

Til rådighed:

+5V: 1.5A
+12V: 2.5A
+32V: 6.5A

Forbrug:

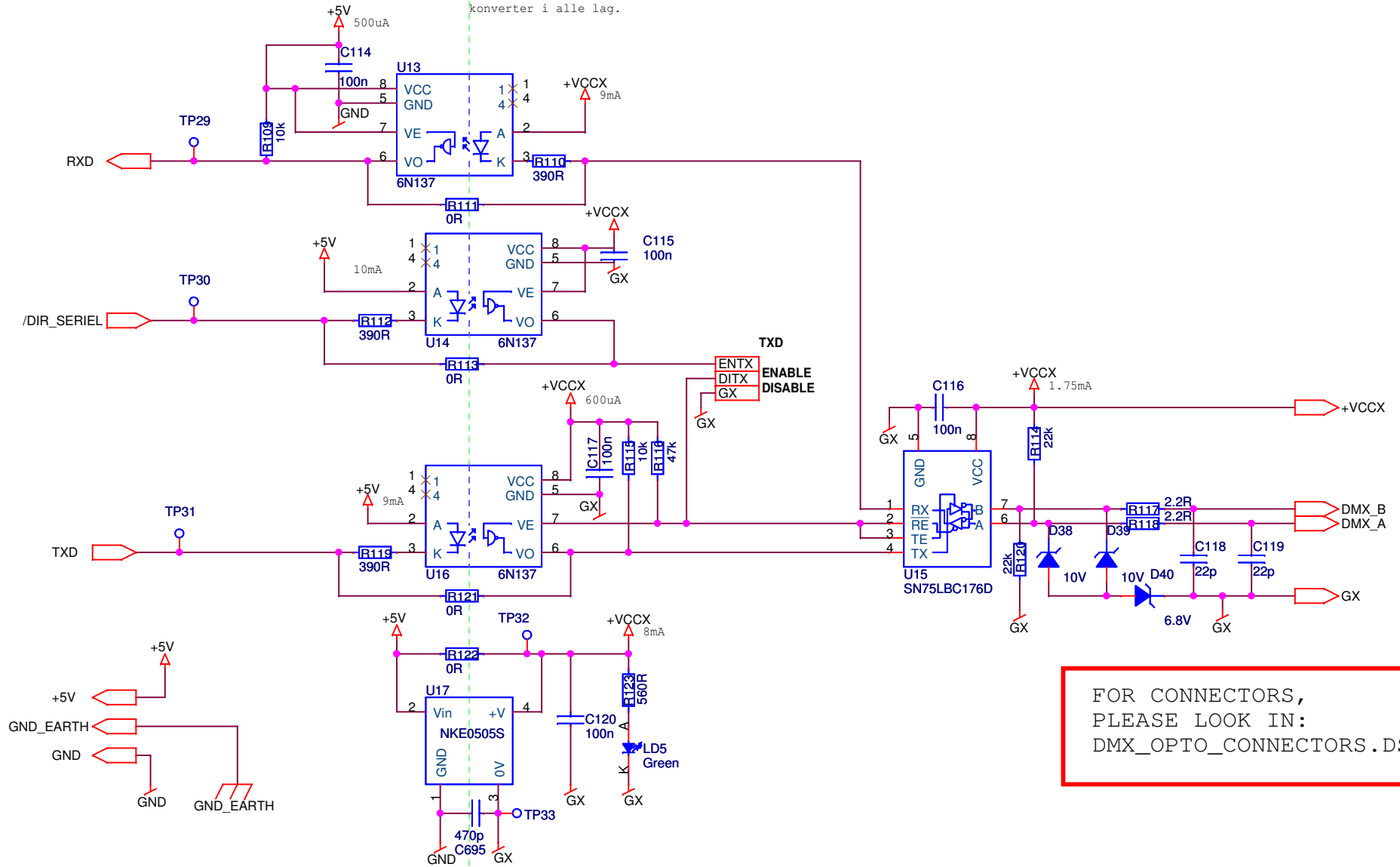
+2.5V: 210mA
+3.3V: 28mA
+5V: 363,25mA + Sensore
+12V: 1036mA
+13V: ??mA (PIC program)
+30V: 240,40mA + Motore

<Variant Name>

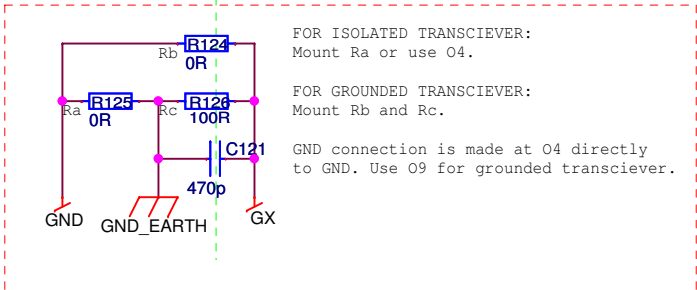
Martin	Project Title MAC400		Drawn By JOH
	Size A	PCB Title PSU	Rev D
Date: Wednesday, December 28, 2005		Product Baan Number none	

Sheet **2** of **33**

Der er ingen lov krav til isolationsafstand.
 Hold minimum afstand som ved DC-DC
 konverter i alle lag.

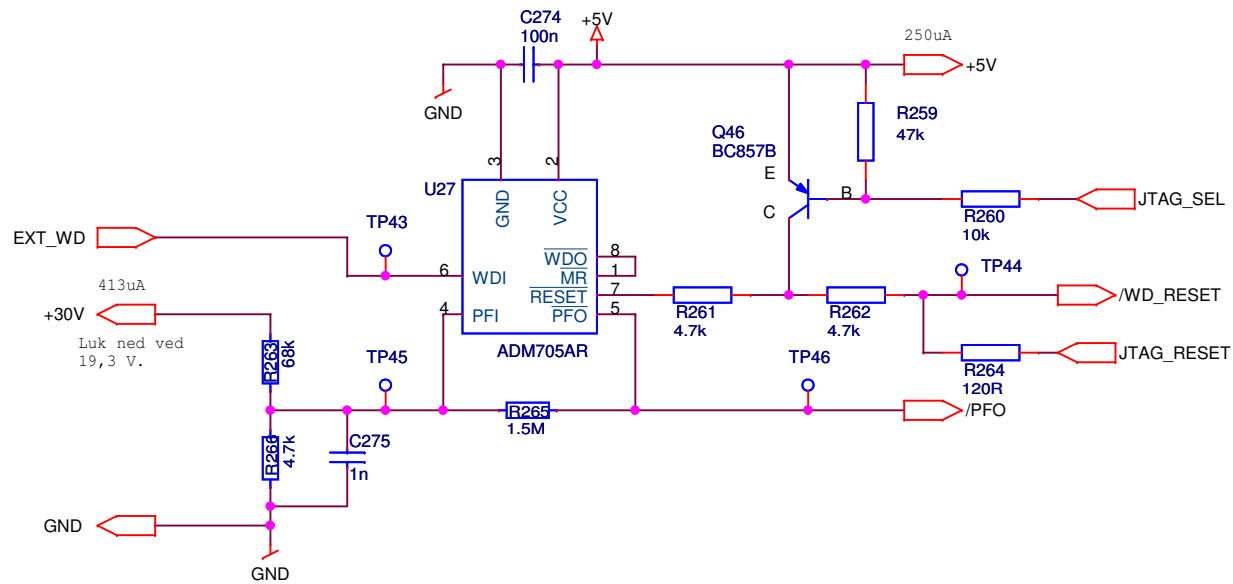


FOR CONNECTORS,
 PLEASE LOOK IN:
 DMX_OPTO_CONNECTORS.DSN




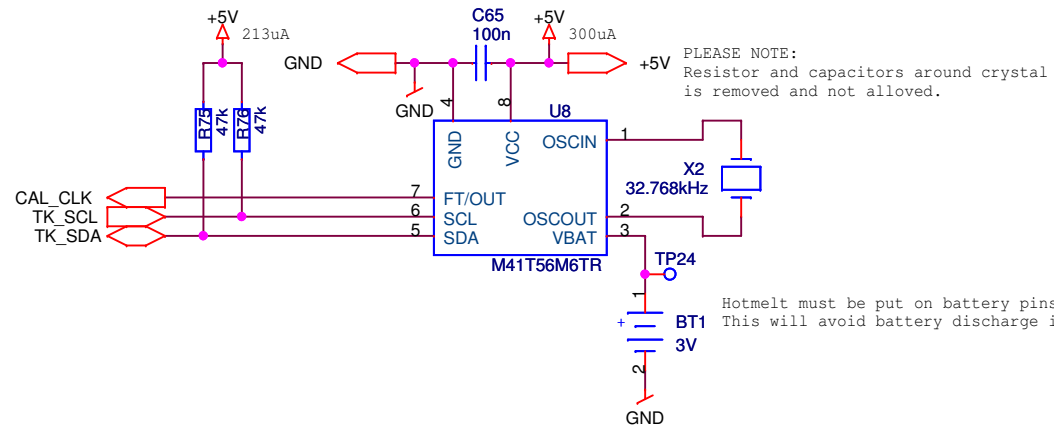
<Variant Name>

Martin	Project Title MAC400		Drawn By JOH
	Size A4	PCB Title DMX_OPTO	
Date: Wednesday, December 28, 2005		Product Baan Number none	
Sheet 3 of 33			



<Variant Name>

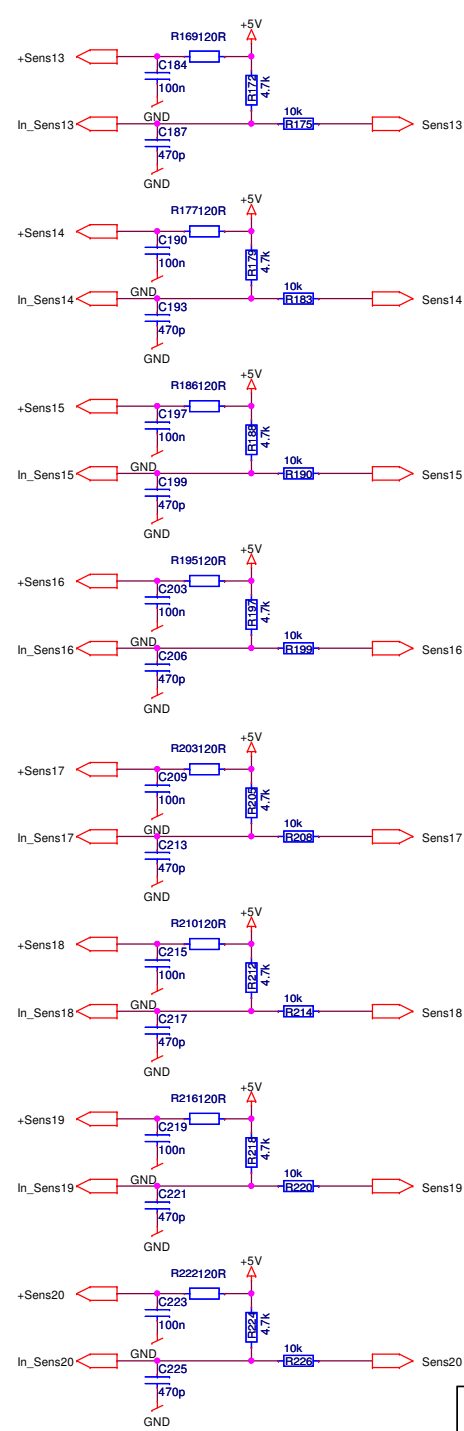
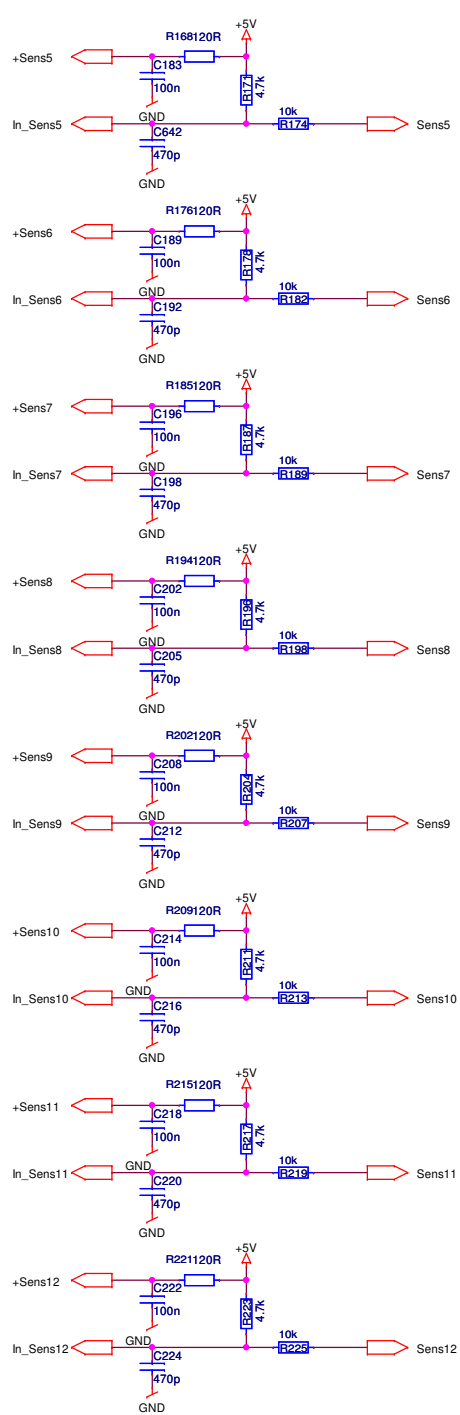
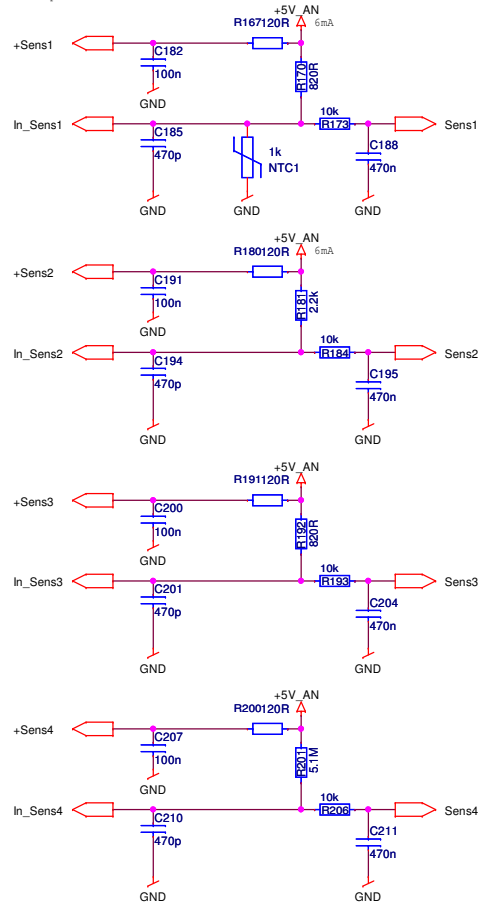
	Project Title MAC400		Drawn By JOH
	Size A4	PCB Title WATCH_DOG	
Date: Wednesday, December 28, 2005		Product Baan Number None	
Sheet 4	of 33		



<Variant Name>

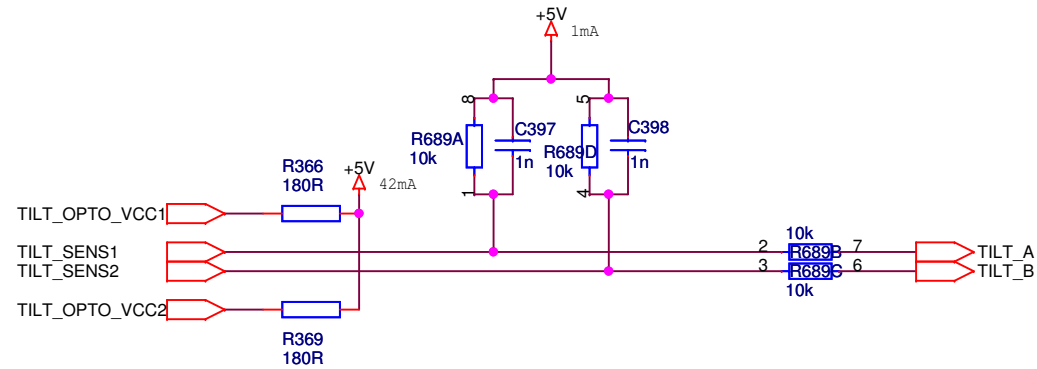
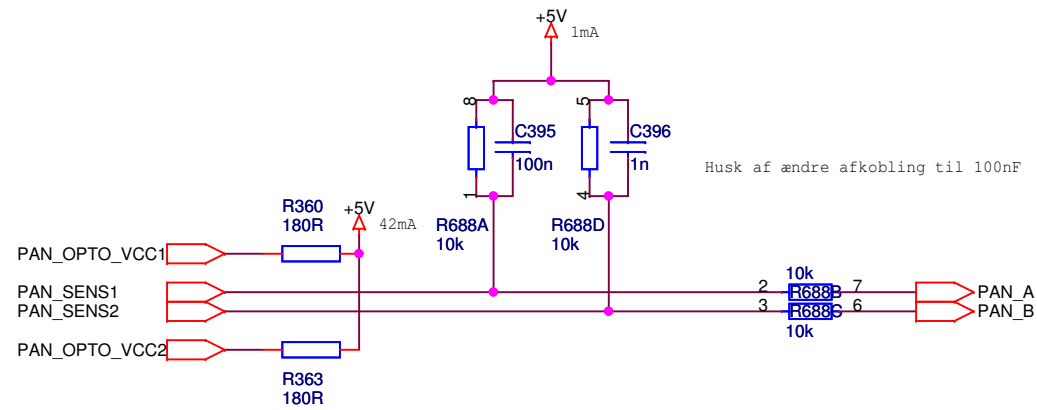
Martin	Project Title MAC400		Drawn By JOH
	Size A4	PCB Title REAL TIME CLOCK	
Sheet 5 of 33	Date: Wednesday, December 28, 2005	Product Baan Number None	

NTC temp. sensor.



