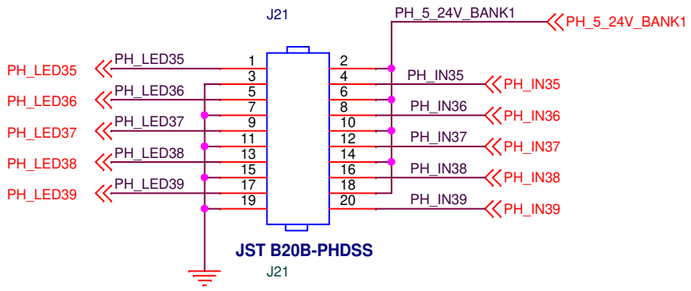


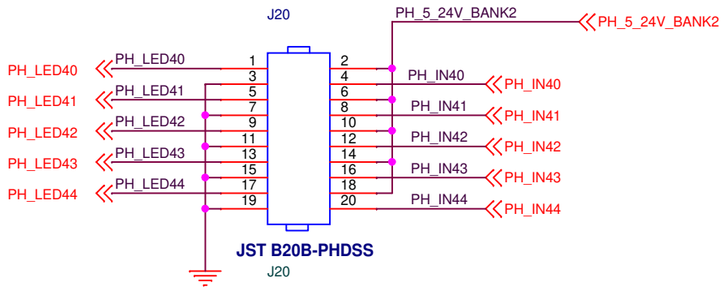


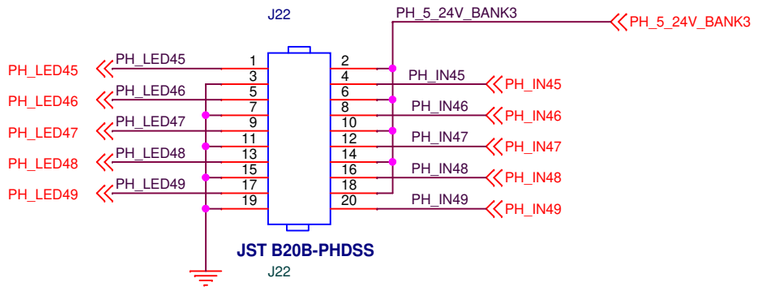


PH_IN34 e' presente sia sul connettore ingressi generici, sia sul connettore stapler e quindi ha due funzioni alternative fra loro

CANALI 35-49







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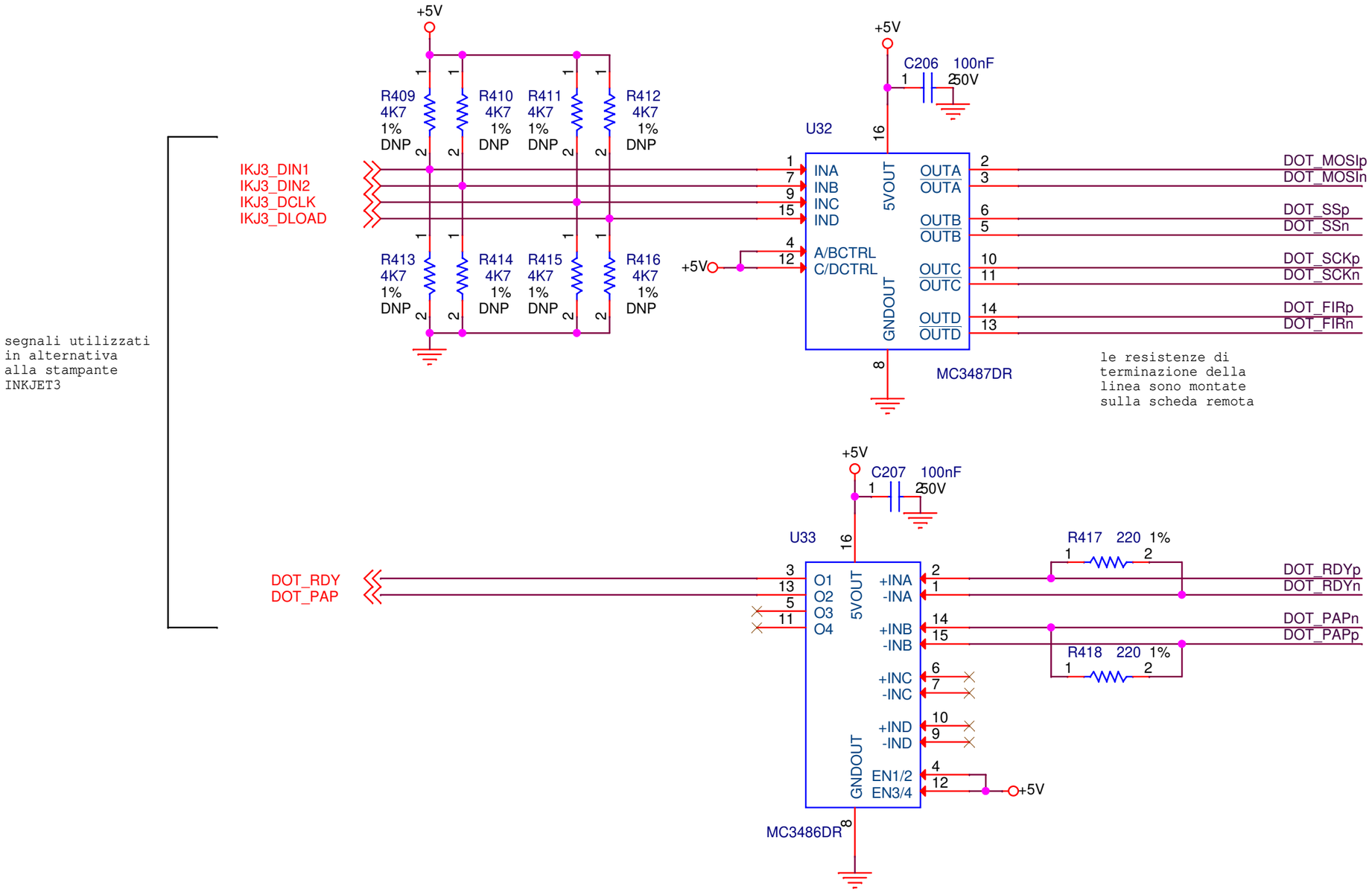
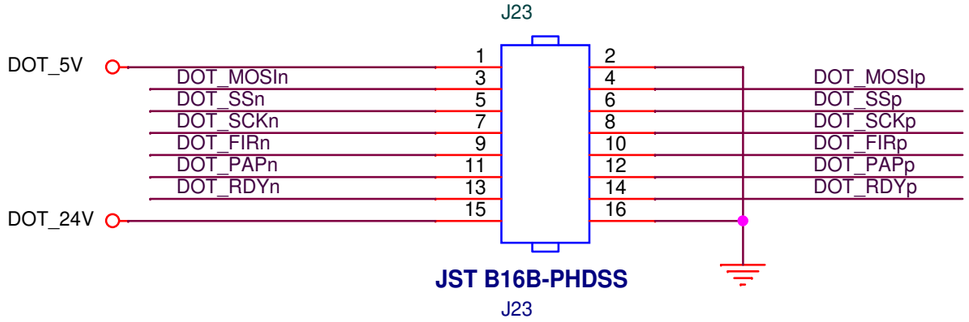
DOT MATRIX PRINTER



segnali utilizzati in alternativa alla stampante INKJET3

le resistenze di terminazione della linea sono montate sulla scheda remota



CONNETTORE SCHEDA DOT MATRIX

Title: Rototype - RPB		
Size: A4	Document Number: DOT MATRIX PRINTER	Rev: 1.0
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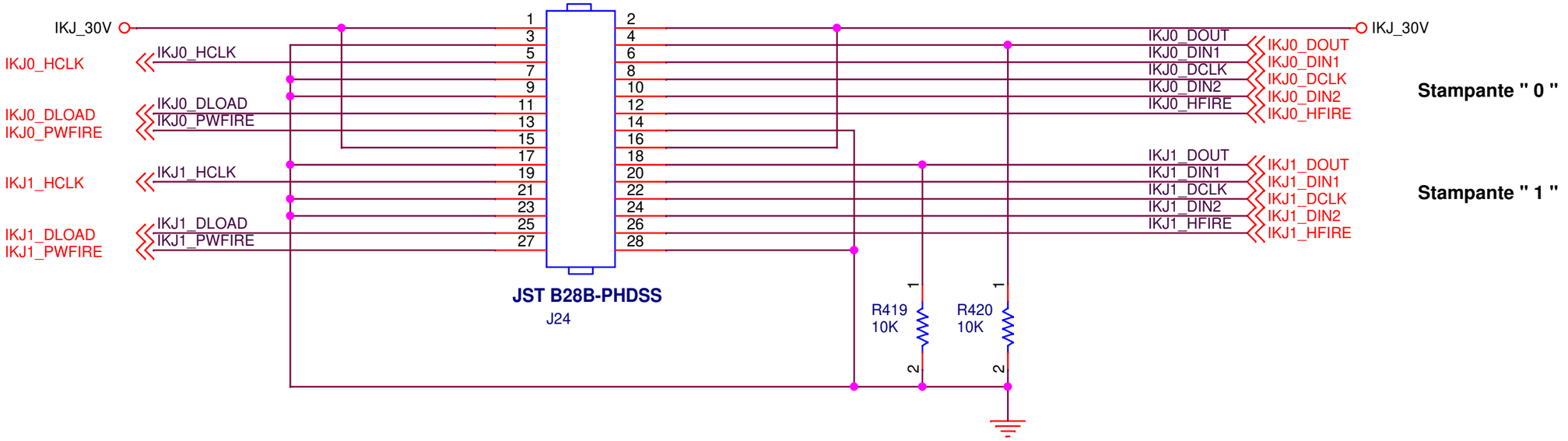
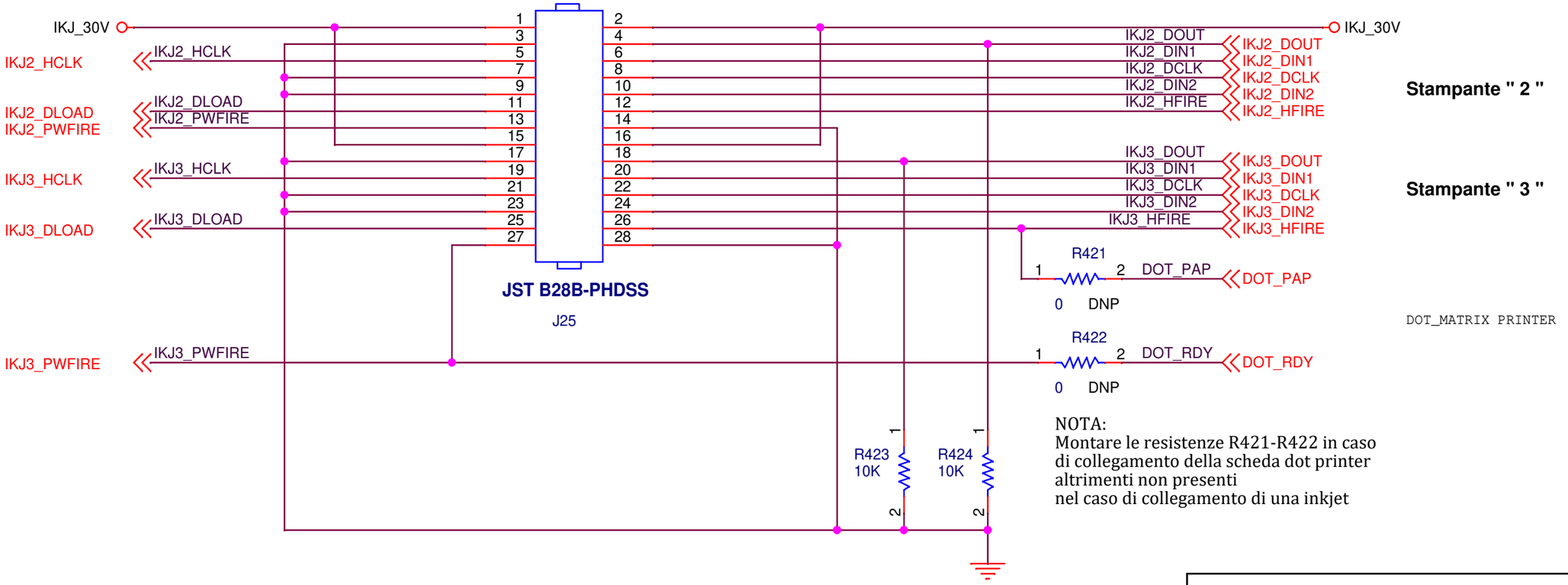
INKJET





NOTA:
Montare le resistenze R421-R422 in caso di collegamento della scheda dot printer altrimenti non presenti
nel caso di collegamento di una inkjet

Title: Rototype - RPB		
Size: A4	Document Number: INKJET	Rev: 1.0
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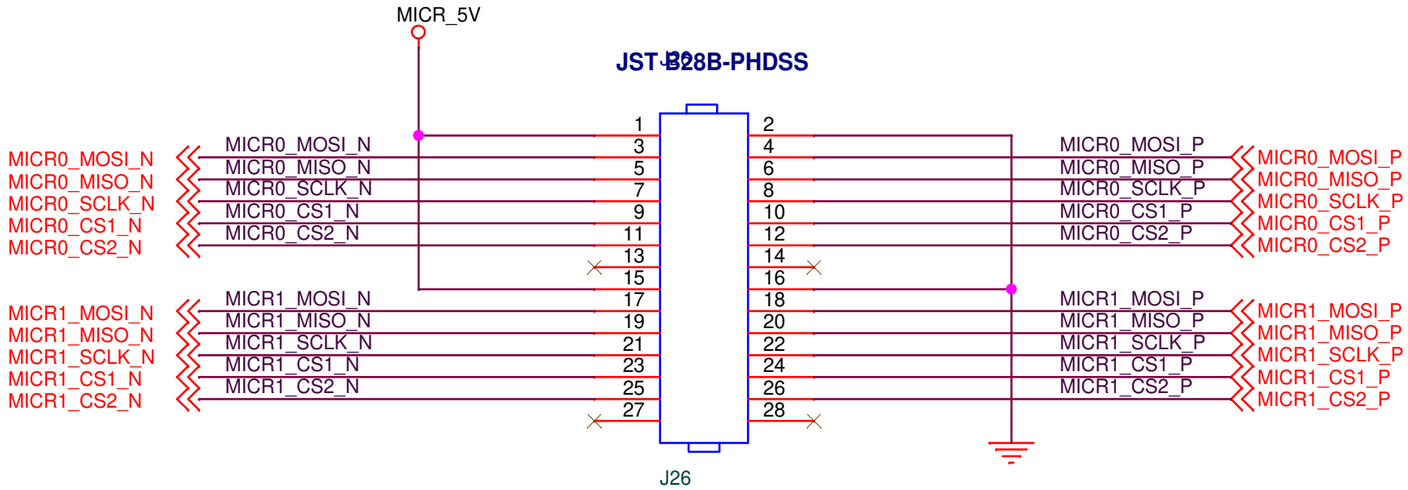
MICR READERS



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SOLENOIDI

CONN. T0/T1

SOL[0] SOL[1] SOL[2] SOL[3]

SOL[4] SOL[5] SOL[6] SOL[7]

SOL[8] SOL[9]

+5V

U34A — SN74ACT244ADW — C208 100nF

U34B — SN74ACT244ADW

U35A — SN74ACT244ADW — C213 100nF

U35B — SN74ACT244ADW

R427 R428 R429 R430 22K

R433 R437 R434 R436 22K

R441 R442 22K

R425 R426 R431 R432 R435 R438 R439 R440 R443 R444 100

IRF7103 — Q65 Q66 Q67 Q68 Q69

D13 D14 D15 D16 D17 D18 D19 D20 D21 D22 GF1M

C209 C210 C211 C212 C214 22uF SMD1210 35V

SOL_24V

SOL_O0 SOL_O1 SOL_O2 SOL_O3 SOL_O4 SOL_O5 SOL_O6 SOL_O7 SOL_O8 SOL_O9

JST B20B-PHDSS — J27

pull-down per evitare commutazioni indesiderate durante accensione con FPGA non configurato uscite in three-state

74ACT244 bufferizza il segnale e ne effettua la la traslazione di livello da 3.3V a 5V

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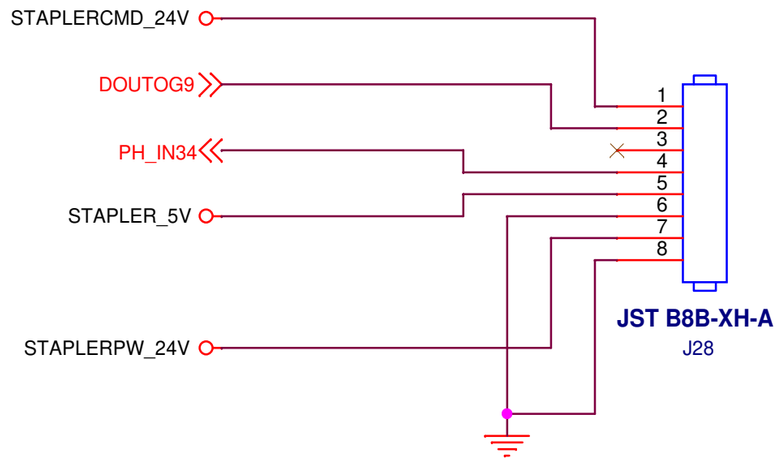
STAPLER CONNECTOR

**DOUTG9 E' riportato anche sul connettore DIGITAL outputs,
PH_IN34 e' riportato anche sul connettore degli ingressi,
pertanto in caso di collegamento del modulo STAPLER
essi non possono essere utilizzati nella loro funzione originaria**



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Size: A4	Document Number: STAPLER	Rev: 1.0
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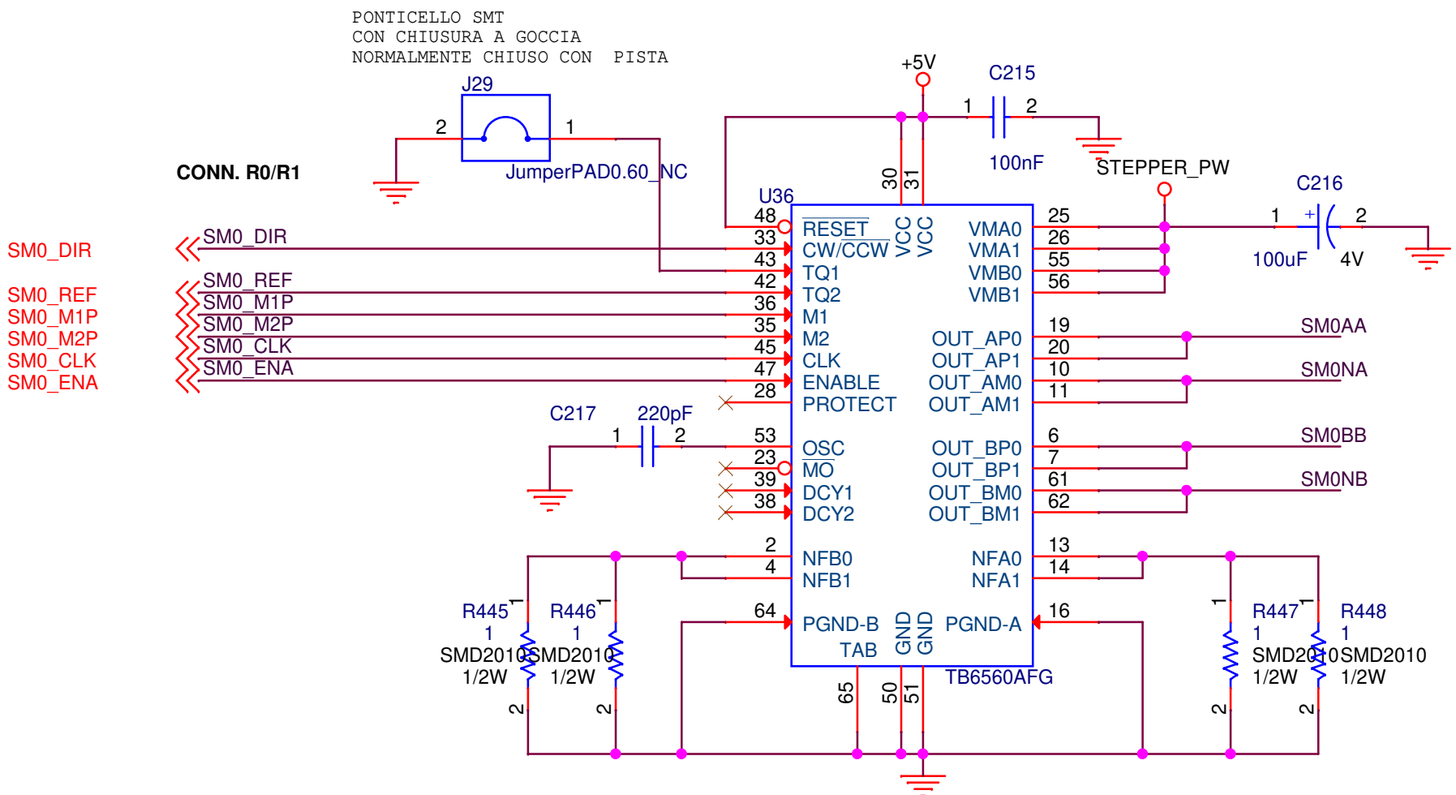
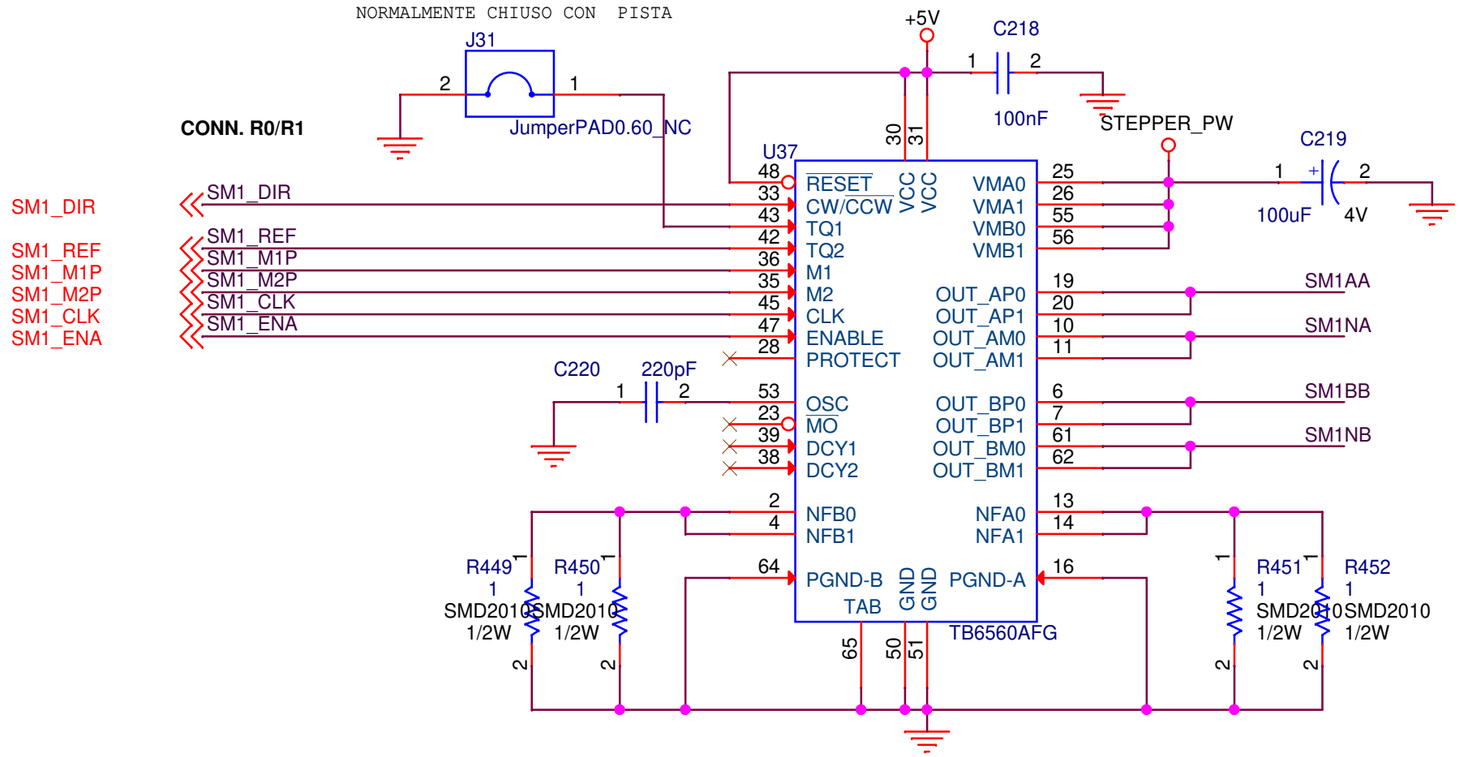
MOTORE STEPPERS 0-1