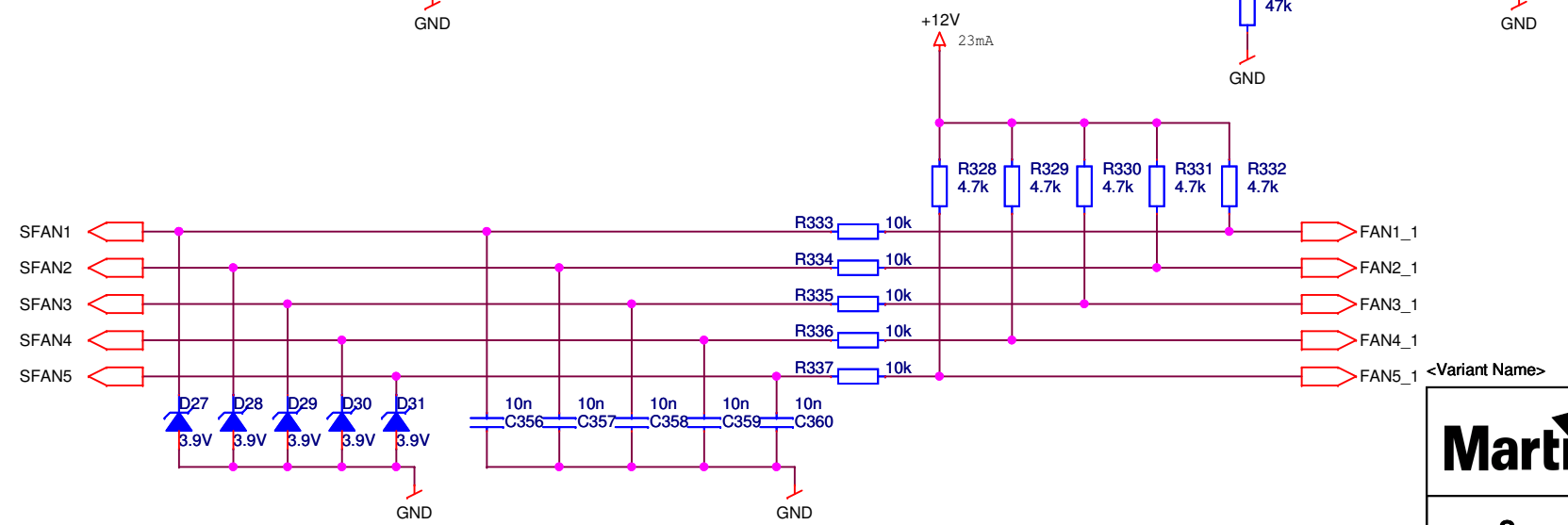
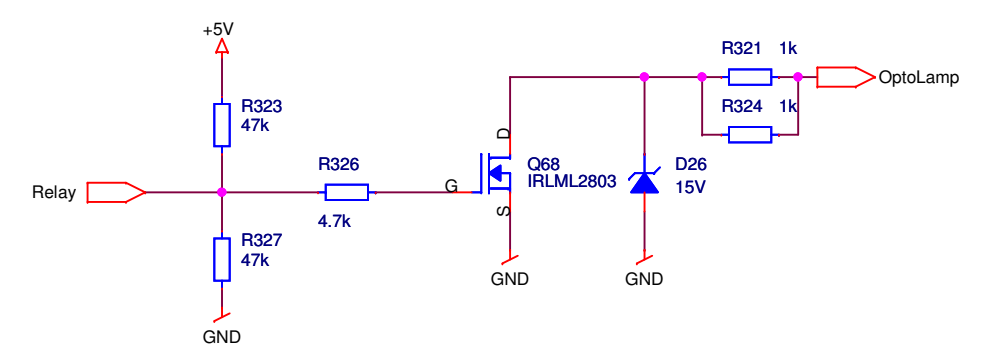
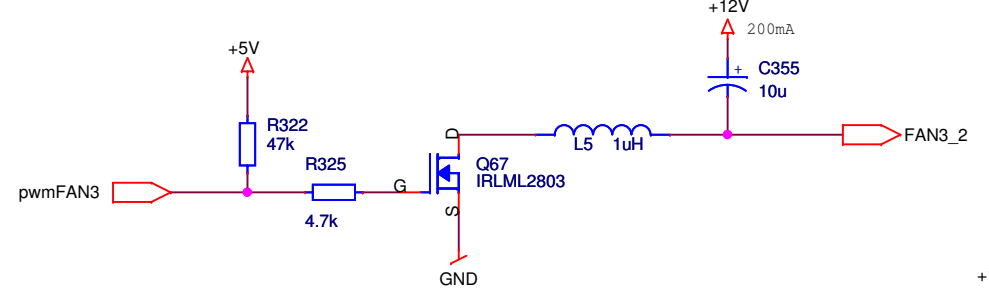
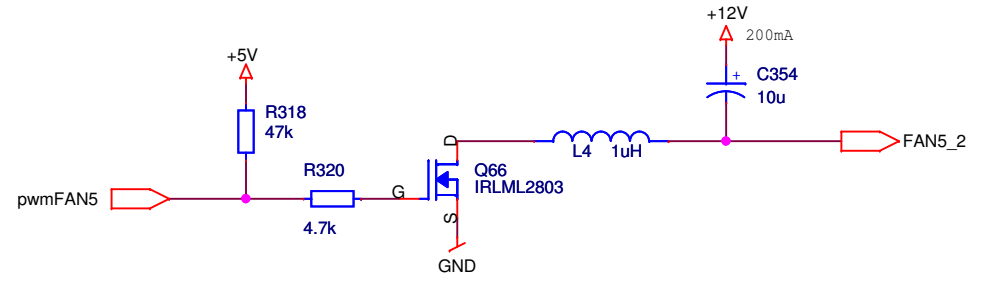
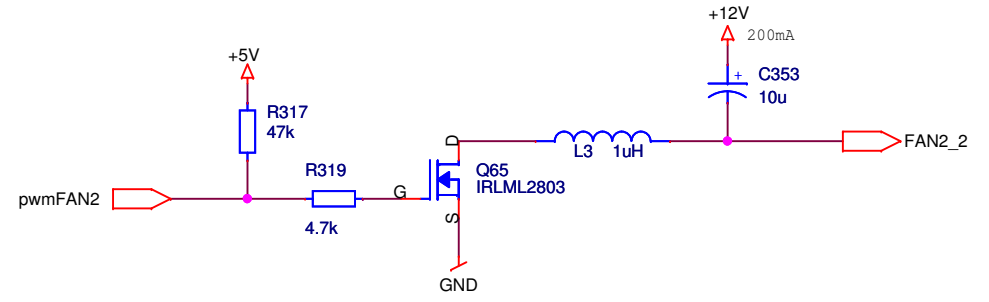
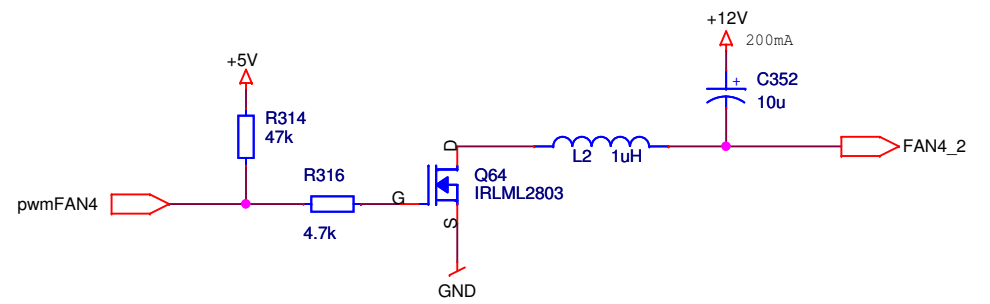
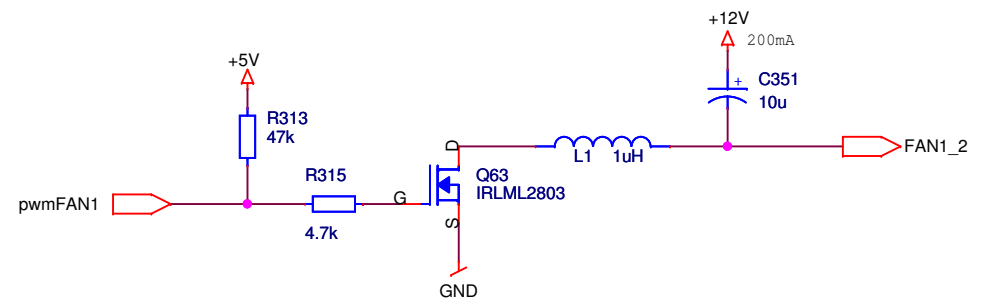
<Variant Name>

Martin	Project Title	Drawn By
	MAC400	JOH
Size	PCB Title	Rev
A3	SENSOR MODULE	D
Date:	Product Baan Number	
Sheet 6 of 33	Wednesday, December 28, 2008	

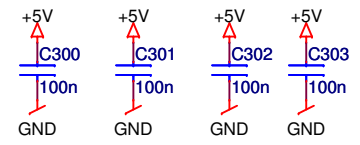
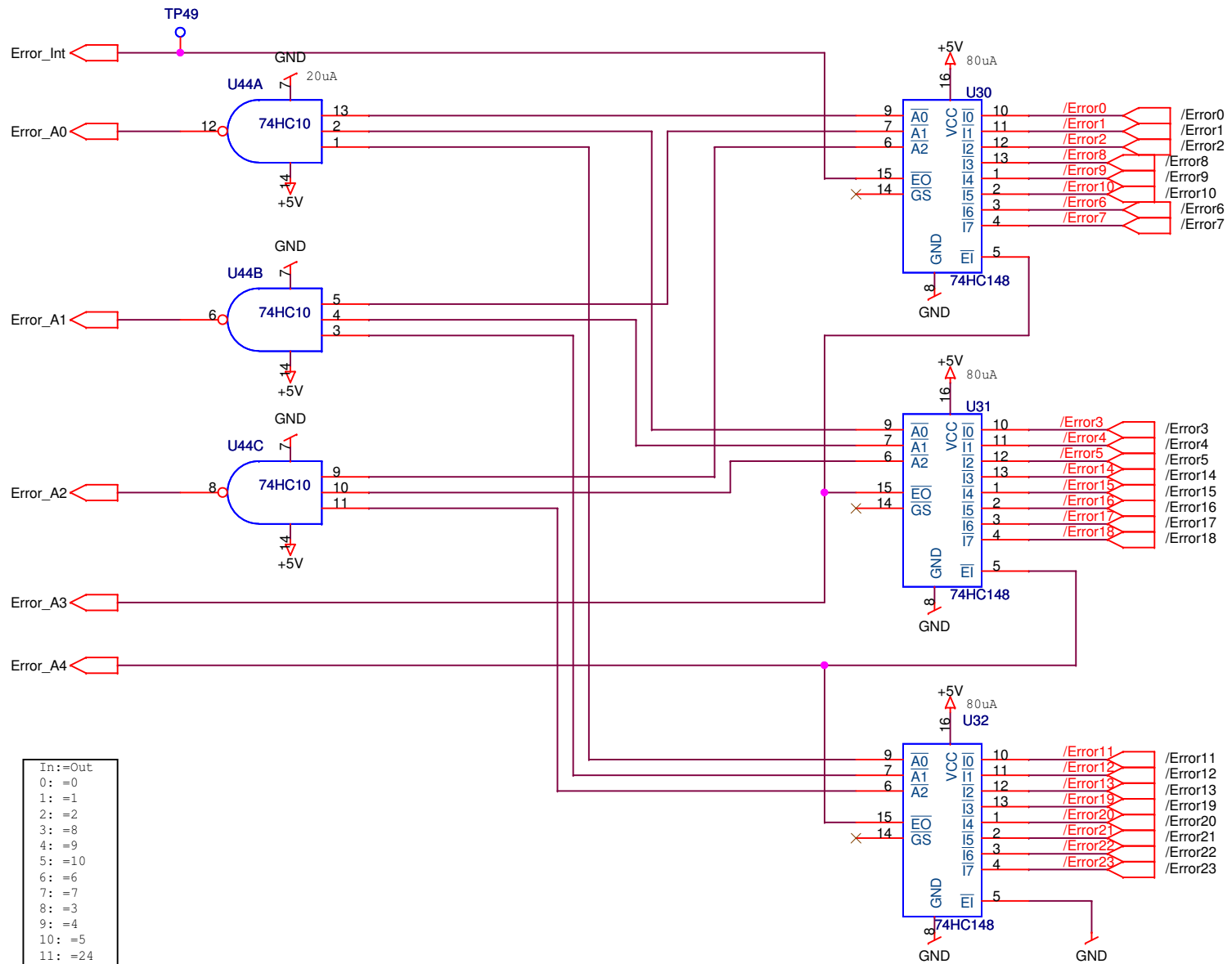


<Variant Name>

Martin	Project Title MAC400		Drawn By JOH
	Size A4	PCB Title Feedback	
Sheet 7 of 33	Date: Wednesday, December 28, 2008	Product Baan Number 01001521	



Martin	Project Title MAC400		Drawn By JOH
	Size A4	PCB Title AUX_LATCH	
Date: Wednesday, December 28, 2005		Product Baan Number None	
Sheet 8 of 33			