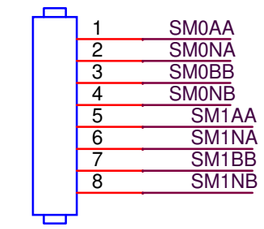


TQ2	TQ1	Current Ratio
0	0	100%
0	1	75%
1	0	50%
1	1	25%

Resistenze setup corrente motore:
0,5 Vref / Rs
setup di default per tutti i canali :
0,5v / 0,5 ohm = 1A

M2	M1	Step Resolution
0	0	FULL STEP (2 phase excitation)
0	1	HALF STEP (1- 2 phase excitation)
1	0	STEP/16 (4W1-2 phase excitation)
1	1	STEP/8 (2W1-2 excitation mode)

Enable	
0	Driver disabilitato
1	Driver abilitato (corrente settata da TQ1/TQ2)



Title	Rototype - RPB		
Size A4	Document Number MOTORI STEPPERS 0-1		Rev 1.0
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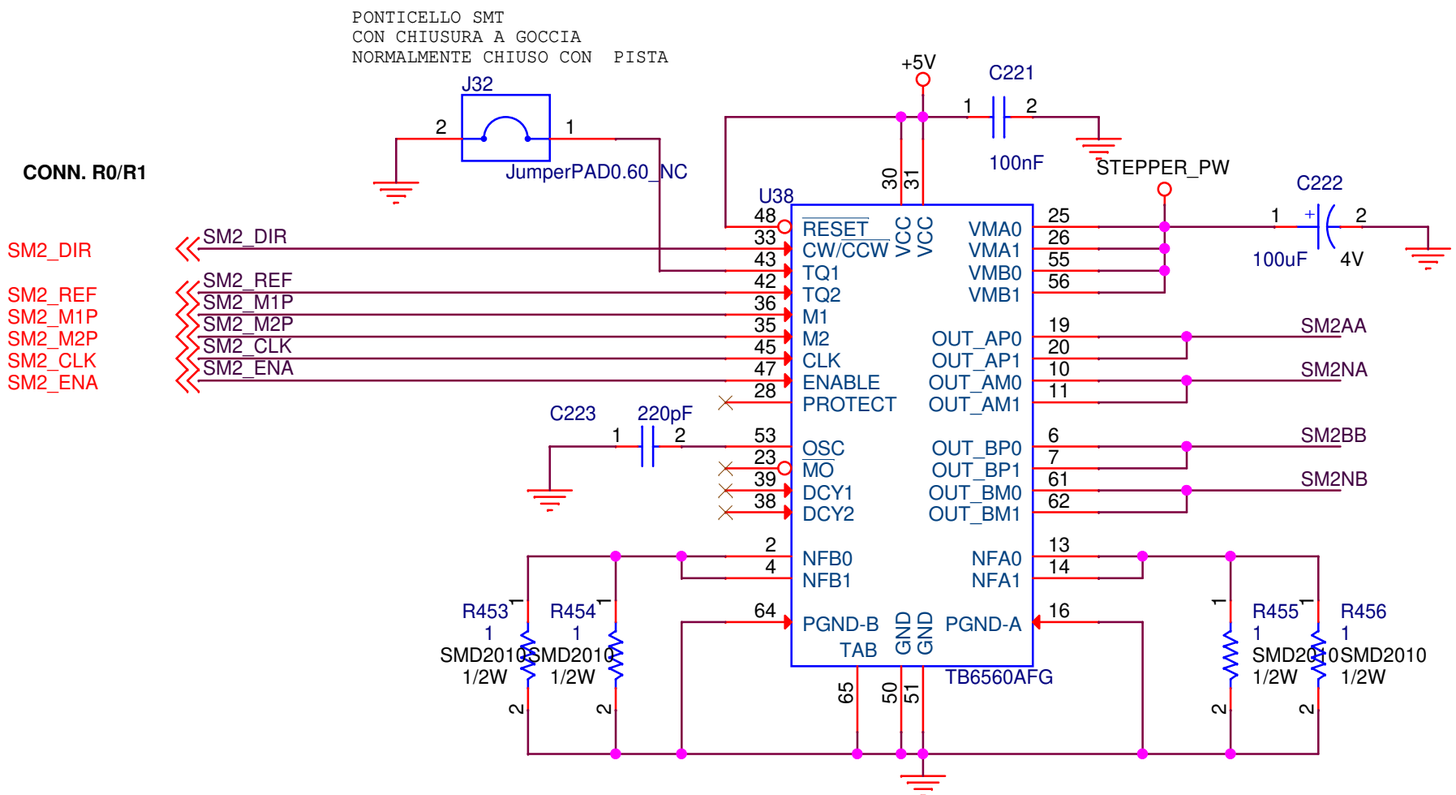
MOTORE STEPPERS 2-3

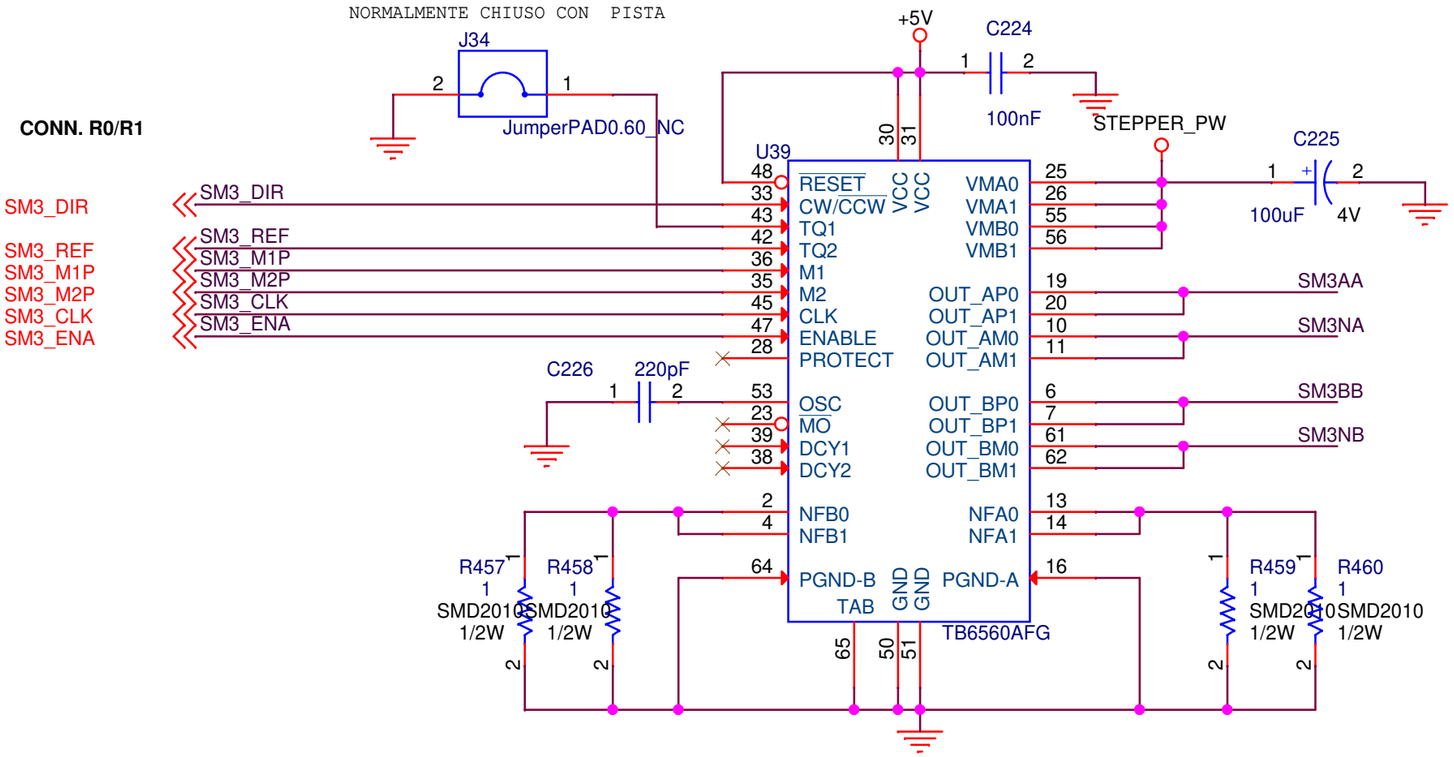
TQ2	TQ1	Current Ratio
0	0	100%
0	1	75%
1	0	50%
1	1	25%

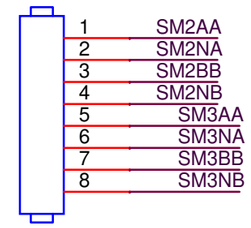
Resistenze setup corrente motore:
0,5 Vref / Rs
setup di default per tutti i canali :
0,5v / 0,5 ohm = 1A

M2	M1	Step Resolution
0	0	FULL STEP (2 phase excitation)
0	1	HALF STEP (1- 2 phase excitation)
1	0	STEP/16 (4W1-2 phase excitation)
1	1	STEP/8 (2W1-2 excitation mode)

Enable	
0	Driver disabilitato
1	Driver abilitato (corrente settata da TQ1/TQ2)







Title	Rototype - RPB		
Size A4	Document Number MOTORI STEPPERS 2-3		Rev 1.0
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MOTORE STEPPERS 4-5

TQ2	TQ1	Current Ratio
0	0	100%
0	1	75%
1	0	50%
1	1	25%

Resistenze setup corrente motore:
0,5 Vref / Rs
setup di default per tutti i canali :
0,5v / 0,5 ohm = 1A

M2	M1	Step Resolution
0	0	FULL STEP (2 phase excitation)
0	1	HALF STEP (1- 2 phase excitation)
1	0	STEP/16 (4W1-2 phase excitation)
1	1	STEP/8 (2W1-2 excitation mode)

Enable	
0	Driver disabilitato
1	Driver abilitato (corrente settata da TQ1/TQ2)

PONTICELLO SMT
CON CHIUSURA A GOCCIA
NORMALMENTE CHIUSO CON PISTA

CONN. R0/R1

J35 — JumperPAD0.60_NC

SM4_DIR
SM4_REF
SM4_M1P
SM4_M2P
SM4_CLK
SM4_ENA

+5V, C227 100nF, STEPPER_PW, C228 100uF 4V

U40 TB6560AFG

48	RESET	VMA0	25
33	CW/CCW	VMA1	26
43	TQ1	VMB0	55
42	TQ2	VMB1	56
36	M1		
35	M2	OUT_AP0	19
45	CLK	OUT_AP1	20
47	ENABLE	OUT_AM0	10
28	PROTECT	OUT_AM1	11
53	OSC	OUT_BP0	6
23	MO	OUT_BP1	7
39	DCY1	OUT_BM0	61
38	DCY2	OUT_BM1	62
2	NFB0	NFA0	13
4	NFB1	NFA1	14
64	PGND-B	PGND-A	16
30, 31	VCC		
65, 50, 51	GND		

SM4AA, SM4NA, SM4BB, SM4NB

C229 220pF

R461 1 SMD2010 1/2W 2
R462 1 SMD2010 1/2W 2
R463 1 SMD2010 1/2W 2
R464 1 SMD2010 1/2W 2

PONTICELLO SMT
CON CHIUSURA A GOCCIA
NORMALMENTE CHIUSO CON PISTA

CONN. R0/R1

J37 — JumperPAD0.60_NC

SM5_DIR
SM5_REF
SM5_M1P
SM5_M2P
SM5_CLK
SM5_ENA

+5V, C230 100nF, STEPPER_PW, C231 100uF 4V

U41 TB6560AFG

48	RESET	VMA0	25
33	CW/CCW	VMA1	26
43	TQ1	VMB0	55
42	TQ2	VMB1	56
36	M1		
35	M2	OUT_AP0	19
45	CLK	OUT_AP1	20
47	ENABLE	OUT_AM0	10
28	PROTECT	OUT_AM1	11
53	OSC	OUT_BP0	6
23	MO	OUT_BP1	7
39	DCY1	OUT_BM0	61
38	DCY2	OUT_BM1	62
2	NFB0	NFA0	13
4	NFB1	NFA1	14
64	PGND-B	PGND-A	16
30, 31	VCC		
65, 50, 51	GND		

SM5AA, SM5NA, SM5BB, SM5NB

C232 220pF

R465 1 SMD2010 1/2W 2
R466 1 SMD2010 1/2W 2
R467 1 SMD2010 1/2W 2
R468 1 SMD2010 1/2W 2

1	SM4AA
2	SM4NA
3	SM4BB
4	SM4NB
5	SM5AA
6	SM5NA
7	SM5BB
8	SM5NB

JST B8B-XH-A
J36

Title	Rototype - RPB	
Size A4	Document Number MOTORI STEPPERS 4-5	Rev 1.0
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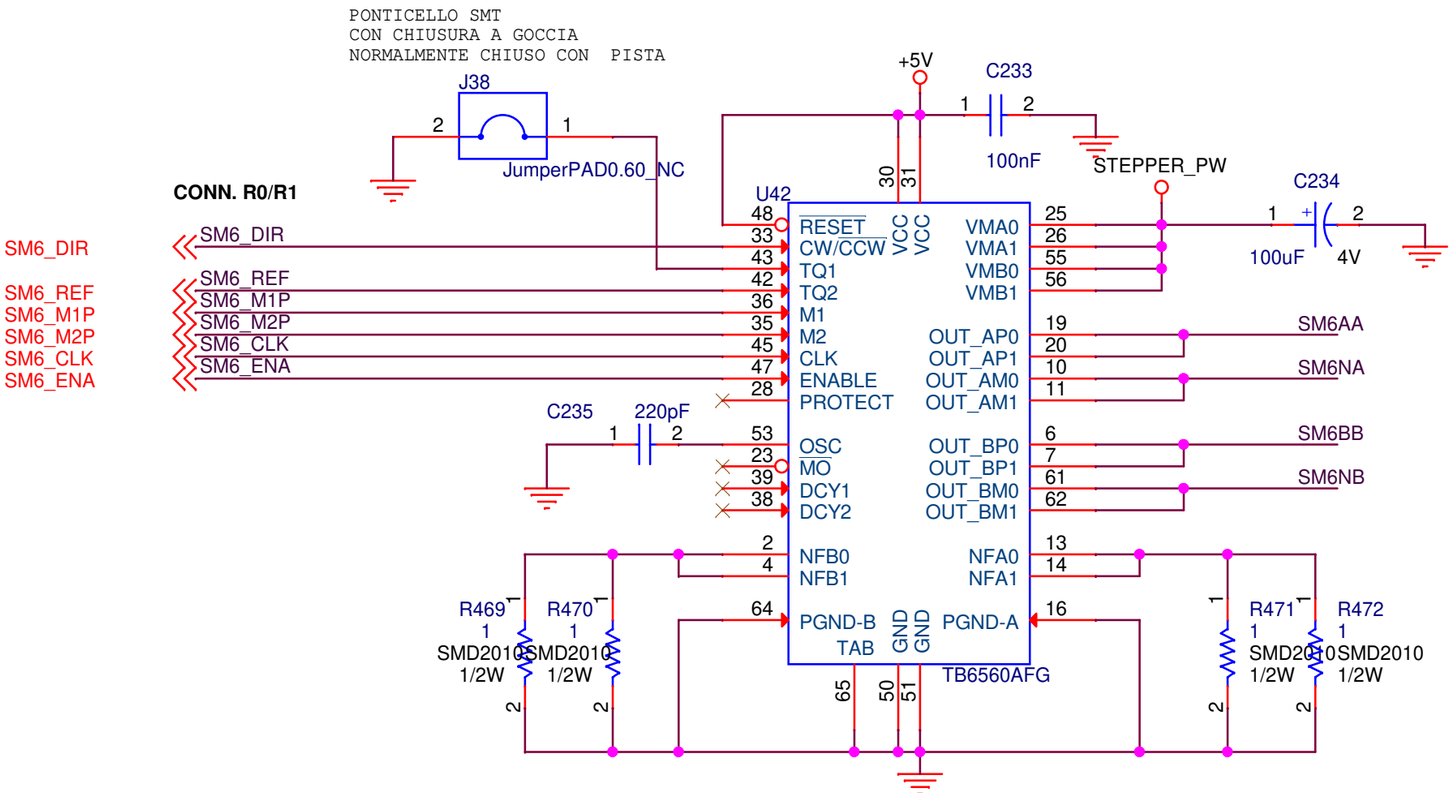
MOTORE STEPPERS 6-7

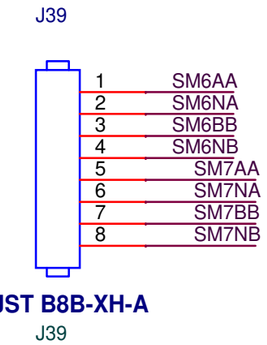
TQ2	TQ1	Current Ratio
0	0	100%
0	1	75%
1	0	50%
1	1	25%

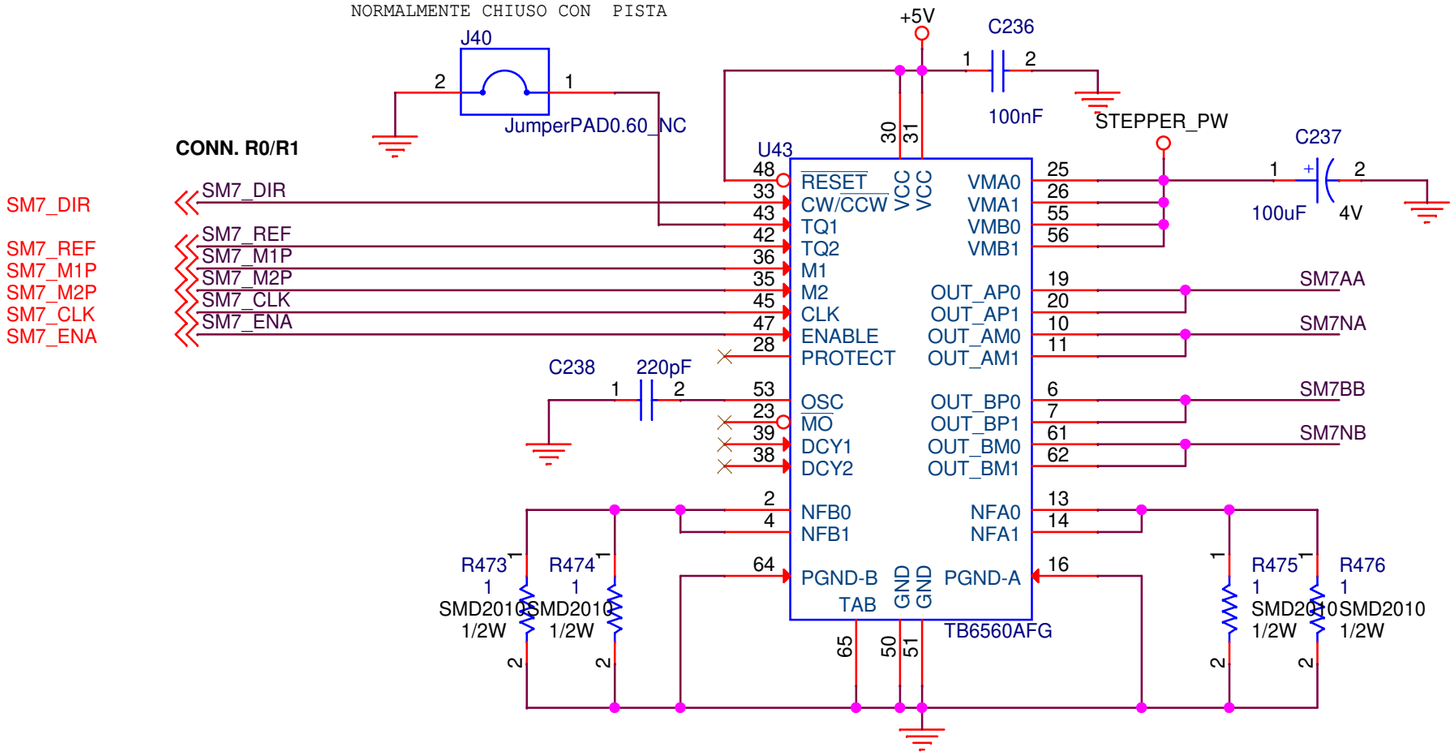
Resistenze setup corrente motore:
0,5 Vref / Rs
setup di default per tutti i canali :
0,5v / 0,5 ohm = 1A