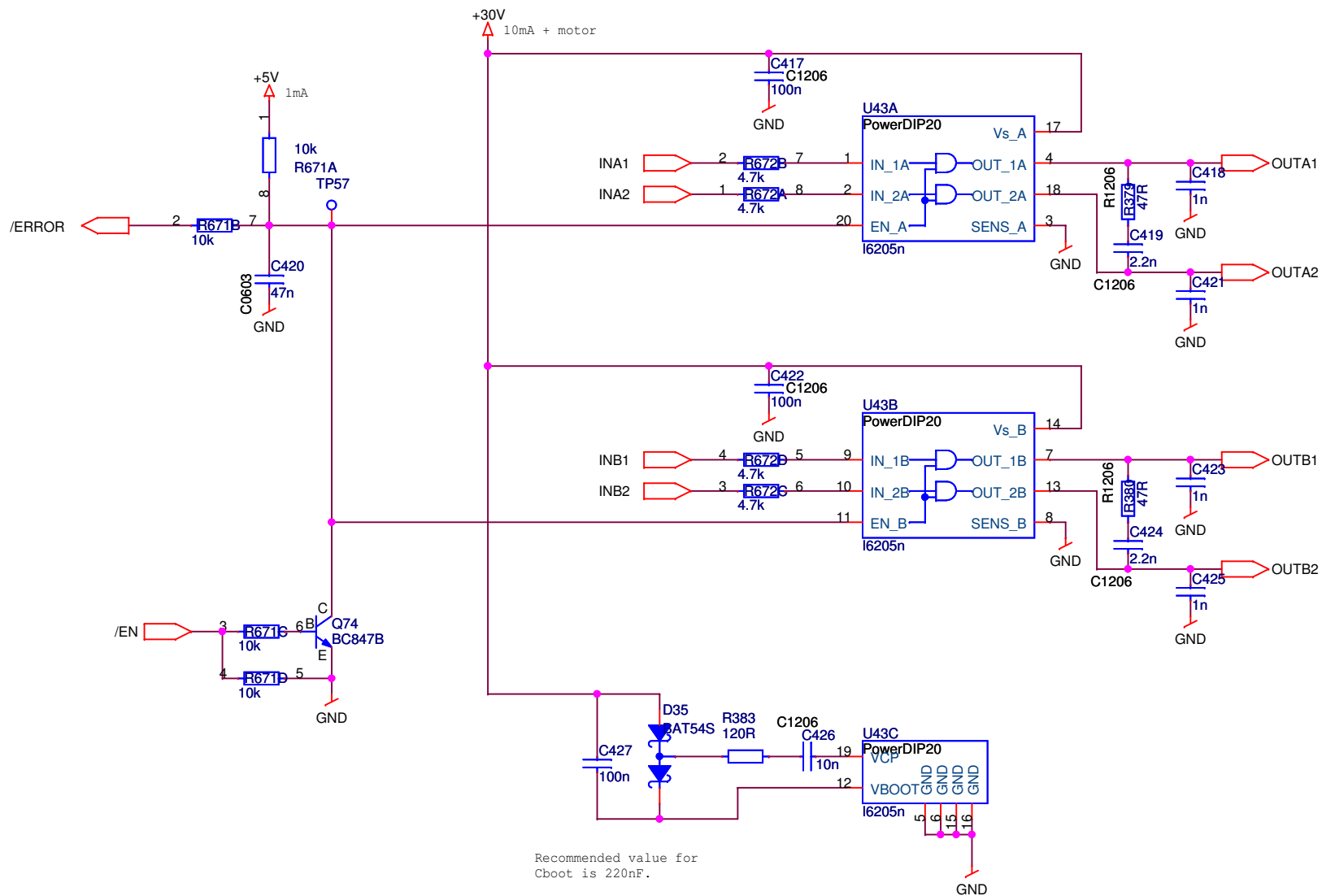


In:	=Out
0:	=0
1:	=1
2:	=2
3:	=8
4:	=9
5:	=10
6:	=6
7:	=7
8:	=3
9:	=4
10:	=5
11:	=24
12:	=25
13:	=26
14:	=11
15:	=12
16:	=13
17:	=14
18:	=15
19:	=27
20:	=28
21:	=29
22:	=30
23:	=31

<Variant Name>

	Project Title MAC400		Drawn By JOH
	Size A4	PCB Title Driver_Error	
Date: Wednesday, December 28, 2005		Product Baan Number None	
Sheet 9 of 33			

Snubber :
 $R = V_s / I_{peak}$
 $C = I_{peak} / 200 [V/us]$

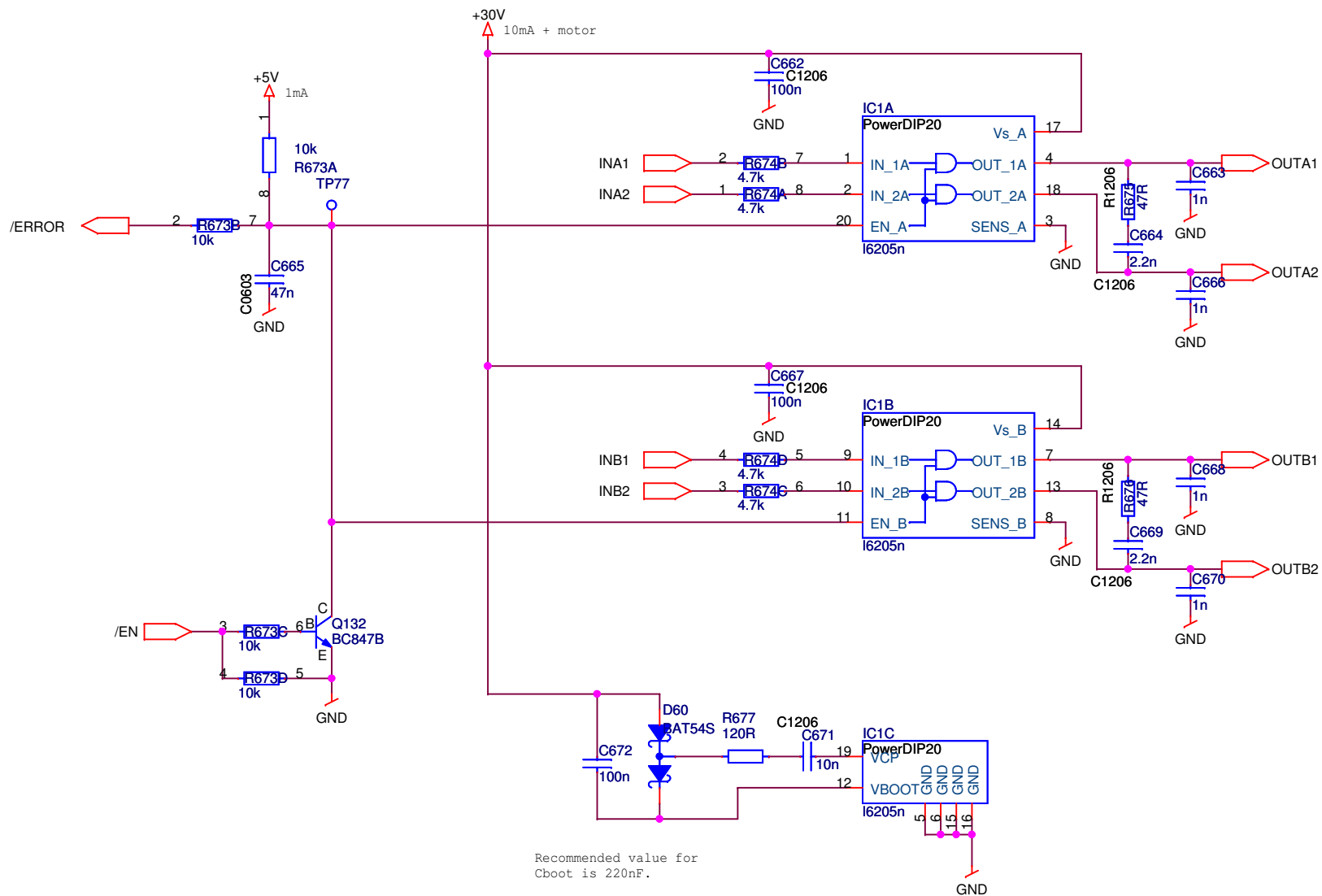


Recommended value for
 Cboot is 220nF.

<Variant Name>

	Project Title		Drawn By
	MAC400		JOH
Size	PCB Title		Rev
A4	L6205_DRIVER		D
Date:		Product Baan Number	
Wednesday, December 28, 2005		None	

Snubber :
 $R = V_s / I_{peak}$
 $C = I_{peak} / 200 [V/us]$

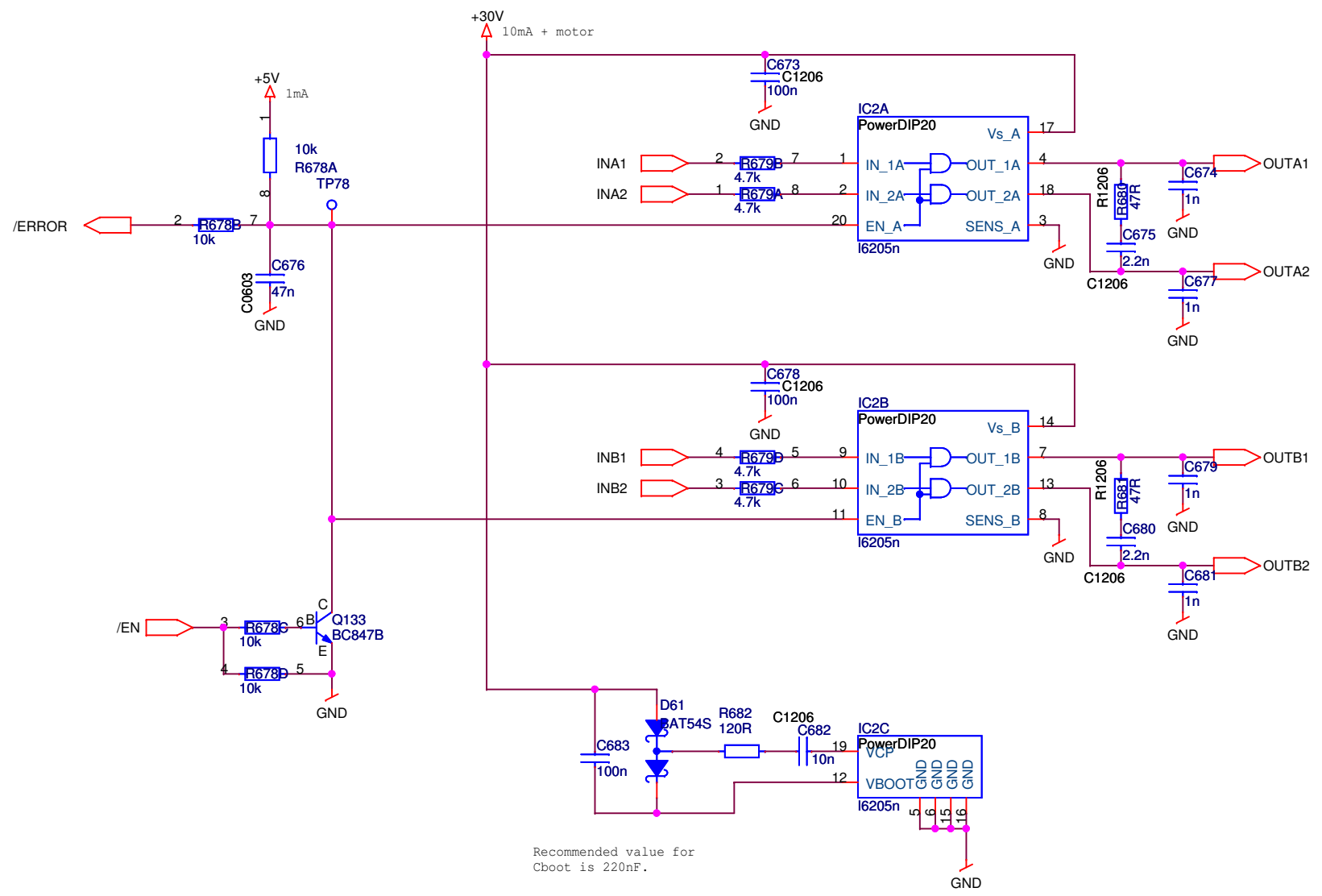


Recommended value for
 C_{boot} is 220nF.

<Variant Name>

	Project Title		Drawn By
	MAC400		JOH
Size	PCB Title		Rev
A4	L6205_DRIVER		D
Sheet	Date:	Product Baan Number	
11 of 33	Wednesday, December 28, 2005	None	

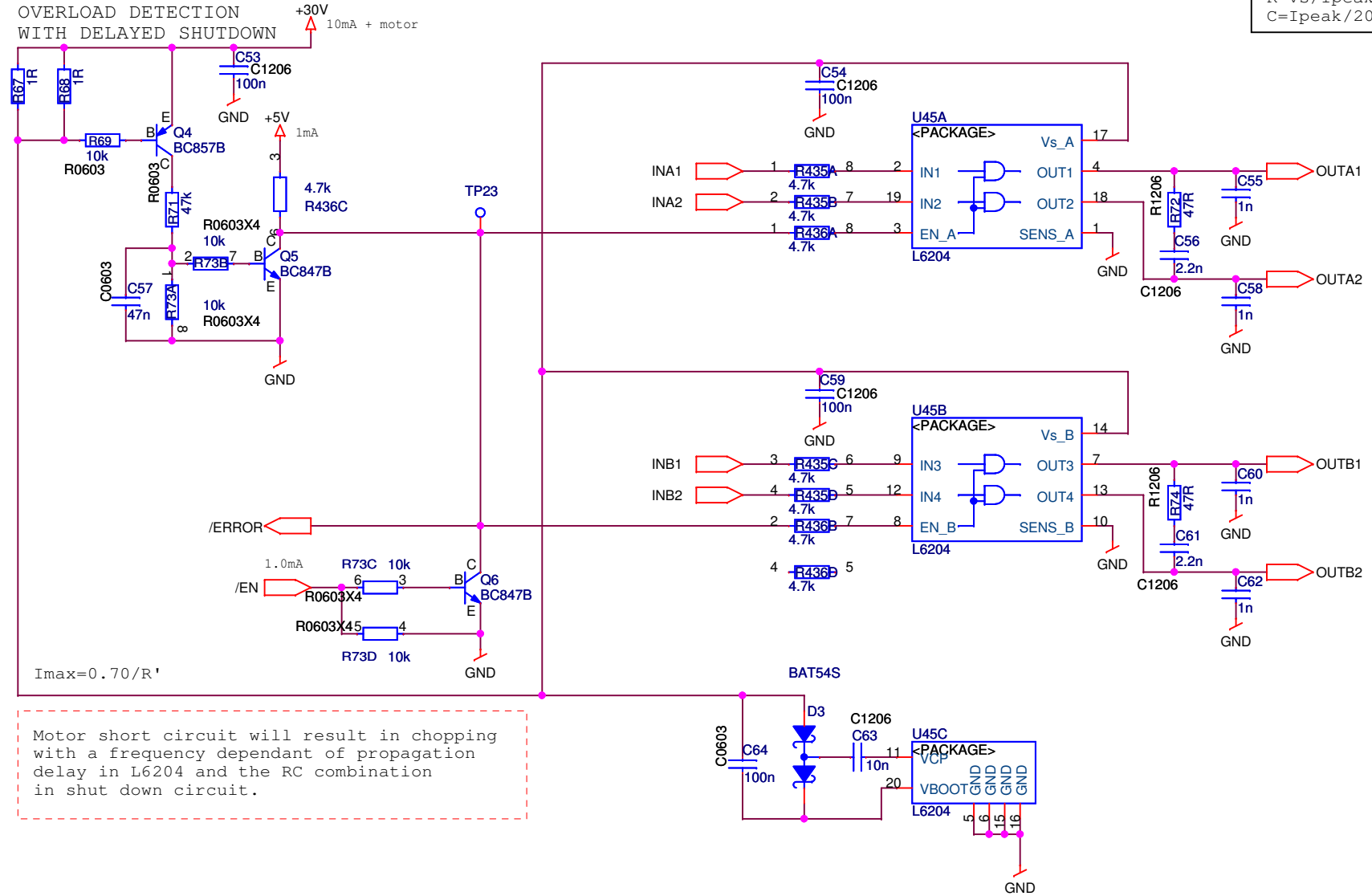
Snubber :
 $R = V_s / I_{peak}$
 $C = I_{peak} / 200 [V/us]$



<Variant Name>

	Project Title		Drawn By
	MAC400		JOH
Size	PCB Title		Rev
A4	L6205_DRIVER		D
Sheet	Date:	Product Baan Number	
12 of 33	Wednesday, December 28, 2005	None	