M2	M1	Step Resolution
0	0	FULL STEP (2 phase excitation)
0	1	HALF STEP (1- 2 phase excitation)
1	0	STEP/16 (4W1-2 phase excitation)
1	1	STEP/8 (2W1-2 excitation mode)

Enable	
0	Driver disabilitato
1	Driver abilitato (corrente settata da TQ1/TQ2)







Title	Rototype - RPB		
Size A4	Document Number MOTORI STEPPERS 6-7		Rev 1.0
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MOTORE STEPPERS 8-9

TQ2	TQ1	Current Ratio
0	0	100%
0	1	75%
1	0	50%
1	1	25%

Resistenze setup corrente motore:
0,5 Vref / Rs
setup di default per tutti i canali :
0,5v / 0,5 ohm = 1A

M2	M1	Step Resolution
0	0	FULL STEP (2 phase excitation)
0	1	HALF STEP (1- 2 phase excitation)
1	0	STEP/16 (4W1-2 phase excitation)
1	1	STEP/8 (2W1-2 excitation mode)

Enable	
0	Driver disabilitato
1	Driver abilitato (corrente settata da TQ1/TQ2)

PONTICELLO SMT
CON CHIUSURA A GOCCIA
NORMALMENTE CHIUSO CON PISTA

J41 JumperPAD0.60_NC

CONN. R0/R1

SM8_DIR
SM8_REF
SM8_M1P
SM8_M2P
SM8_CLK
SM8_ENA

+5V, C239 100nF, STEPPER_PW, C240 100uF 4V

U44 TB6560AFG

RESET, CW/CCW, TQ1, TQ2, M1, M2, CLK, ENABLE, PROTECT, OSC, MO, DCY1, DCY2, NFB0, NFB1, PGND-B, TAB, VCC, VCC, GND, GND, PGND-A
VMA0, VMA1, VMB0, VMB1, OUT_AP0, OUT_AP1, OUT_AM0, OUT_AM1, OUT_BP0, OUT_BP1, OUT_BM0, OUT_BM1, NFA0, NFA1

C241 220pF

R477 SMD2010 1/2W, R478 SMD2010 1/2W, R479 SMD2010 1/2W, R480 SMD2010 1/2W

SM8AA, SM8NA, SM8BB, SM8NB

PONTICELLO SMT
CON CHIUSURA A GOCCIA
NORMALMENTE CHIUSO CON PISTA

J43 JumperPAD0.60_NC

CONN. R0/R1

SM9_DIR
SM9_REF
SM9_M1P
SM9_M2P
SM9_CLK
SM9_ENA

+5V, C242 100nF, STEPPER_PW, C243 100uF 4V

U45 TB6560AFG

RESET, CW/CCW, TQ1, TQ2, M1, M2, CLK, ENABLE, PROTECT, OSC, MO, DCY1, DCY2, NFB0, NFB1, PGND-B, TAB, VCC, VCC, GND, GND, PGND-A
VMA0, VMA1, VMB0, VMB1, OUT_AP0, OUT_AP1, OUT_AM0, OUT_AM1, OUT_BP0, OUT_BP1, OUT_BM0, OUT_BM1, NFA0, NFA1

C244 220pF

R481 SMD2010 1/2W, R482 SMD2010 1/2W, R483 SMD2010 1/2W, R484 SMD2010 1/2W

SM9AA, SM9NA, SM9BB, SM9NB

J42 JST B8B-XH-A

1	SM8AA
2	SM8NA
3	SM8BB
4	SM8NB
5	SM9AA
6	SM9NA
7	SM9BB
8	SM9NB

Title	Rototype - RPB	
Size A4	Document Number MOTORI STEPPERS 8-9	Rev 1.0
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MOTORE STEPPERS 10-11

TQ2	TQ1	Current Ratio
0	0	100%
0	1	75%
1	0	50%
1	1	25%

Resistenze setup corrente motore:
0,5 Vref / Rs
setup di default per tutti i canali :
0,5v / 0,5 ohm = 1A

M2	M1	Step Resolution
0	0	FULL STEP (2 phase excitation)
0	1	HALF STEP (1- 2 phase excitation)
1	0	STEP/16 (4W1-2 phase excitation)
1	1	STEP/8 (2W1-2 excitation mode)

Enable	
0	Driver disabilitato
1	Driver abilitato (corrente settata da TQ1/TQ2)

PONTICELLO SMT
CON CHIUSURA A GOCCIA
NORMALMENTE CHIUSO CON PISTA

J44 JumperPAD0.60_NC

CONN. R0/R1

SM10_DIR
SM10_REF
SM10_M1P
SM10_M2P
SM10_CLK
SM10_ENA

+5V, C245 100nF, STEPPER_PW, C246 100uF 4V

U46 TB6560AFG

RESET, CW/CCW, TQ1, TQ2, M1, M2, CLK, ENABLE, PROTECT, OSC, MO, DCY1, DCY2, NFB0, NFB1, PGND-B, TAB, VCC, VCC, GND, GND, PGND-A
VMA0, VMA1, VMB0, VMB1, OUT_AP0, OUT_AP1, OUT_AM0, OUT_AM1, OUT_BP0, OUT_BP1, OUT_BM0, OUT_BM1, NFA0, NFA1

C247 220pF

R485 SMD2010 1/2W
R486 SMD2010 1/2W
R487 SMD2010 1/2W
R488 SMD2010 1/2W

SM10AA
SM10NA
SM10BB
SM10NB

1 SM10AA
2 SM10NA
3 SM10BB
4 SM10NB
5 SM11AA
6 SM11NA
7 SM11BB
8 SM11NB

JST B8B-XH-A
J45

PONTICELLO SMT
CON CHIUSURA A GOCCIA
NORMALMENTE CHIUSO CON PISTA

J46 JumperPAD0.60_NC

CONN. R0/R1

SM11_DIR
SM11_REF
SM11_M1P
SM11_M2P
SM11_CLK
SM11_ENA

+5V, C248 100nF, STEPPER_PW, C249 100uF 4V

U47 TB6560AFG

RESET, CW/CCW, TQ1, TQ2, M1, M2, CLK, ENABLE, PROTECT, OSC, MO, DCY1, DCY2, NFB0, NFB1, PGND-B, TAB, VCC, VCC, GND, GND, PGND-A
VMA0, VMA1, VMB0, VMB1, OUT_AP0, OUT_AP1, OUT_AM0, OUT_AM1, OUT_BP0, OUT_BP1, OUT_BM0, OUT_BM1, NFA0, NFA1

C250 220pF

R489 SMD2010 1/2W
R490 SMD2010 1/2W
R491 SMD2010 1/2W
R492 SMD2010 1/2W

SM11AA
SM11NA
SM11BB
SM11NB

Title	Rototype - RPB		
Size A4	Document Number MOTORI STEPPERS 10-11		Rev 1.0
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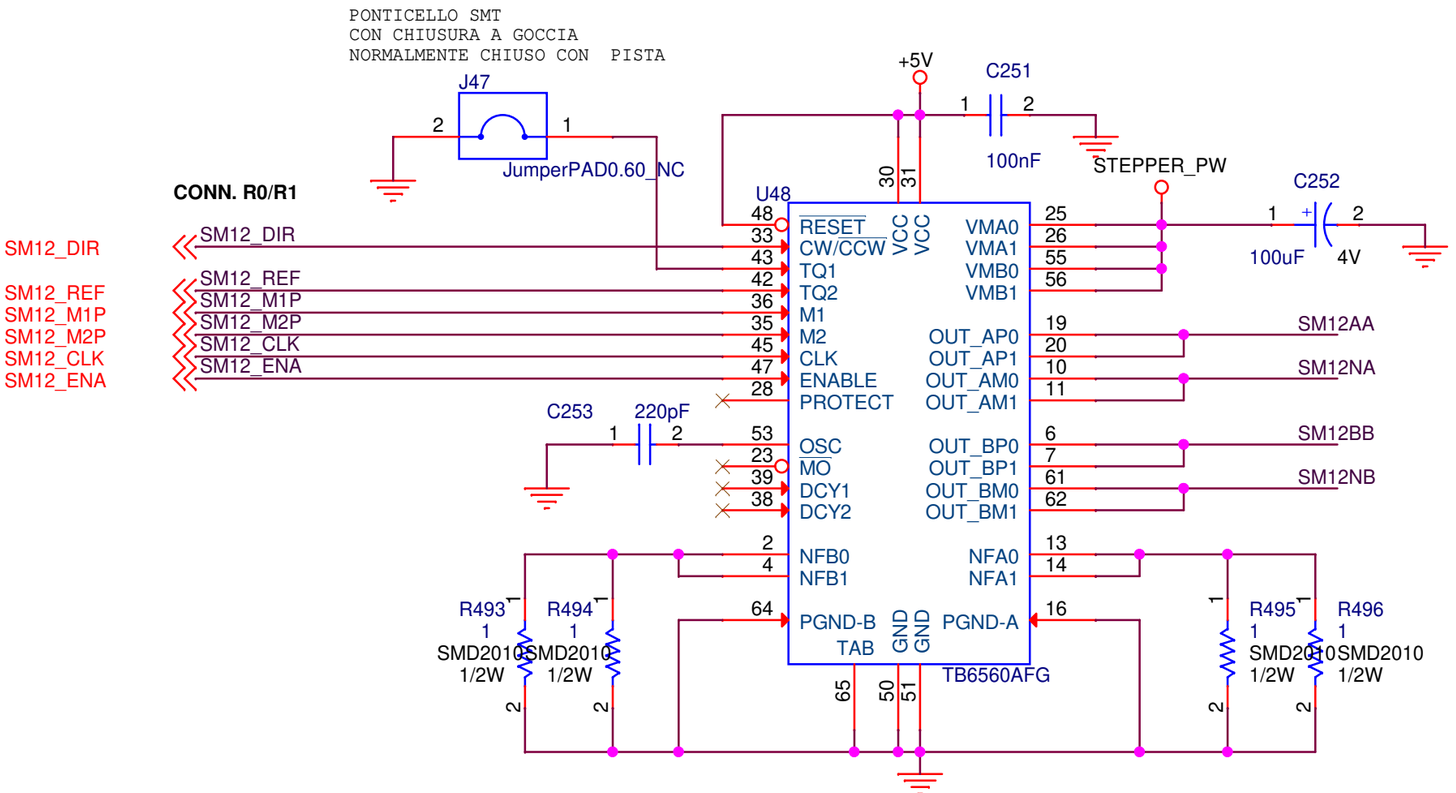
MOTORE STEPPERS 12-13