OVERLOAD DETECTION WITH DELAYED SHUTDOWN



Snubber:
 $R = V_s / I_{peak}$
 $C = I_{peak} / 200 [V/us]$

$I_{max} = 0.70 / R'$

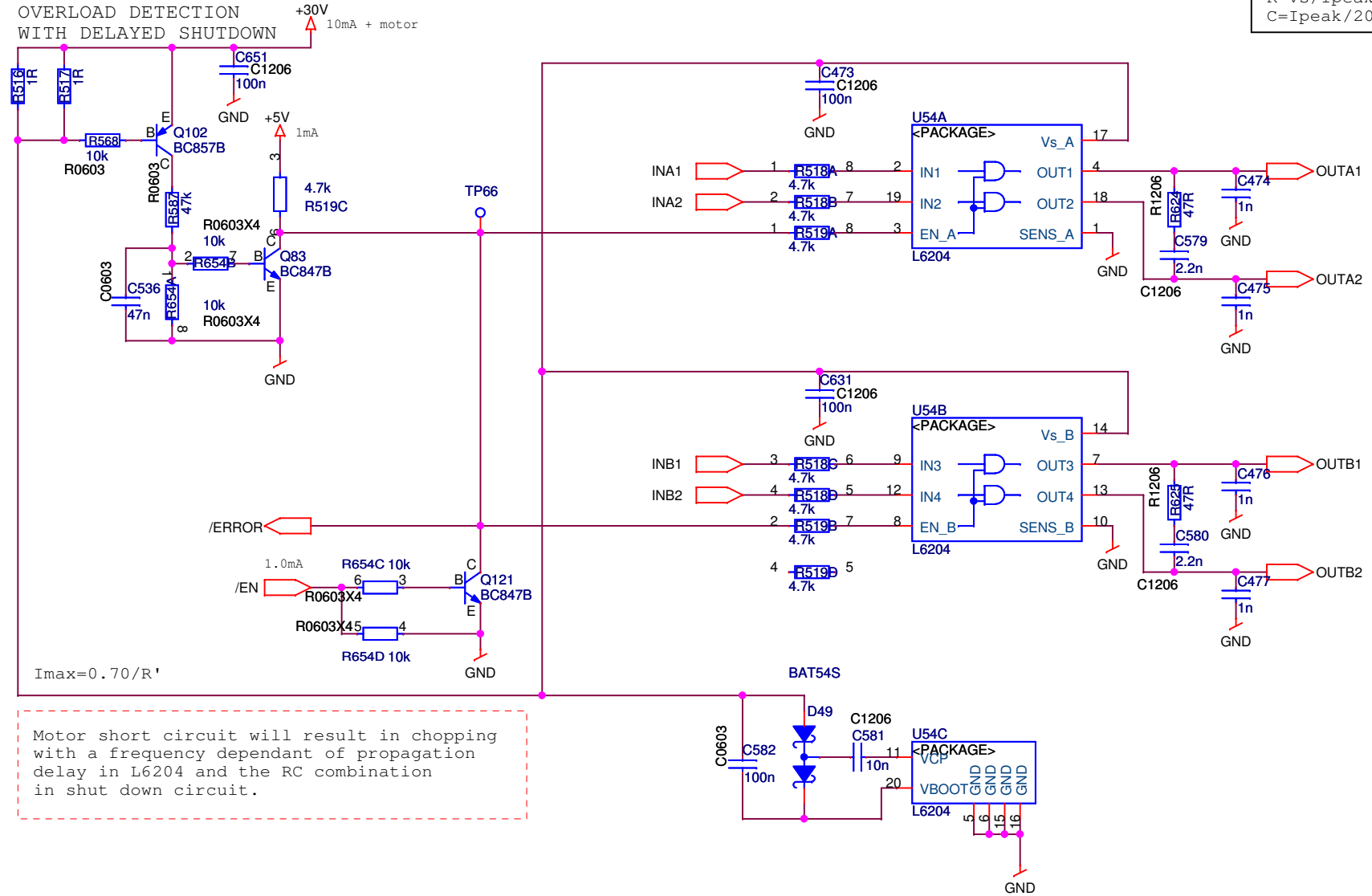
Motor short circuit will result in chopping with a frequency dependant of propagation delay in L6204 and the RC combination in shut down circuit.

Changes from Prototype:
 Capacitor over enable transistor is changed from 100n to 47n (minimum X7R)
 Sense resistors is changed from two 1.0 ohm to tree 1.5 ohms.

<Variant Name>

	Project Title		Drawn By
	MAC400		JOH
Size A4	PCB Title		Rev D
	L6204_DRIVER		
14 Sheet	33 of	Date:	Product Baan Number
		Wednesday, December 28, 2005	None

OVERLOAD DETECTION
WITH DELAYED SHUTDOWN



Motor short circuit will result in chopping with a frequency dependant of propagation delay in L6204 and the RC combination in shut down circuit.

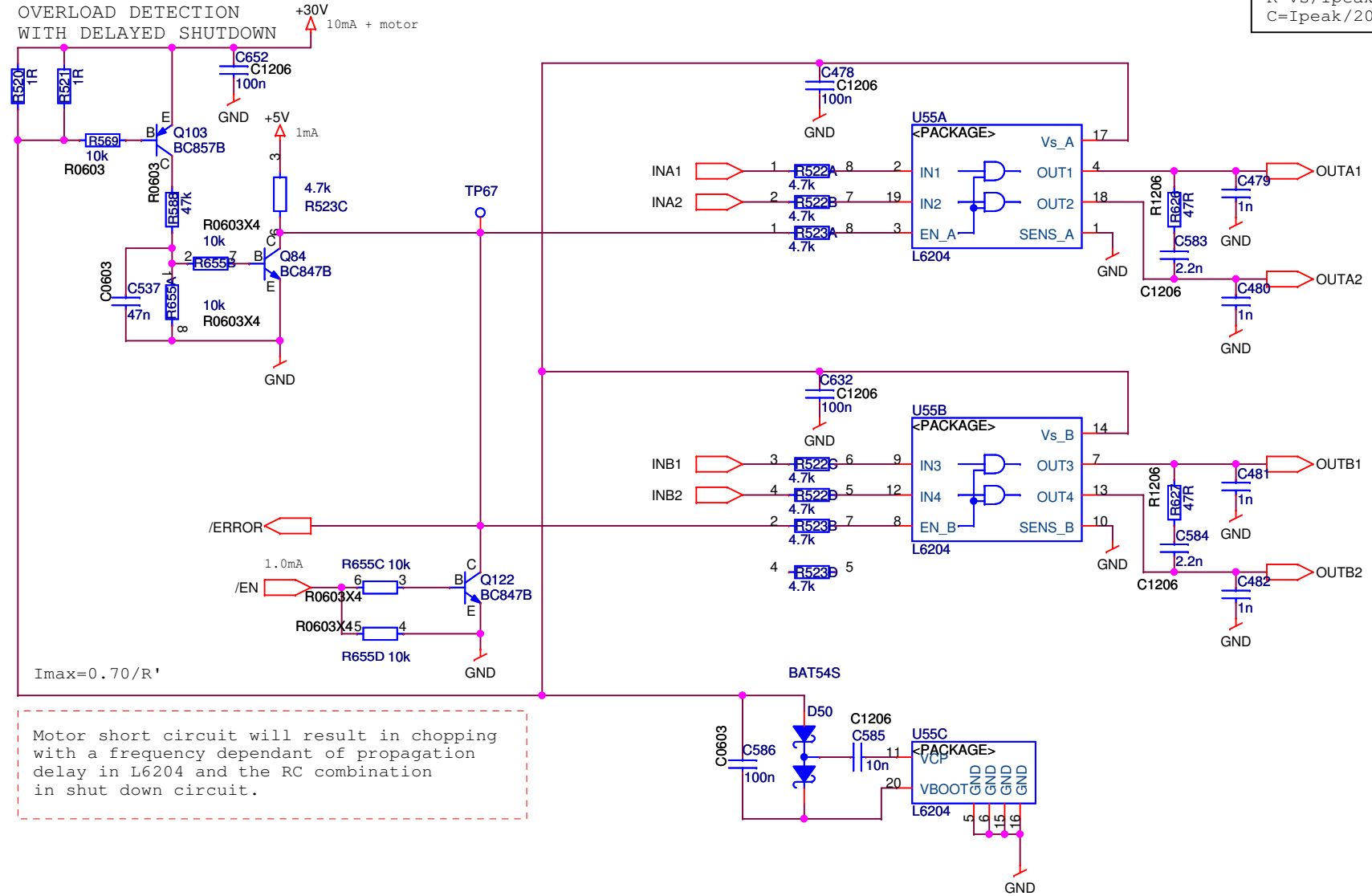
Changes from Prototype:

Capacitor over enable transistor is changed from 100n to 47n (minimum X7R)
Sense resistors is changed from two 1.0 ohm to tree 1.5 ohms.

<Variant Name>

Martin	Project Title MAC400		Drawn By JOH
	Size A4	PCB Title L6204_DRIVER	
15 Sheet	33 of	Date: Wednesday, December 28, 2005	Product Baan Number None

OVERLOAD DETECTION
WITH DELAYED SHUTDOWN



Snubber:
 $R = V_s / I_{peak}$,
 $C = I_{peak} / 200 [V/us]$.

$I_{max} = 0.70 / R'$

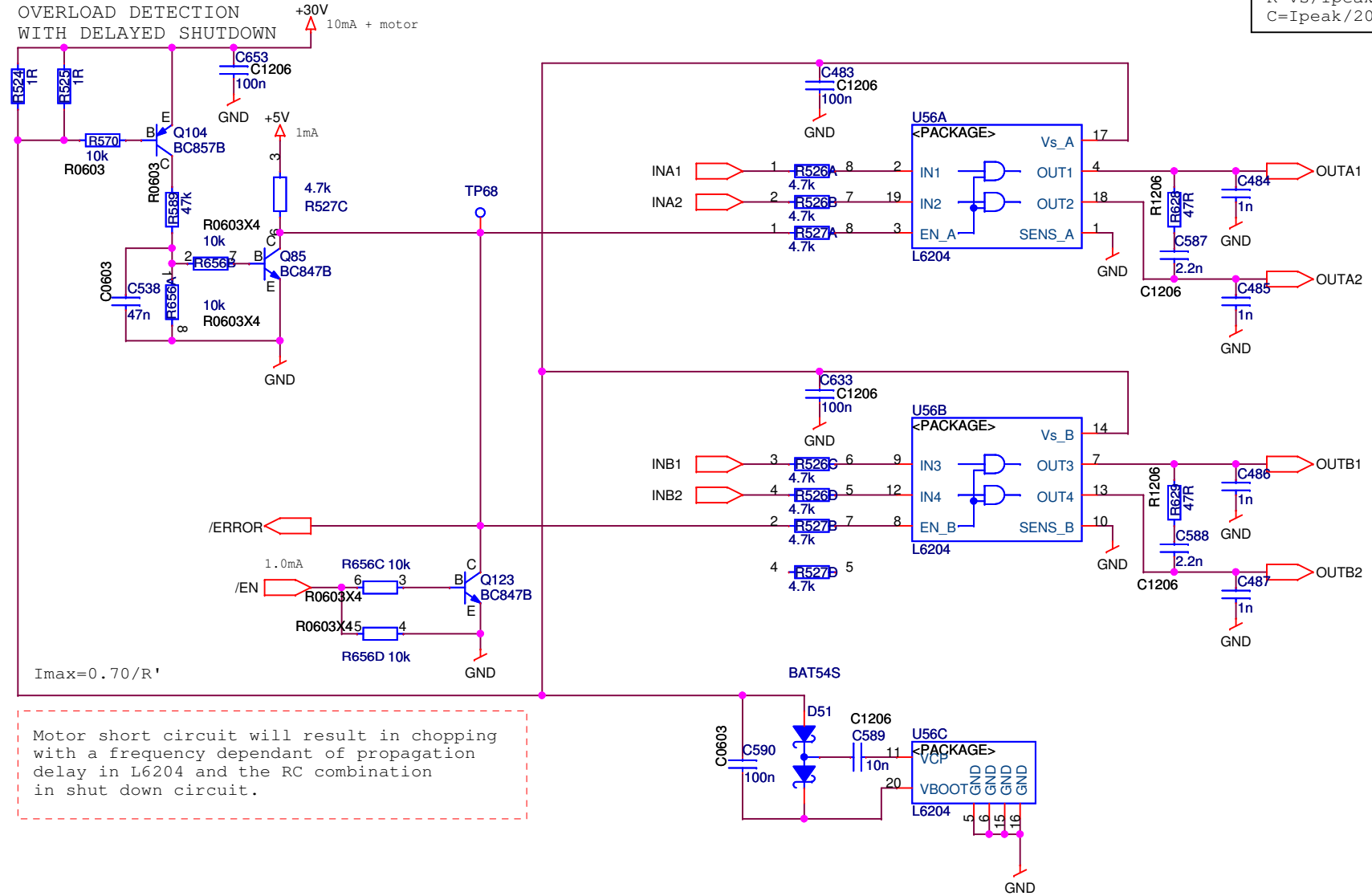
Motor short circuit will result in chopping with a frequency dependant of propagation delay in L6204 and the RC combination in shut down circuit.

Changes from Prototype:
 Capacitor over enable transistor is changed from 100n to 47n (minimum X7R)
 Sense resistors is changed from two 1.0 ohm to tree 1.5 ohms.

<Variant Name>

Martin	Project Title MAC400		Drawn By JOH
	Size A4	PCB Title L6204_DRIVER	
16 Sheet	33 of	Date: Wednesday, December 28, 2005	Product Baan Number None

OVERLOAD DETECTION
WITH DELAYED SHUTDOWN



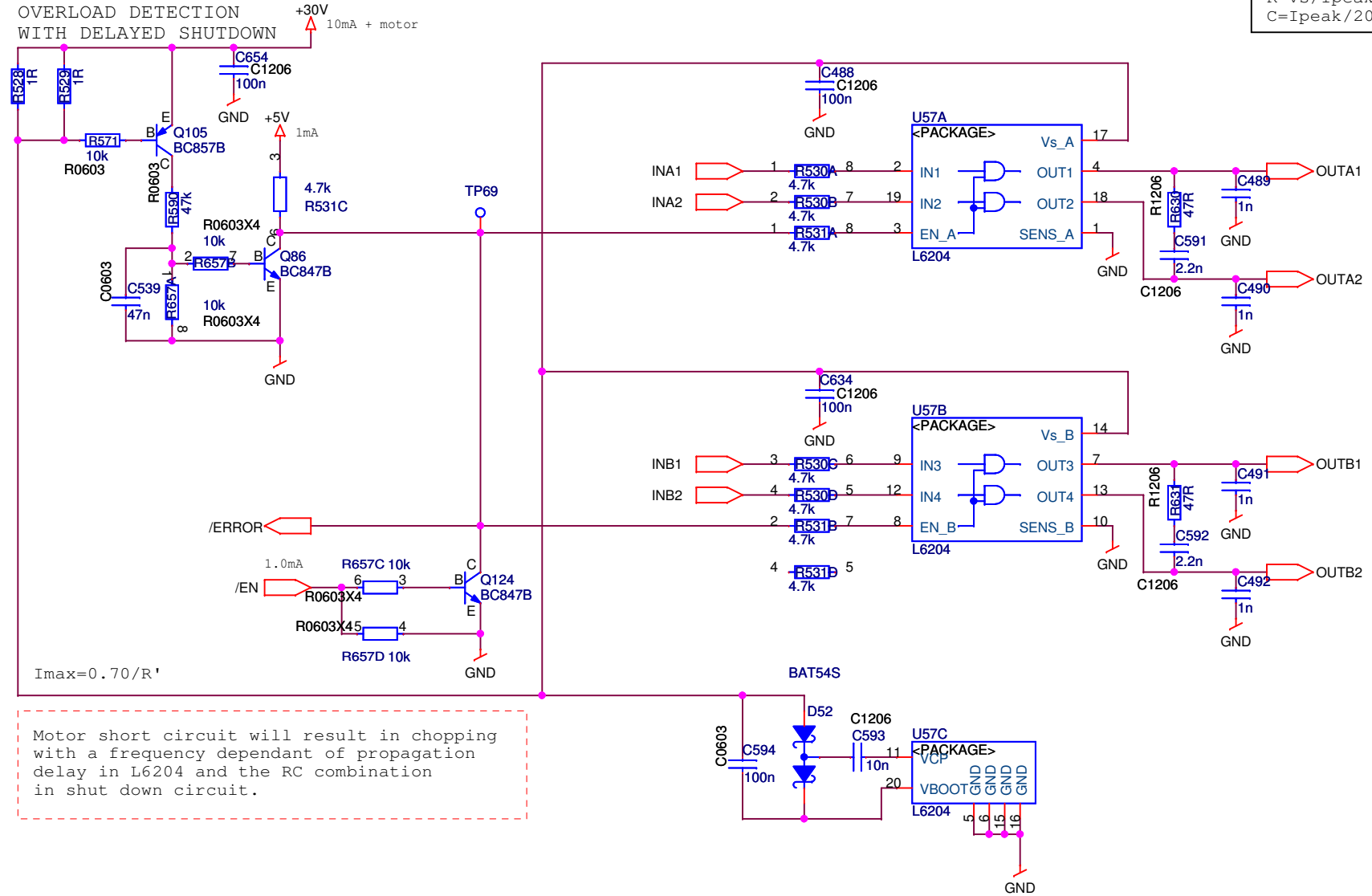
Snubber:
R=Vs/Ipeak,
C=Ipeak/200 [V/us].

Imax=0.70/R'
Motor short circuit will result in chopping with a frequency dependant of propagation delay in L6204 and the RC combination in shut down circuit.

Changes from Prototype:
Capacitor over enable transistor is changed from 100n to 47n (minimum X7R)
Sense resistors is changed from two 1.0 ohm to tree 1.5 ohms.

		Project Title		Drawn By
		MAC400		JOH
Size	PCB Title		Rev	
A4	L6204_DRIVER		D	
Date:		Product Baan Number		
17 of 33		None		
Sheet		Wednesday, December 28, 2005		

OVERLOAD DETECTION
WITH DELAYED SHUTDOWN



Snubber:
 $R = V_s / I_{peak}$,
 $C = I_{peak} / 200 [V/us]$.

$I_{max} = 0.70 / R'$

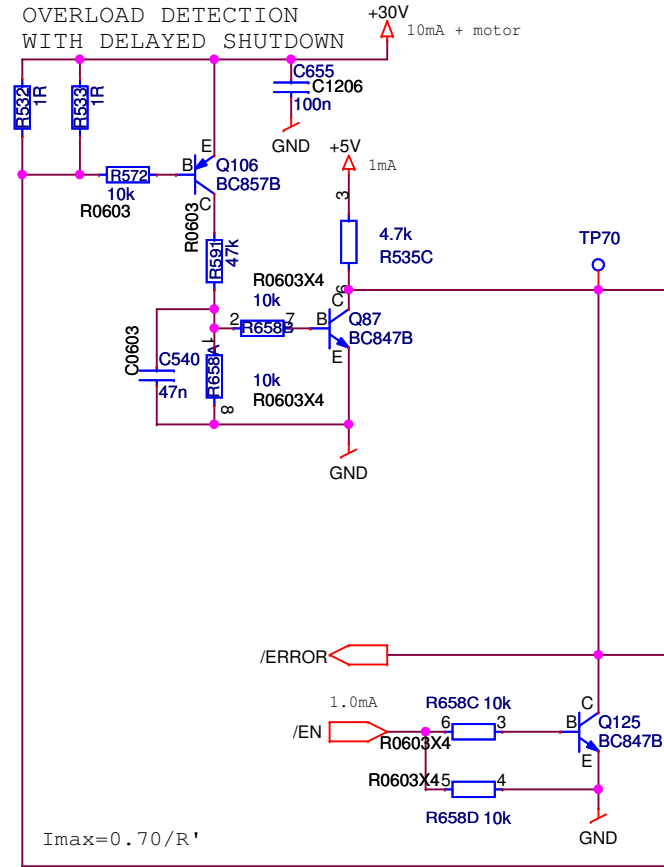
Motor short circuit will result in chopping with a frequency dependant of propagation delay in L6204 and the RC combination in shut down circuit.

Changes from Prototype:
 Capacitor over enable transistor is changed from 100n to 47n (minimum X7R)
 Sense resistors is changed from two 1.0 ohm to tree 1.5 ohms.

<Variant Name>

Martin	Project Title MAC400		Drawn By JOH
	Size A4	PCB Title L6204_DRIVER	
18 Sheet	33 of	Date: Wednesday, December 28, 2005	Product Baan Number None

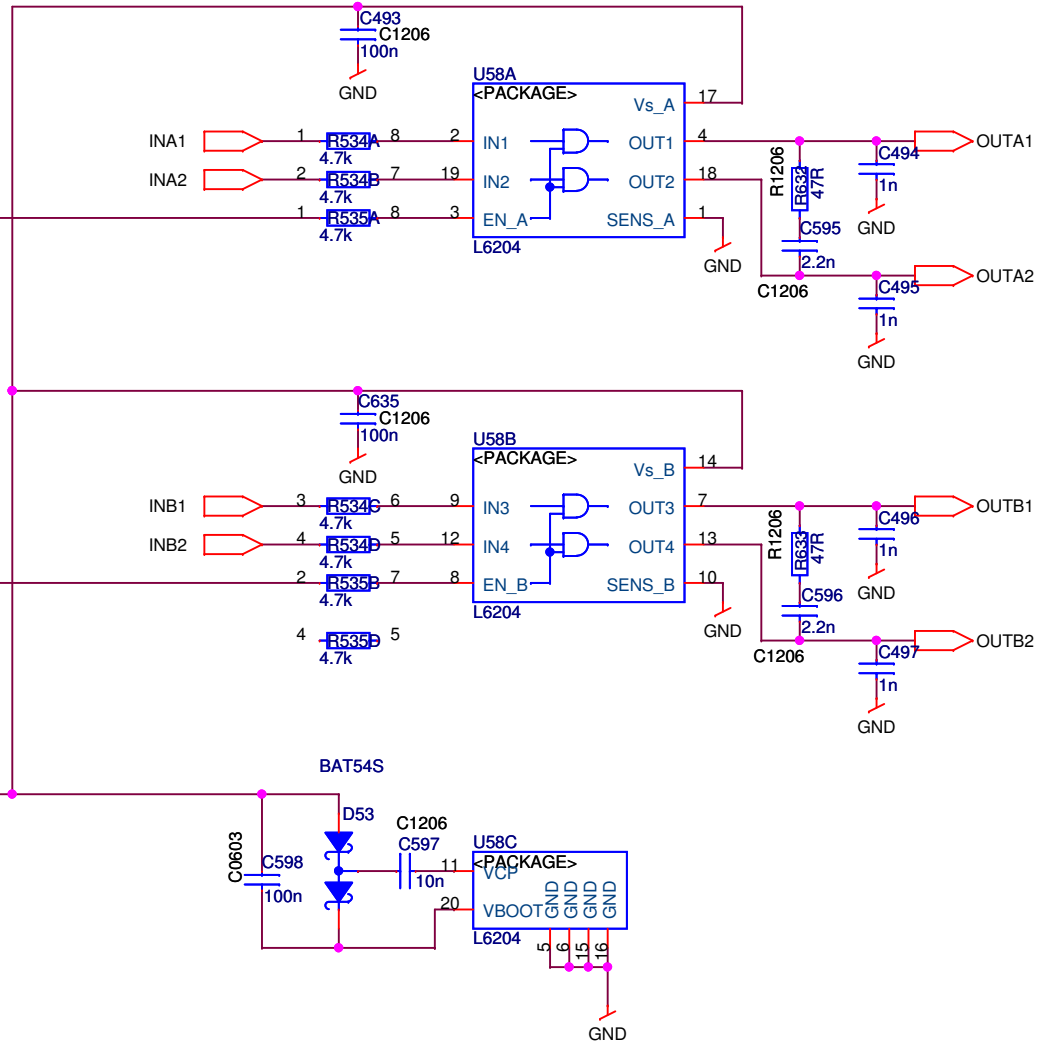
OVERLOAD DETECTION
WITH DELAYED SHUTDOWN



Motor short circuit will result in chopping with a frequency dependant of propagation delay in L6204 and the RC combination in shut down circuit.

Changes from Prototype:
Capacitor over enable transistor is changed from 100n to 47n (minimum X7R)
Sense resistors is changed from two 1.0 ohm to tree 1.5 ohms.

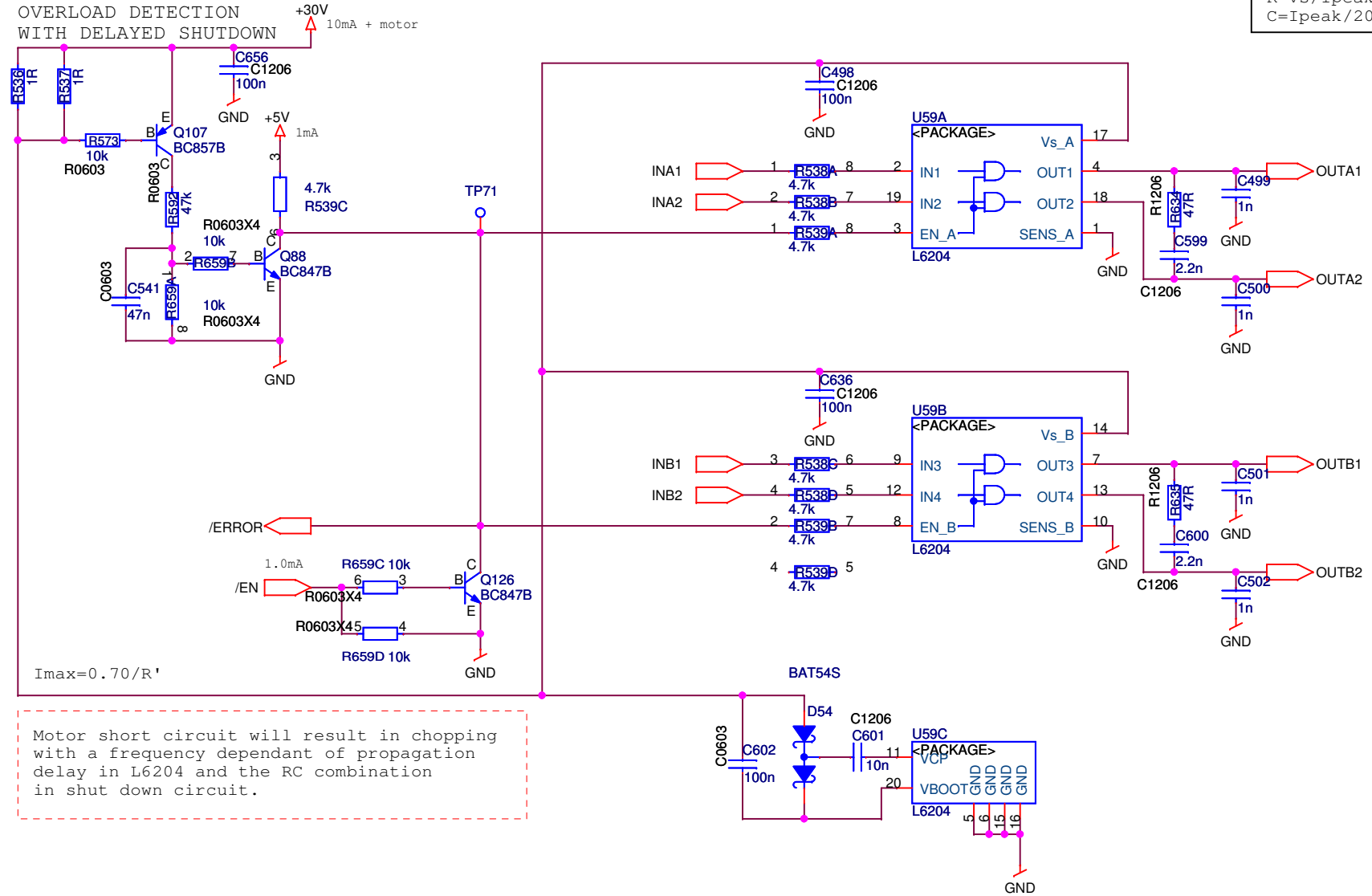
Snubber:
 $R = V_s / I_{peak}$
 $C = I_{peak} / 200 [V/us]$.



<Variant Name>

Martin	Project Title MAC400		Drawn By JOH
	Size A4	PCB Title L6204_DRIVER	
19 Sheet	33 of	Date: Wednesday, December 28, 2005	Product Baan Number None

OVERLOAD DETECTION
WITH DELAYED SHUTDOWN



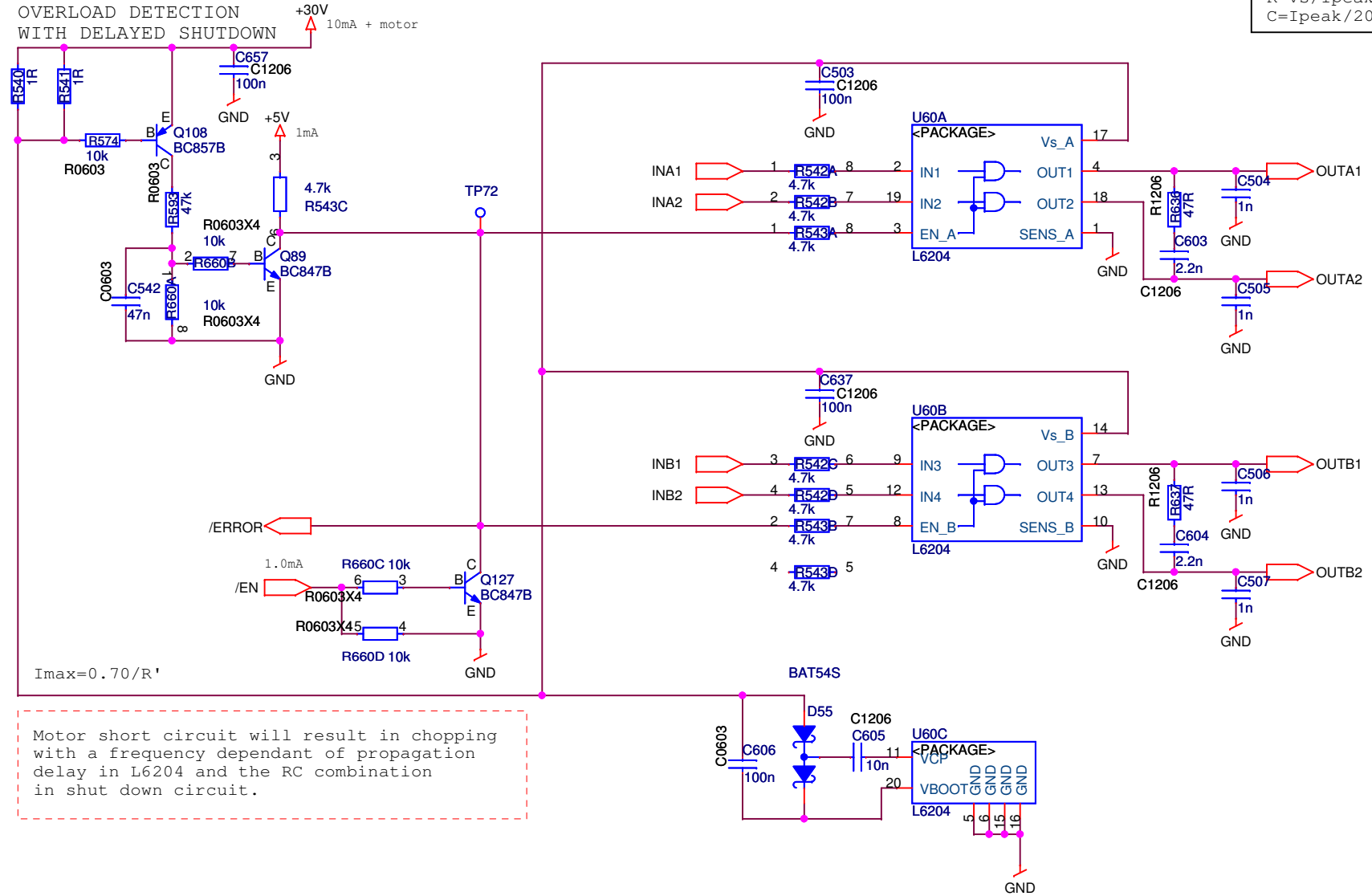
Changes from Prototype:

Capacitor over enable transistor is changed from 100n to 47n (minimum X7R)
Sense resistors is changed from two 1.0 ohm to tree 1.5 ohms.

<Variant Name>

	Project Title MAC400		Drawn By JOH
	Size A4	PCB Title L6204_DRIVER	
20 Sheet	33 of	Date: Wednesday, December 28, 2005	Product Baan Number None

OVERLOAD DETECTION
WITH DELAYED SHUTDOWN



Snubber:
 $R=V_s/I_{peak}$,
 $C=I_{peak}/200 [V/us]$.

Motor short circuit will result in chopping with a frequency dependant of propagation delay in L6204 and the RC combination in shut down circuit.