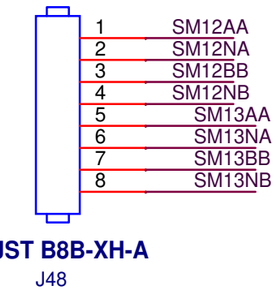
TQ2	TQ1	Current Ratio
0	0	100%
0	1	75%
1	0	50%
1	1	25%

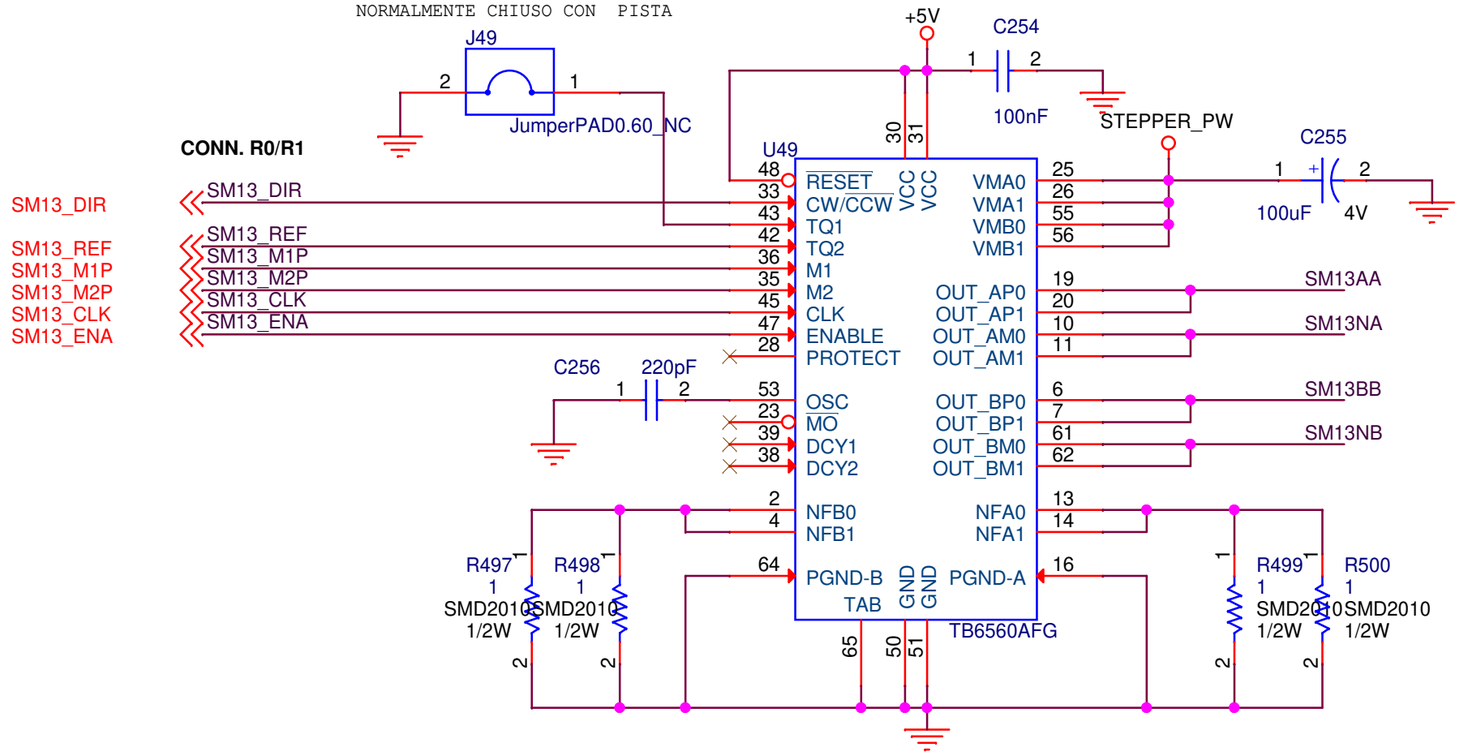
Resistenze setup corrente motore:
0,5 Vref / Rs
setup di default per tutti i canali :
0,5v / 0,5 ohm = 1A

M2	M1	Step Resolution
0	0	FULL STEP (2 phase excitation)
0	1	HALF STEP (1- 2 phase excitation)
1	0	STEP/16 (4W1-2 phase excitation)
1	1	STEP/8 (2W1-2 excitation mode)

Enable	
0	Driver disabilitato
1	Driver abilitato (corrente settata da TQ1/TQ2)







Title	Rototype - RPB		
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MOTORE STEPPERS 14-15

TQ2	TQ1	Current Ratio
0	0	100%
0	1	75%
1	0	50%
1	1	25%

Resistenze setup corrente motore:
0,5 Vref / Rs
setup di default per tutti i canali :
0,5v / 0,5 ohm = 1A

M2	M1	Step Resolution
0	0	FULL STEP (2 phase excitation)
0	1	HALF STEP (1- 2 phase excitation)
1	0	STEP/16 (4W1-2 phase excitation)
1	1	STEP/8 (2W1-2 excitation mode)

Enable	
0	Driver disabilitato
1	Driver abilitato (corrente settata da TQ1/TQ2)

PONTICELLO SMT
CON CHIUSURA A GOCCIA
NORMALMENTE CHIUSO CON PISTA

J50 — JumperPAD0.60_NC

CONN. R0/R1

SM14_DIR
SM14_REF
SM14_M1P
SM14_M2P
SM14_CLK
SM14_ENA

+5V, C257 100nF, STEPPER_PW, C258 100uF 4V

U50 TB6560AFG

RESET, CW/CCW, TQ1, TQ2, M1, M2, CLK, ENABLE, PROTECT, OSC, MO, DCY1, DCY2, NFB0, NFB1, PGND-B, TAB, VCC, VCC, GND, GND, PGND-A
VMA0, VMA1, VMB0, VMB1, OUT_AP0, OUT_AP1, OUT_AM0, OUT_AM1, OUT_BP0, OUT_BP1, OUT_BM0, OUT_BM1, NFA0, NFA1

C259 220pF

R501 SMD2010 1/2W, R502 SMD2010 1/2W, R503 SMD2010 1/2W, R504 SMD2010 1/2W

SM14AA, SM14NA, SM14BB, SM14NB

J51 — JST B8B-XH-A

1 SM14AA
2 SM14NA
3 SM14BB
4 SM14NB
5 SM15AA
6 SM15NA
7 SM15BB
8 SM15NB

PONTICELLO SMT
CON CHIUSURA A GOCCIA
NORMALMENTE CHIUSO CON PISTA

J52 — JumperPAD0.60_NC

CONN. R0/R1

SM15_DIR
SM15_REF
SM15_M1P
SM15_M2P
SM15_CLK
SM15_ENA

+5V, C260 100nF, STEPPER_PW, C261 100uF 4V

U51 TB6560AFG

RESET, CW/CCW, TQ1, TQ2, M1, M2, CLK, ENABLE, PROTECT, OSC, MO, DCY1, DCY2, NFB0, NFB1, PGND-B, TAB, VCC, VCC, GND, GND, PGND-A
VMA0, VMA1, VMB0, VMB1, OUT_AP0, OUT_AP1, OUT_AM0, OUT_AM1, OUT_BP0, OUT_BP1, OUT_BM0, OUT_BM1, NFA0, NFA1

C262 220pF

R505 SMD2010 1/2W, R506 SMD2010 1/2W, R507 SMD2010 1/2W, R508 SMD2010 1/2W

SM15AA, SM15NA, SM15BB, SM15NB

Title	Rototype - RPB	
Size A4	Document Number MOTORI STEPPERS 14-15	Rev 1.0
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MOTORE STEPPERS 16-17

TQ2	TQ1	Current Ratio
0	0	100%
0	1	75%
1	0	50%
1	1	25%

Resistenze setup corrente motore:
0,5 Vref / Rs
setup di default per tutti i canali :
0,5v / 0,5 ohm = 1A

M2	M1	Step Resolution
0	0	FULL STEP (2 phase excitation)
0	1	HALF STEP (1- 2 phase excitation)
1	0	STEP/16 (4W1-2 phase excitation)
1	1	STEP/8 (2W1-2 excitation mode)

Enable	
0	Driver disabilitato
1	Driver abilitato (corrente settata da TQ1/TQ2)

PONTICELLO SMT
CON CHIUSURA A GOCCIA
NORMALMENTE CHIUSO CON PISTA

J53 — JumperPAD0.60_NC

CONN. R0/R1

SM16_DIR
SM16_REF
SM16_M1P
SM16_M2P
SM16_CLK
SM16_ENA

+5V, C263 100nF, STEPPER_PW, C264 100uF 4V

U52 TB6560AFG

RESET, CW/CCW, TQ1, TQ2, M1, M2, CLK, ENABLE, PROTECT, OSC, MO, DCY1, DCY2, NFB0, NFB1, PGND-B, TAB, VCC, VCC, GND, GND, PGND-A
VMA0, VMA1, VMB0, VMB1, OUT_AP0, OUT_AP1, OUT_AM0, OUT_AM1, OUT_BP0, OUT_BP1, OUT_BM0, OUT_BM1, NFA0, NFA1

SM16AA, SM16NA, SM16BB, SM16NB

C265 220pF

R509 SMD2010 1/2W, R510 SMD2010 1/2W, R511 SMD2010 1/2W, R512 SMD2010 1/2W

J54 — JST B8B-XH-A

1	SM16AA
2	SM16NA
3	SM16BB
4	SM16NB
5	SM17AA
6	SM17NA
7	SM17BB
8	SM17NB

PONTICELLO SMT
CON CHIUSURA A GOCCIA
NORMALMENTE CHIUSO CON PISTA

J55 — JumperPAD0.60_NC

CONN. R0/R1

SM17_DIR
SM17_REF
SM17_M1P
SM17_M2P
SM17_CLK
SM17_ENA

+5V, C266 100nF, STEPPER_PW, C267 100uF 4V

U53 TB6560AFG

RESET, CW/CCW, TQ1, TQ2, M1, M2, CLK, ENABLE, PROTECT, OSC, MO, DCY1, DCY2, NFB0, NFB1, PGND-B, TAB, VCC, VCC, GND, GND, PGND-A
VMA0, VMA1, VMB0, VMB1, OUT_AP0, OUT_AP1, OUT_AM0, OUT_AM1, OUT_BP0, OUT_BP1, OUT_BM0, OUT_BM1, NFA0, NFA1

SM17AA, SM17NA, SM17BB, SM17NB

C268 220pF

R513 SMD2010 1/2W, R514 SMD2010 1/2W, R515 SMD2010 1/2W, R516 SMD2010 1/2W

Title	Rototype - RPB		
Size A4	Document Number MOTORI STEPPERS 16-17		Rev 1.0
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MOTORE STEPPERS 18-19

TQ2	TQ1	Current Ratio
0	0	100%
0	1	75%
1	0	50%
1	1	25%

Resistenze setup corrente motore:
0,5 Vref / Rs
setup di default per tutti i canali :
0,5v / 0,5 ohm = 1A

M2	M1	Step Resolution
0	0	FULL STEP (2 phase excitation)
0	1	HALF STEP (1- 2 phase excitation)
1	0	STEP/16 (4W1-2 phase excitation)
1	1	STEP/8 (2W1-2 excitation mode)

Enable	
0	Driver disabilitato
1	Driver abilitato (corrente settata da TQ1/TQ2)