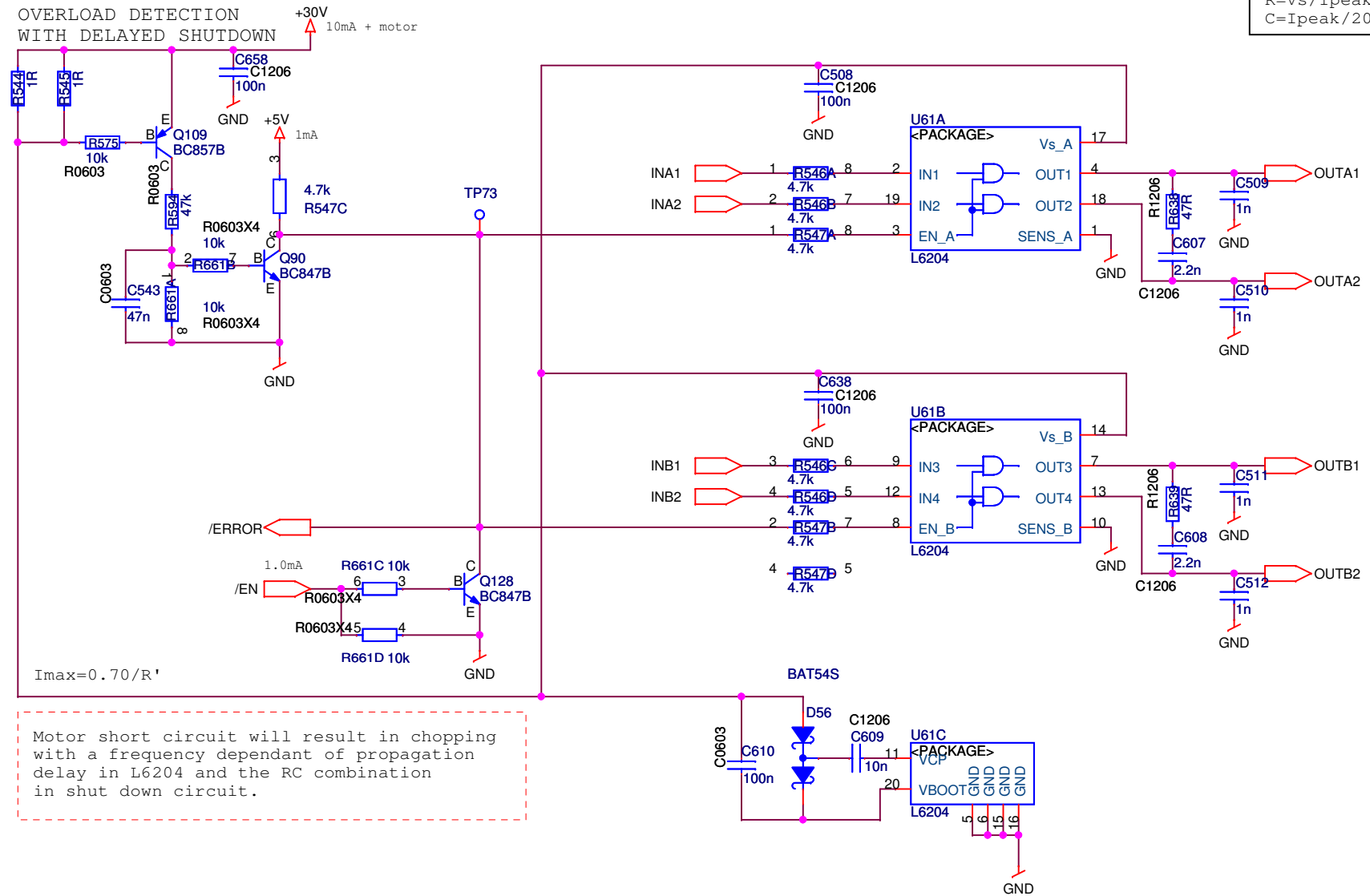
Changes from Prototype:

Capacitor over enable transistor is changed from 100n to 47n (minimum X7R)
 Sense resistors is changed from two 1.0 ohm to tree 1.5 ohms.

<Variant Name>

	Project Title		Drawn By
	MAC400		JOH
Size A4	PCB Title		Rev
	L6204_DRIVER		D
21 Sheet	Date:	Product Baan Number	
33 of	Wednesday, December 28, 2005	None	

OVERLOAD DETECTION
WITH DELAYED SHUTDOWN



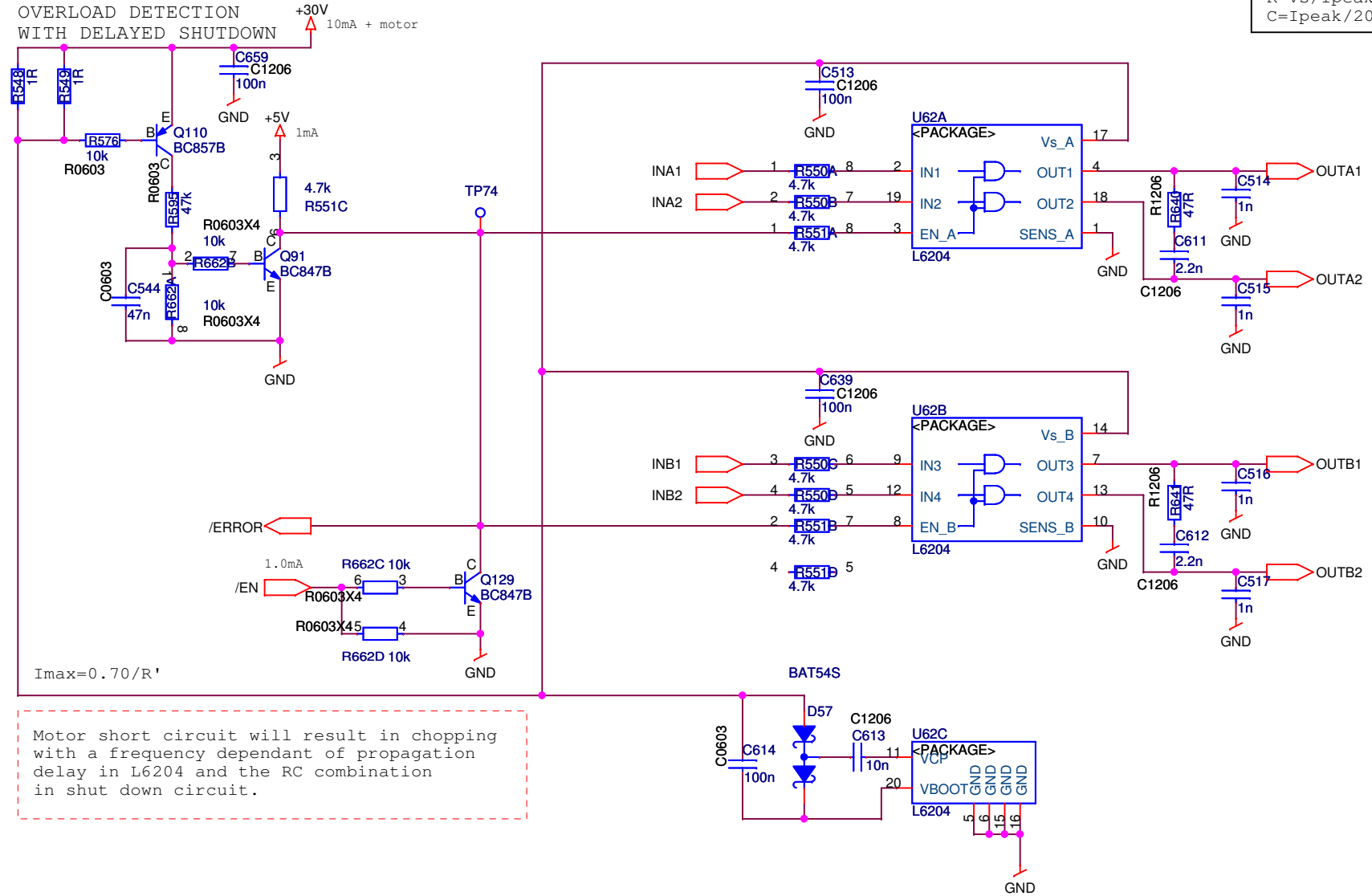
Snubber:
 $R = V_s / I_{peak}$,
 $C = I_{peak} / 200 [V/us]$.

Motor short circuit will result in chopping with a frequency dependant of propagation delay in L6204 and the RC combination in shut down circuit.

Changes from Prototype:
 Capacitor over enable transistor is changed from 100n to 47n (minimum X7R)
 Sense resistors is changed from two 1.0 ohm to tree 1.5 ohms.

		Project Title		Drawn By
		MAC400		JOH
Size	PCB Title		Rev	
A4	L6204_DRIVER		D	
22 of 33		Date:	Product Baan Number	
Sheet		Wednesday, December 28, 2005	None	

OVERLOAD DETECTION
WITH DELAYED SHUTDOWN



Snubber:
R=Vs/Ipeak,
C=Ipeak/200 [V/us].

$I_{max} = 0.70/R'$

Motor short circuit will result in chopping with a frequency dependant of propagation delay in L6204 and the RC combination in shut down circuit.

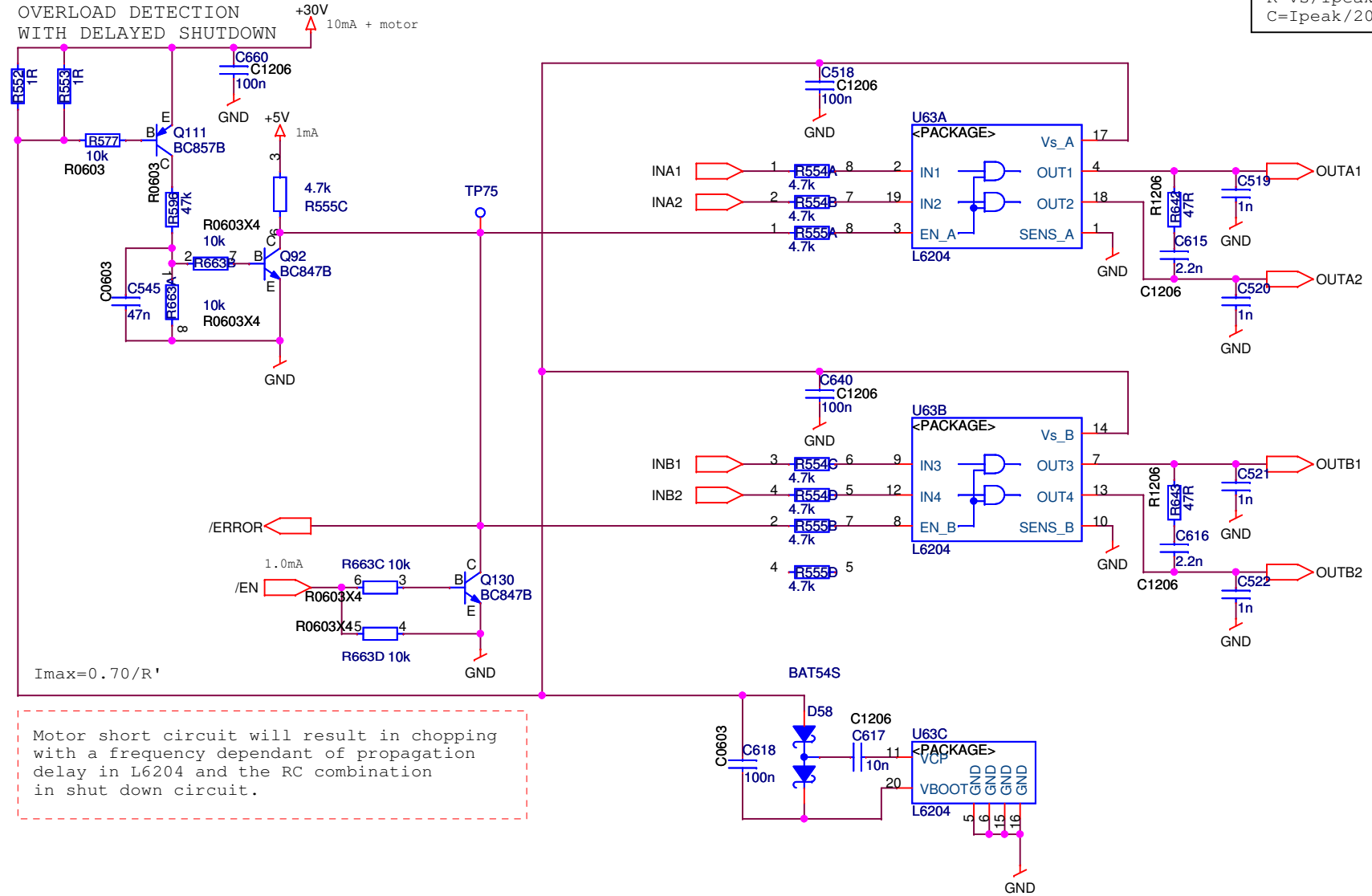
Changes from Prototype:

Capacitor over enable transistor is changed from 100n to 47n (minimum X7R)
Sense resistors is changed from two 1.0 ohm to tree 1.5 ohms.

<Variant Name>

	Project Title		Drawn By
	MAC400		JOH
Size A4	PCB Title		Rev D
	L6204_DRIVER		
23 of 33	Date:	Product Baan Number	
Sheet	Wednesday, December 28, 2005	None	

OVERLOAD DETECTION
WITH DELAYED SHUTDOWN



Snubber:
R=Vs/Ipeak,
C=Ipeak/200 [V/us].

$I_{max} = 0.70/R'$

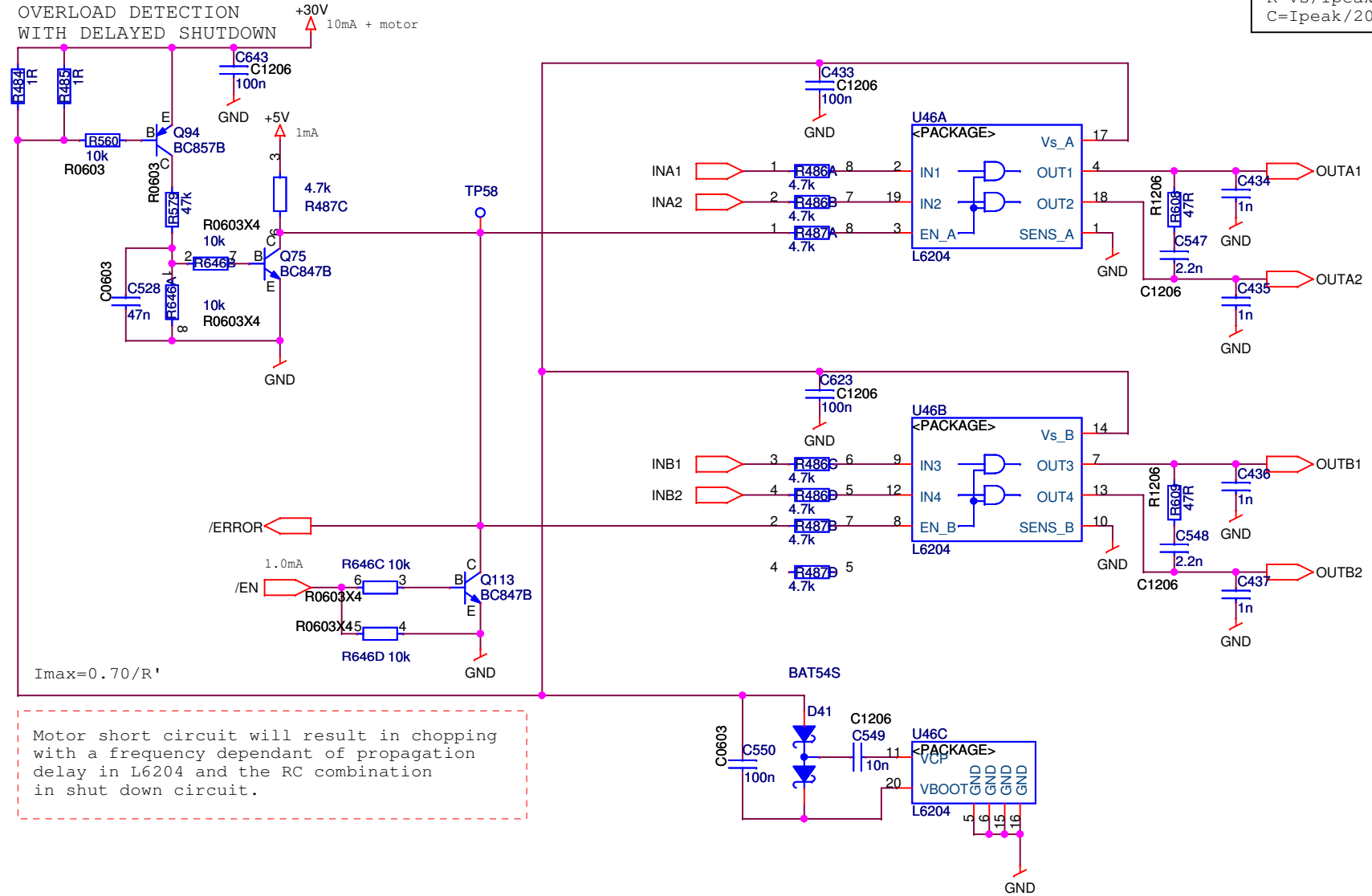
Motor short circuit will result in chopping with a frequency dependant of propagation delay in L6204 and the RC combination in shut down circuit.

Changes from Prototype:
Capacitor over enable transistor is changed from 100n to 47n (minimum X7R)
Sense resistors is changed from two 1.0 ohm to tree 1.5 ohms.

<Variant Name>

Martin	Project Title MAC400		Drawn By JOH
	Size A4	PCB Title L6204_DRIVER	
24 Sheet	33 of	Date: Wednesday, December 28, 2005	Product Baan Number None

OVERLOAD DETECTION
WITH DELAYED SHUTDOWN



Snubber:
 $R = V_s / I_{peak}$,
 $C = I_{peak} / 200 [V/us]$.

$I_{max} = 0.70 / R'$

Motor short circuit will result in chopping with a frequency dependant of propagation delay in L6204 and the RC combination in shut down circuit.

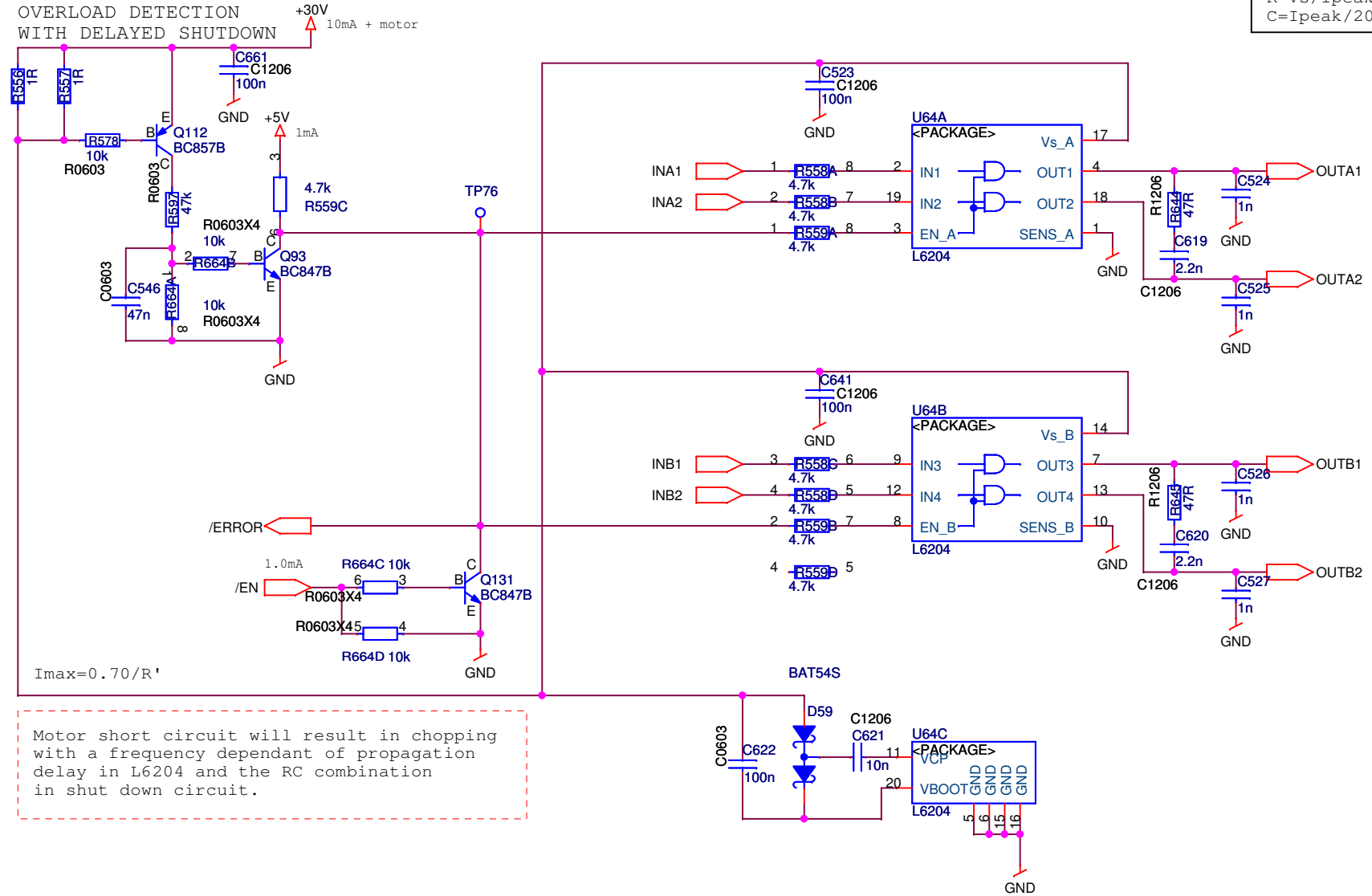
Changes from Prototype:

Capacitor over enable transistor is changed from 100n to 47n (minimum X7R)
 Sense resistors is changed from two 1.0 ohm to tree 1.5 ohms.

<Variant Name>

Martin	Project Title MAC400		Drawn By JOH
	Size A4	PCB Title L6204_DRIVER	
25 Sheet	33 of	Date: Wednesday, December 28, 2005	Product Baan Number None

OVERLOAD DETECTION
WITH DELAYED SHUTDOWN



Snubber:
 $R = V_s / I_{peak}$,
 $C = I_{peak} / 200 [V/us]$.

Motor short circuit will result in chopping with a frequency dependant of propagation delay in L6204 and the RC combination in shut down circuit.

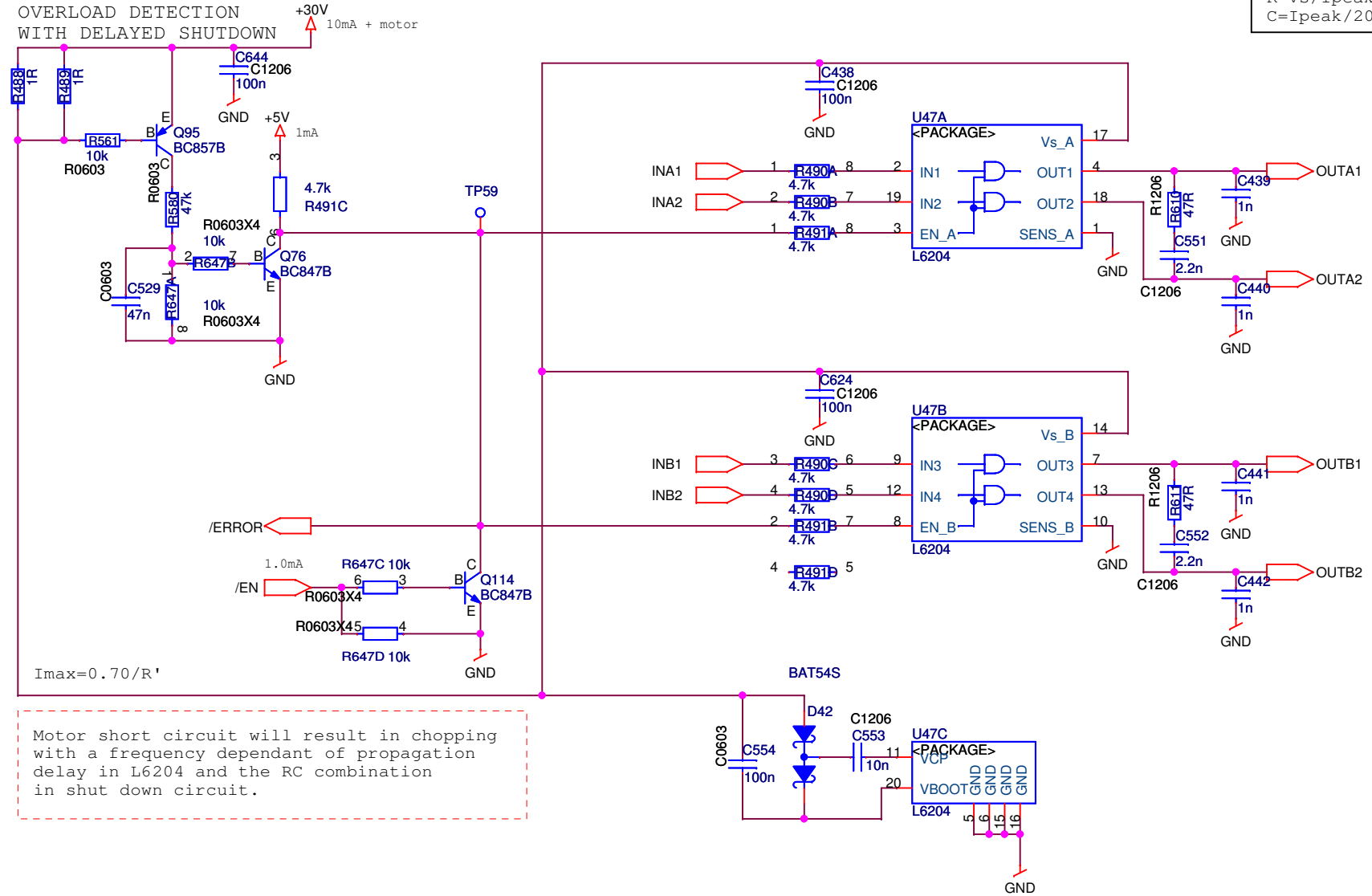
Changes from Prototype:

Capacitor over enable transistor is changed from 100n to 47n (minimum X7R)
 Sense resistors is changed from two 1.0 ohm to tree 1.5 ohms.

<Variant Name>

Martin	Project Title MAC400		Drawn By JOH
	Size A4	PCB Title L6204_DRIVER	
26 Sheet	33 of	Date: Wednesday, December 28, 2005	Product Baan Number None

OVERLOAD DETECTION
WITH DELAYED SHUTDOWN



Snubber:
 $R=V_s/I_{peak}$,
 $C=I_{peak}/200 [V/us]$.

Motor short circuit will result in chopping with a frequency dependant of propagation delay in L6204 and the RC combination in shut down circuit.

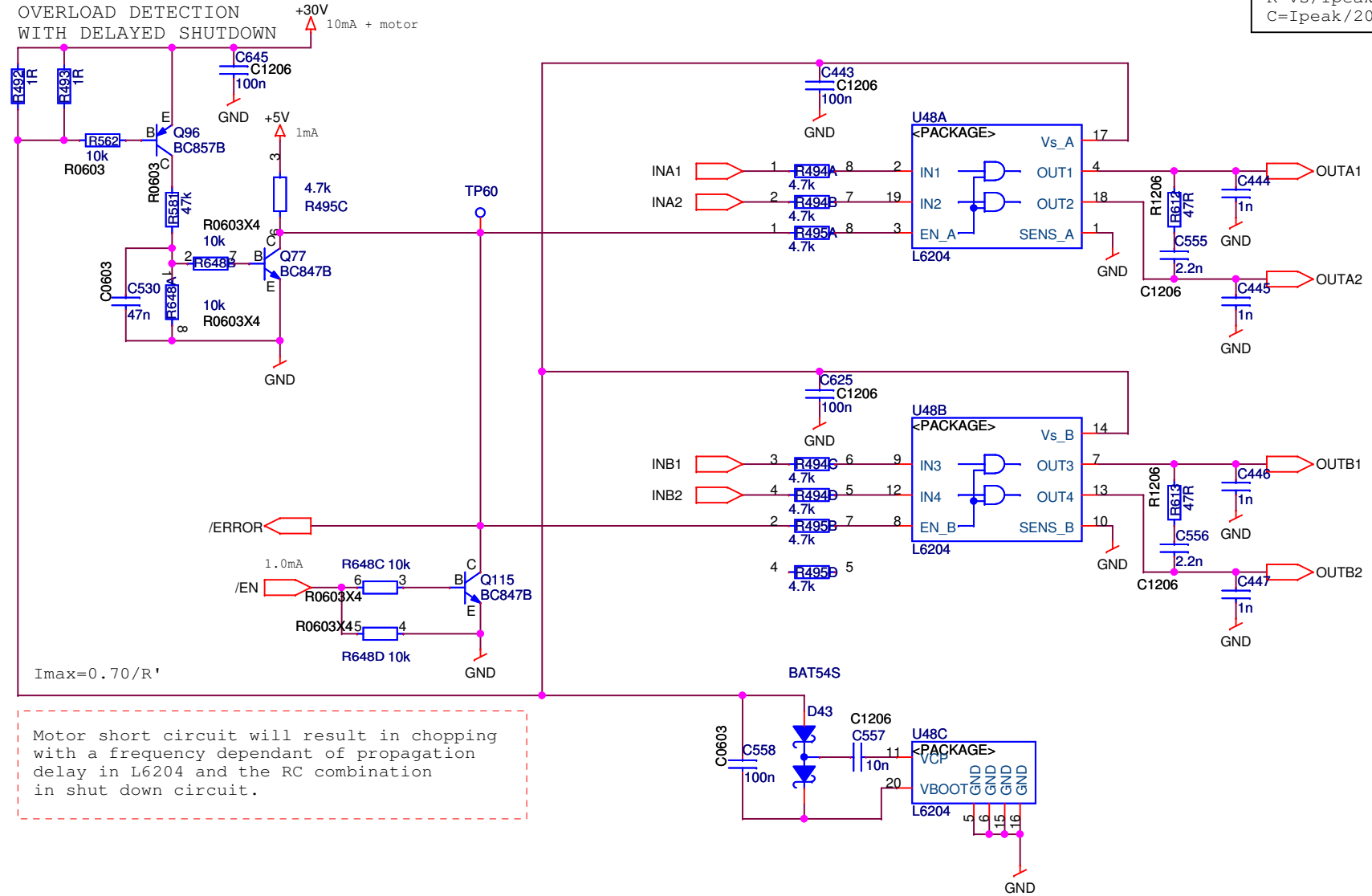
Changes from Prototype:

Capacitor over enable transistor is changed from 100n to 47n (minimum X7R)
 Sense resistors is changed from two 1.0 ohm to tree 1.5 ohms.

<Variant Name>

	Project Title		Drawn By
	MAC400		JOH
Size A4	PCB Title		Rev
	L6204_DRIVER		D
27 Sheet	33 of	Date:	Product Baan Number
		Wednesday, December 28, 2005	None

OVERLOAD DETECTION
WITH DELAYED SHUTDOWN



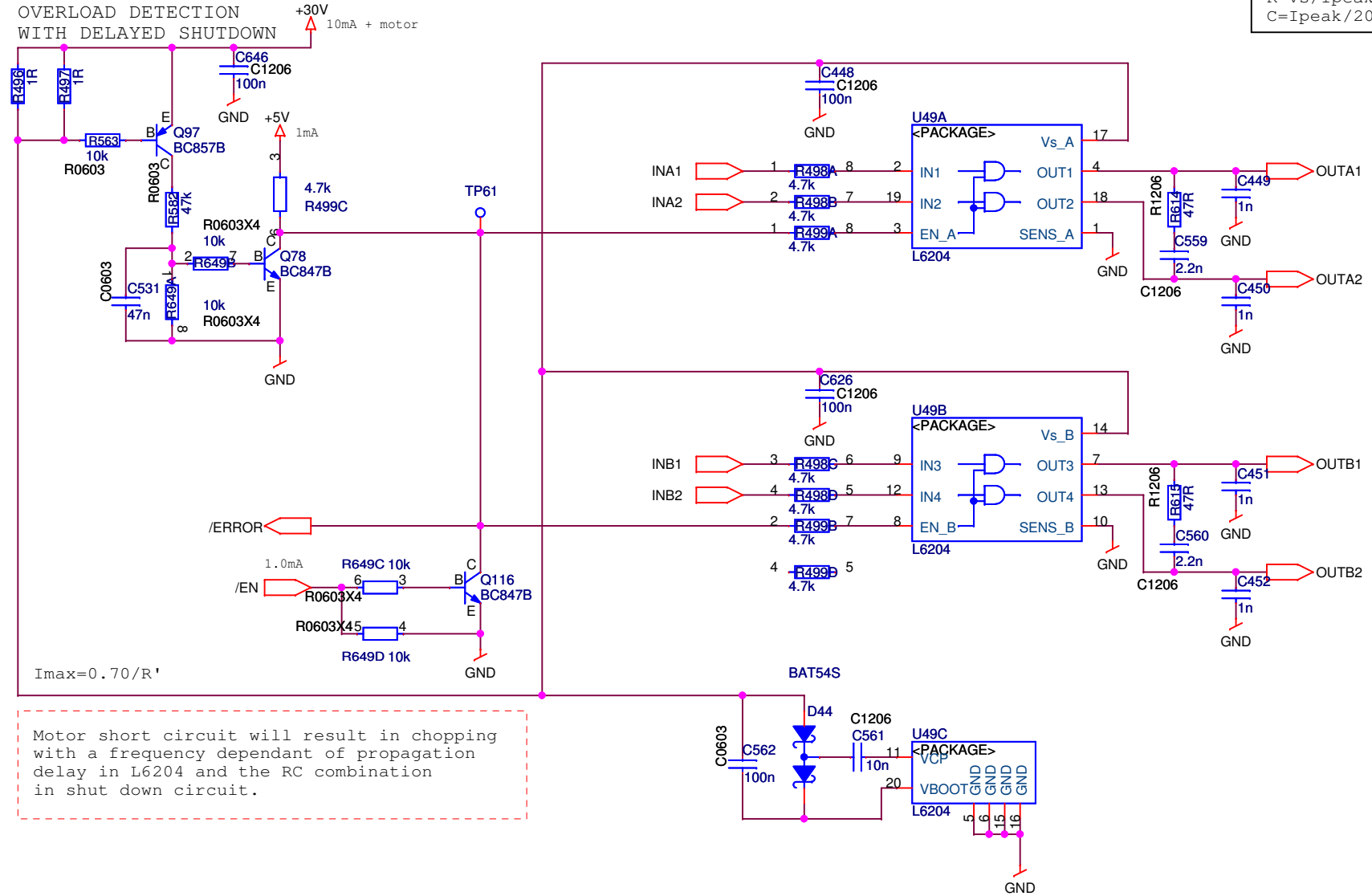
Changes from Prototype:

Capacitor over enable transistor is changed from 100n to 47n (minimum X7R)
Sense resistors is changed from two 1.0 ohm to tree 1.5 ohms.