PONTICELLO SMT
CON CHIUSURA A GOCCIA
NORMALMENTE CHIUSO CON PISTA

J56 JumperPAD0.60_NC

CONN. R0/R1

SM18_DIR
SM18_REF
SM18_M1P
SM18_M2P
SM18_CLK
SM18_ENA

+5V, C269 100nF, STEPPER_PW, C270 100uF 4V

U54 TB6560AFG

RESET, CW/CCW, TQ1, TQ2, M1, M2, CLK, ENABLE, PROTECT, OSC, MO, DCY1, DCY2, NFB0, NFB1, PGND-B, TAB, VCC, VCC, GND, GND, PGND-A
VMA0, VMA1, VMB0, VMB1, OUT_AP0, OUT_AP1, OUT_AM0, OUT_AM1, OUT_BP0, OUT_BP1, OUT_BM0, OUT_BM1, NFA0, NFA1

C271 220pF

R517 R518 SMD2010 1/2W

R519 R520 SMD2010 1/2W

SM18AA, SM18NA, SM18BB, SM18NB

J57
1 SM18AA
2 SM18NA
3 SM18BB
4 SM18NB
5 SM19AA
6 SM19NA
7 SM19BB
8 SM19NB
JST B8B-XH-A

PONTICELLO SMT
CON CHIUSURA A GOCCIA
NORMALMENTE CHIUSO CON PISTA

J58 JumperPAD0.60_NC

CONN. R0/R1

SM19_DIR
SM19_REF
SM19_M1P
SM19_M2P
SM19_CLK
SM19_ENA

+5V, C272 100nF, STEPPER_PW, C273 100uF 4V

U55 TB6560AFG

RESET, CW/CCW, TQ1, TQ2, M1, M2, CLK, ENABLE, PROTECT, OSC, MO, DCY1, DCY2, NFB0, NFB1, PGND-B, TAB, VCC, VCC, GND, GND, PGND-A
VMA0, VMA1, VMB0, VMB1, OUT_AP0, OUT_AP1, OUT_AM0, OUT_AM1, OUT_BP0, OUT_BP1, OUT_BM0, OUT_BM1, NFA0, NFA1

C274 220pF

R521 R522 SMD2010 1/2W

R523 R524 SMD2010 1/2W

SM19AA, SM19NA, SM19BB, SM19NB

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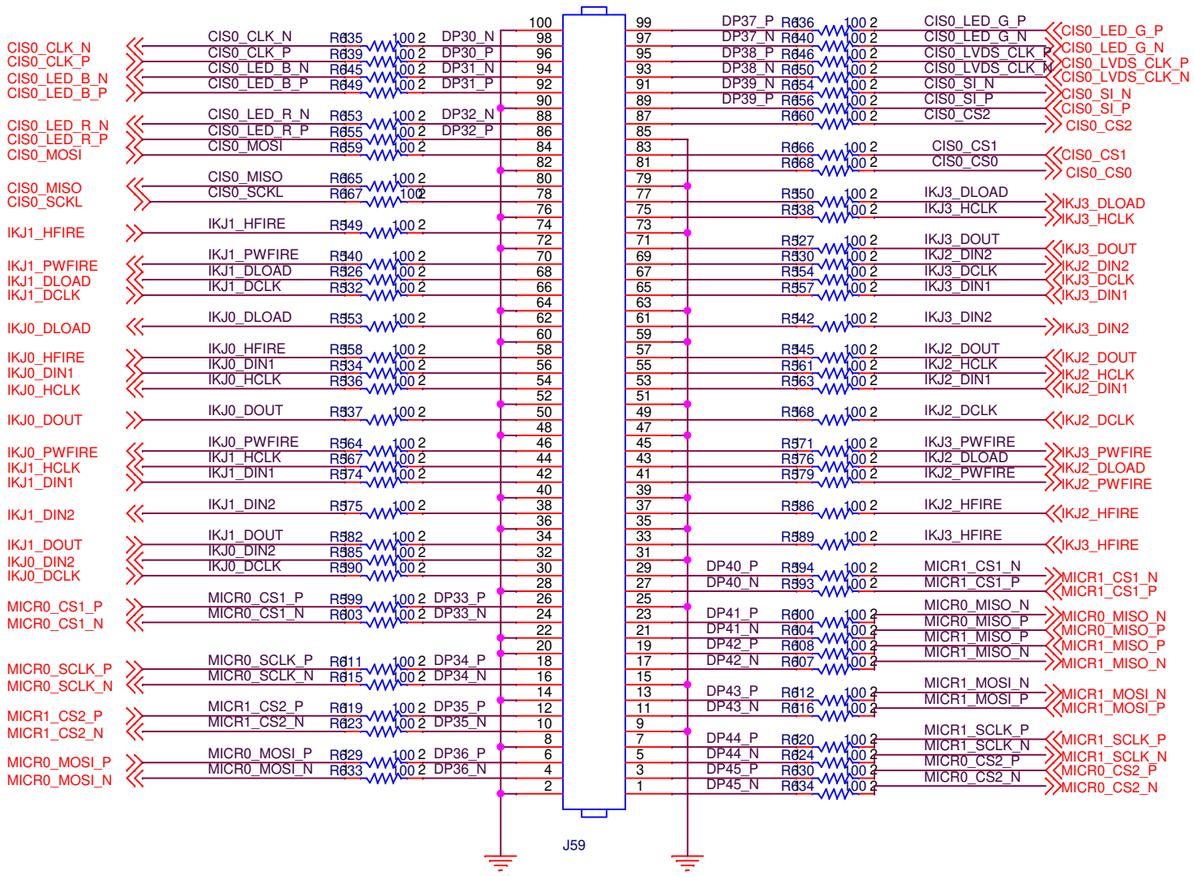
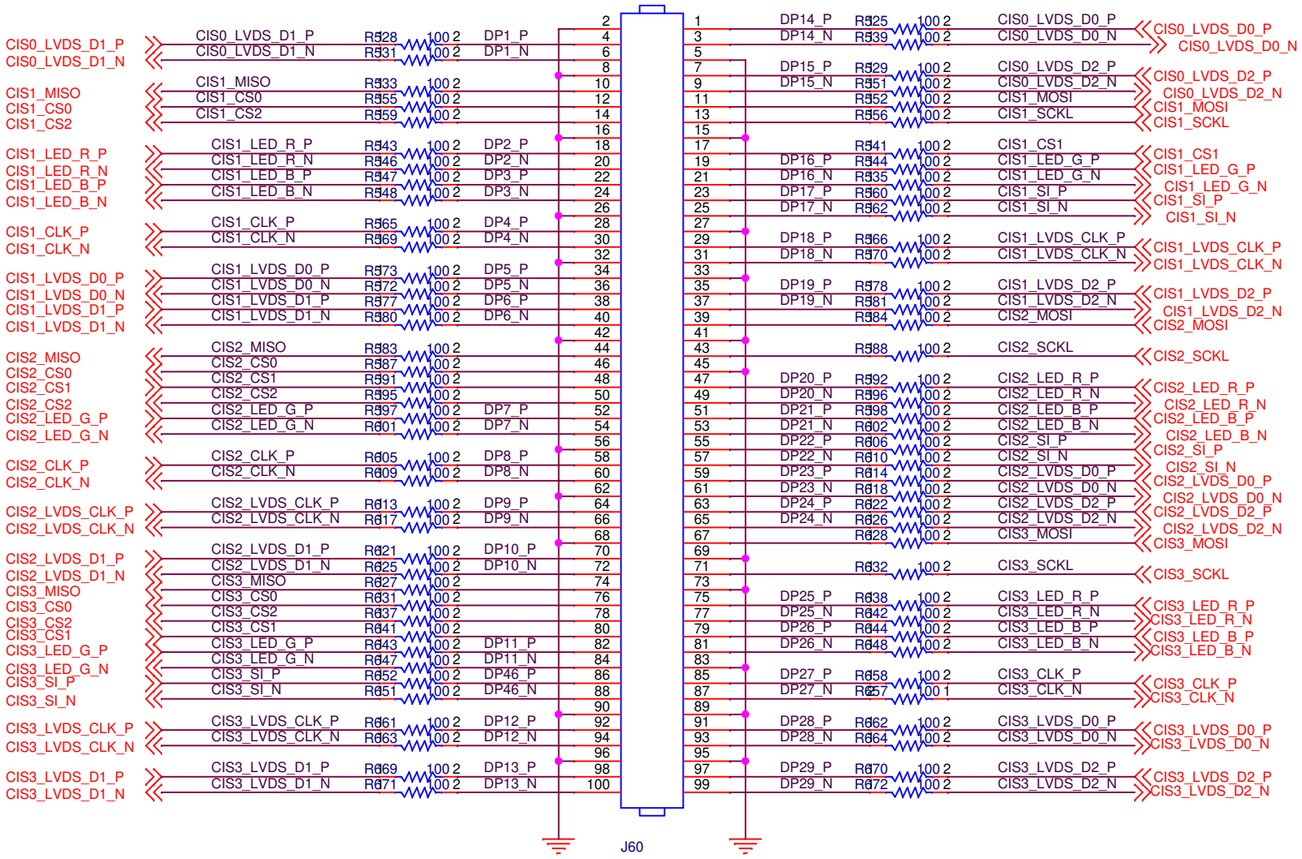
CONN_B_0

Wurth 658807713100



CONN_B_1

Wurth 658807713100



B - Conector

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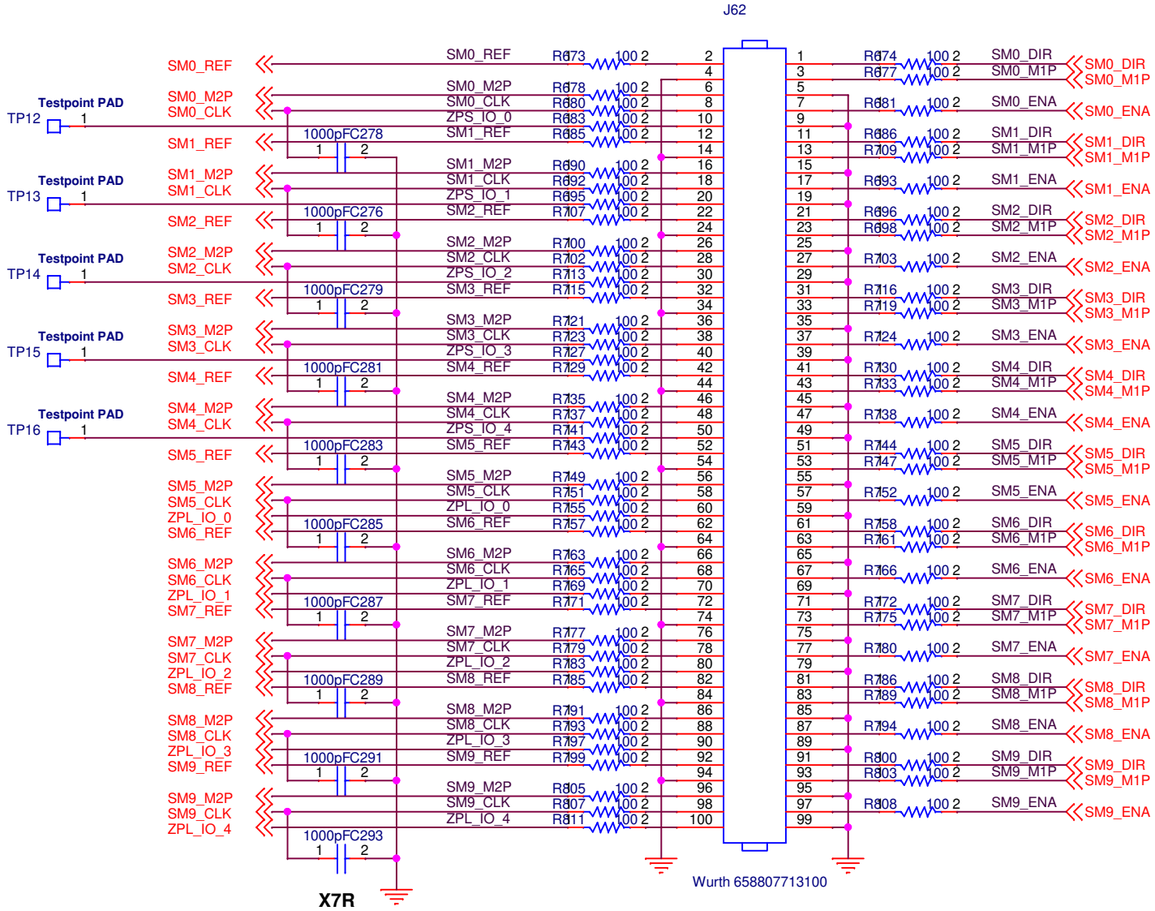
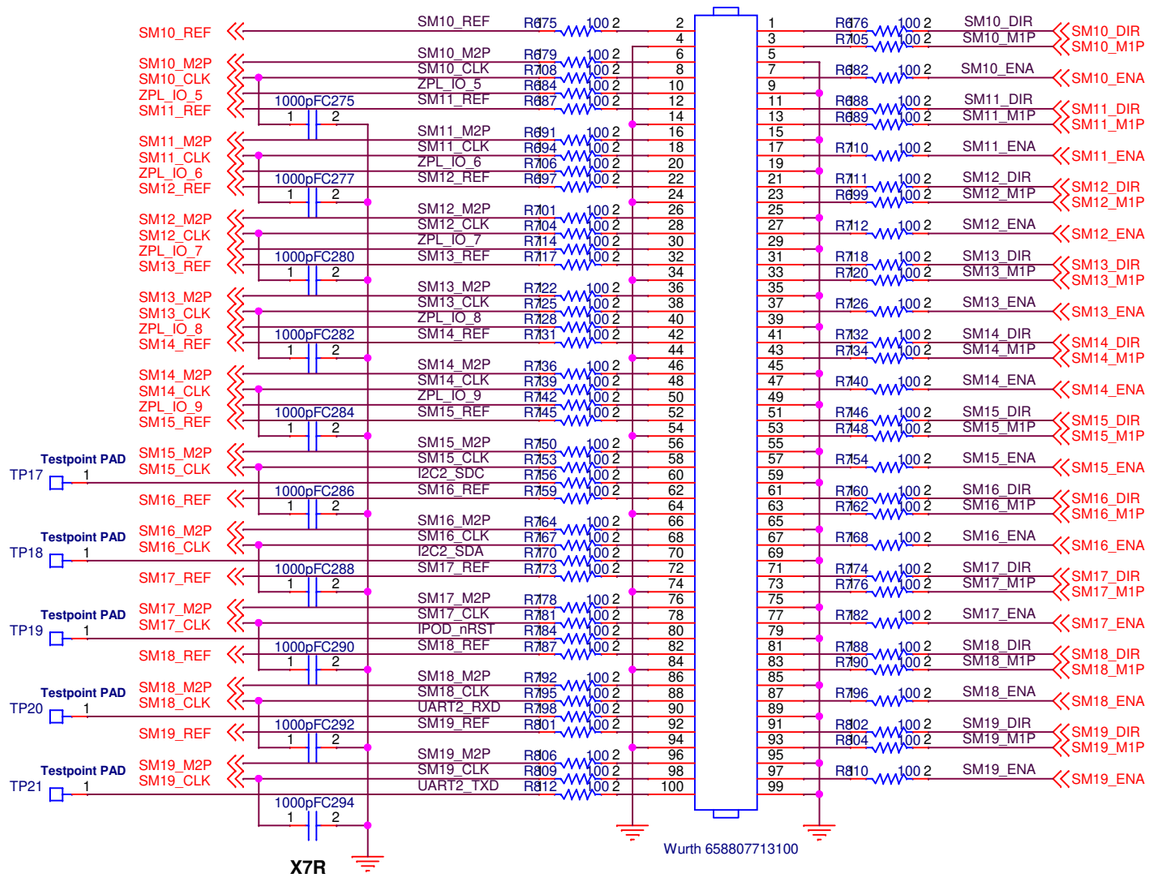
CONN_R_0



CONN_R_1



R - Conector

Title: Rototype - RPB		
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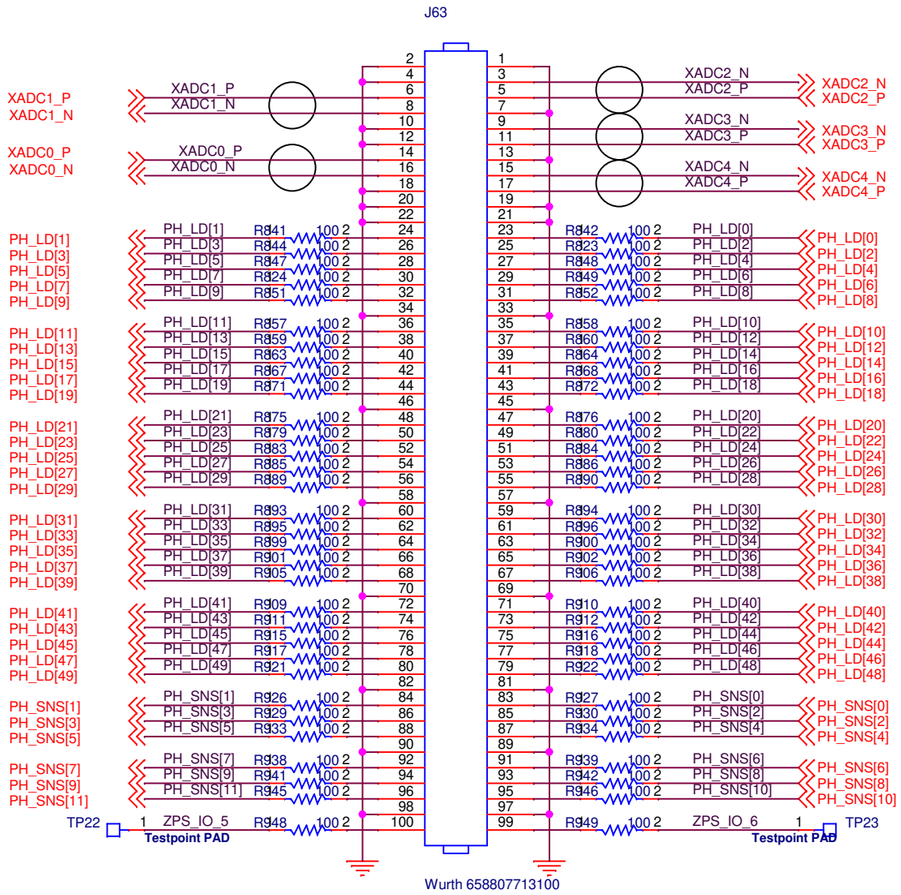
CONN_T_0



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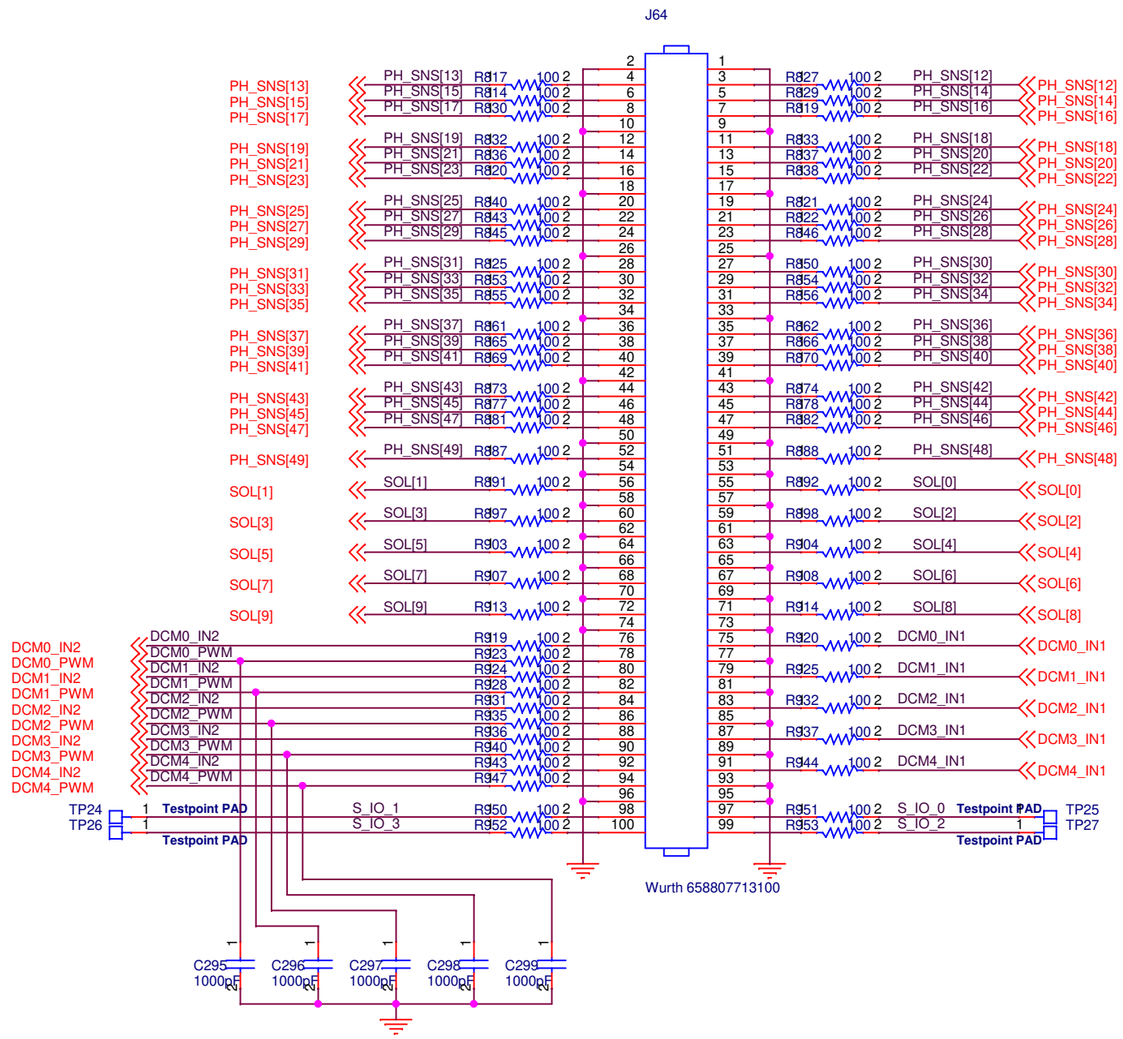

T - Connector

Title	Rototype - RPB	
Size A3	Document Number Connector - 06 - CONN - T	Rev 1.0
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