<Variant Name>

	Project Title		Drawn By
	MAC400		JOH
Size A4	PCB Title		Rev
	L6204_DRIVER		D
28 Sheet	Date:	Product Baan Number	
33 of	Wednesday, December 28, 2005	None	

OVERLOAD DETECTION
WITH DELAYED SHUTDOWN



Snubber:
 $R = V_s / I_{peak}$,
 $C = I_{peak} / 200 [V/us]$.

$I_{max} = 0.70 / R'$

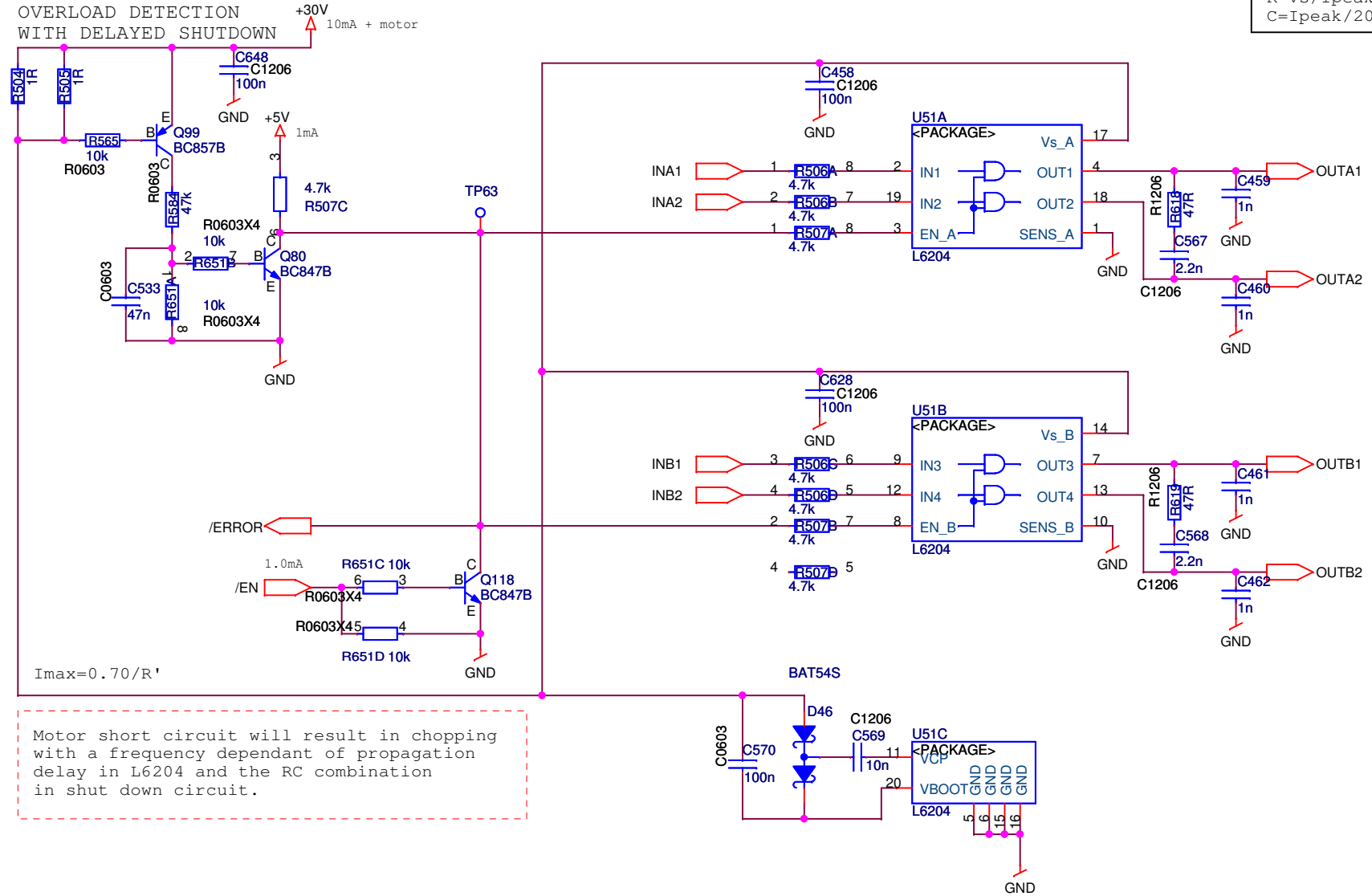
Motor short circuit will result in chopping with a frequency dependant of propagation delay in L6204 and the RC combination in shut down circuit.

Changes from Prototype:
 Capacitor over enable transistor is changed from 100n to 47n (minimum X7R)
 Sense resistors is changed from two 1.0 ohm to tree 1.5 ohms.

<Variant Name>

	Project Title		Drawn By
	MAC400		JOH
Size A4	PCB Title		Rev D
	L6204_DRIVER		
29 Sheet	Date:	Product Baan Number	
33 of	Wednesday, December 28, 2005	None	

OVERLOAD DETECTION
WITH DELAYED SHUTDOWN



Snubber:
 $R = V_s / I_{peak}$,
 $C = I_{peak} / 200 [V/us]$.

$I_{max} = 0.70 / R'$

Motor short circuit will result in chopping with a frequency dependant of propagation delay in L6204 and the RC combination in shut down circuit.

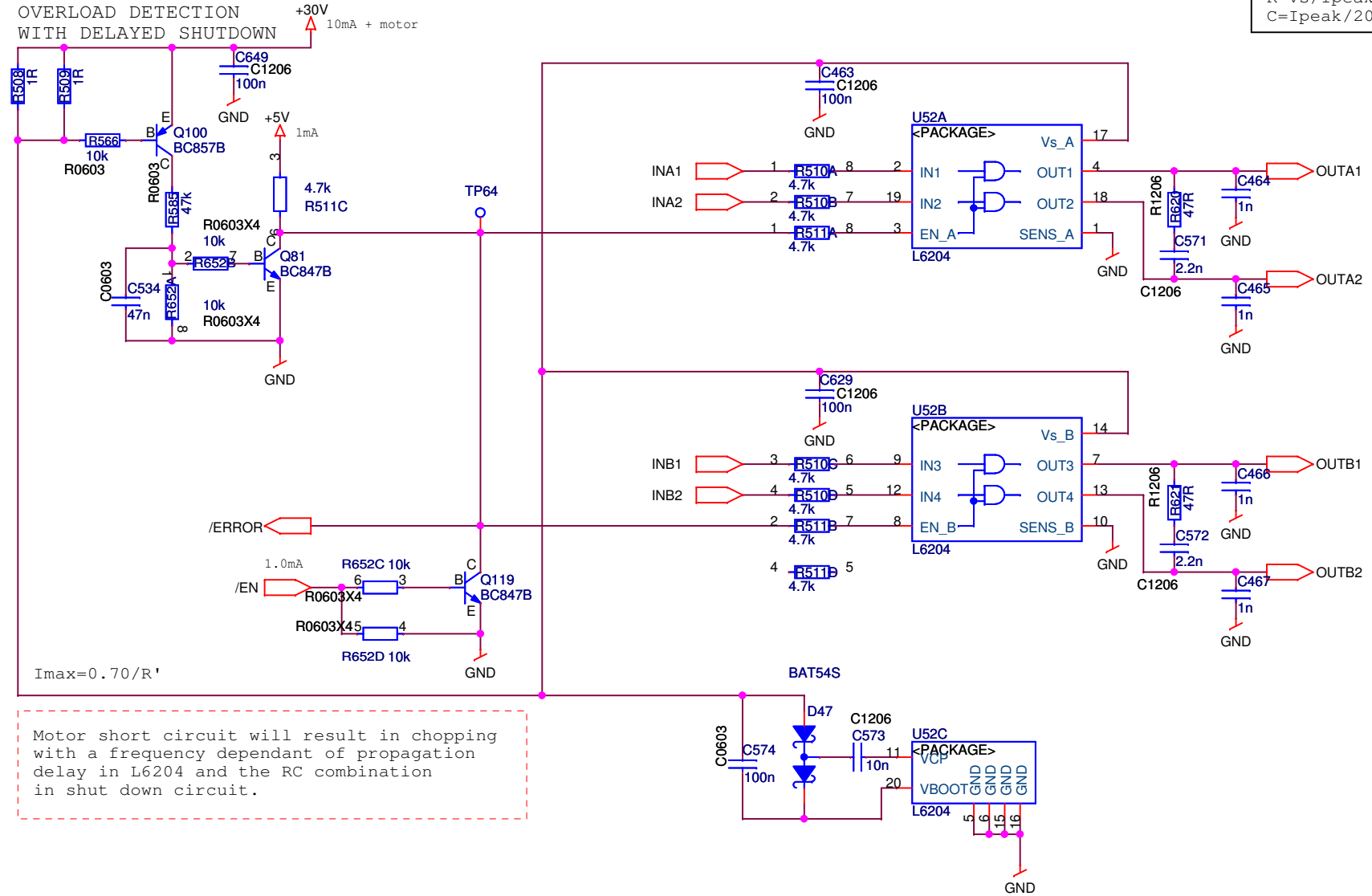
Changes from Prototype:

Capacitor over enable transistor is changed from 100n to 47n (minimum X7R)
 Sense resistors is changed from two 1.0 ohm to tree 1.5 ohms.

<Variant Name>

	Project Title		Drawn By
	MAC400		JOH
Size A4	PCB Title		Rev D
	L6204_DRIVER		
31 of 33 Sheet	Date:	Product Baan Number	
	Wednesday, December 28, 2005	None	

OVERLOAD DETECTION
WITH DELAYED SHUTDOWN



Snubber:
 $R = V_s / I_{peak}$,
 $C = I_{peak} / 200 [V/us]$.

$I_{max} = 0.70 / R'$

Motor short circuit will result in chopping with a frequency dependant of propagation delay in L6204 and the RC combination in shut down circuit.

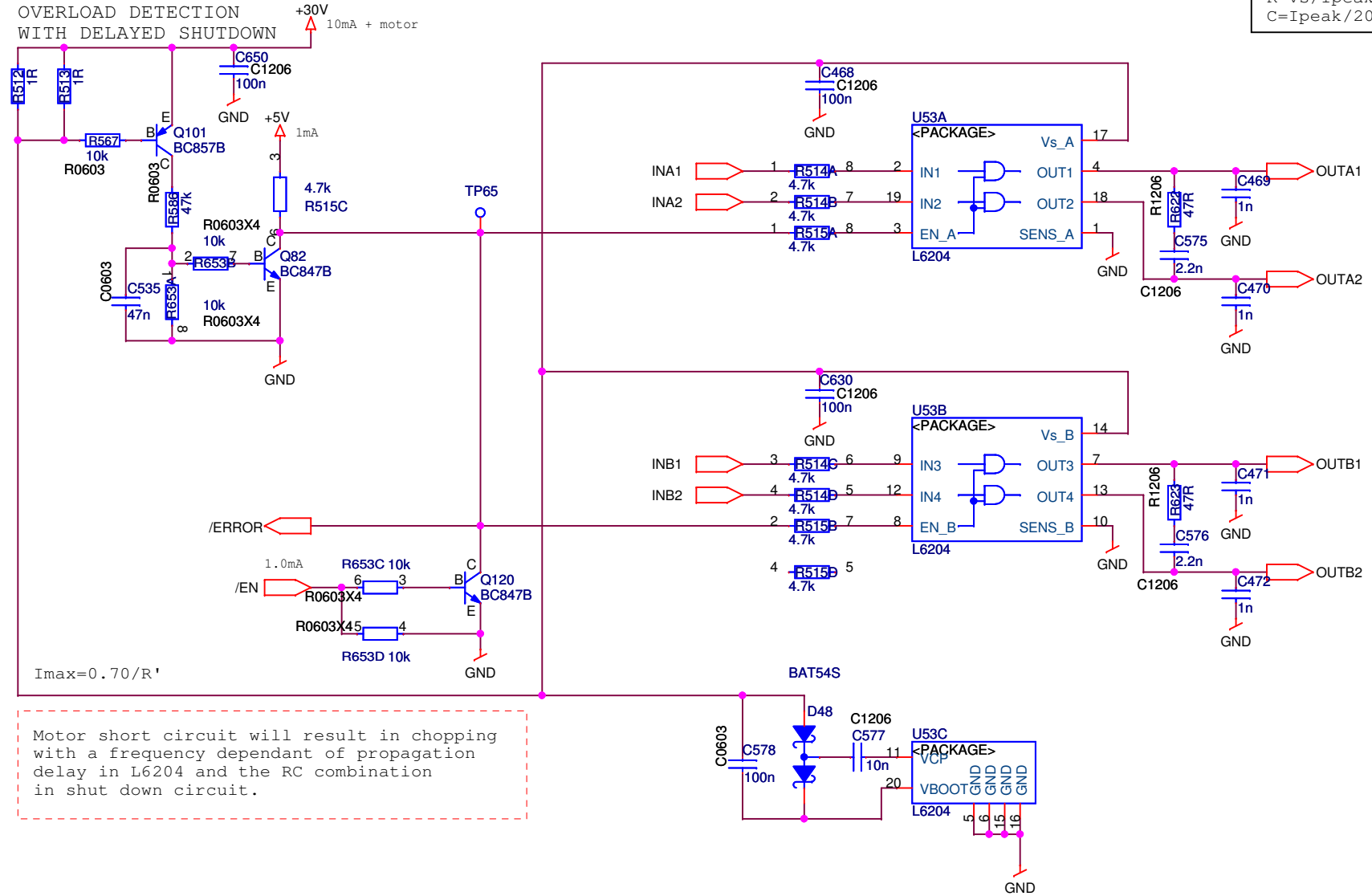
Changes from Prototype:

Capacitor over enable transistor is changed from 100n to 47n (minimum X7R)
 Sense resistors is changed from two 1.0 ohm to tree 1.5 ohms.

<Variant Name>

Martin	Project Title MAC400		Drawn By JOH
	Size A4	PCB Title L6204_DRIVER	
32 Sheet	33 of	Date: Wednesday, December 28, 2005	Product Baan Number None

OVERLOAD DETECTION
WITH DELAYED SHUTDOWN



Snubber:
R=Vs/Ipeak,
C=Ipeak/200 [V/us].

$I_{max} = 0.70/R'$

Motor short circuit will result in chopping with a frequency dependant of propagation delay in L6204 and the RC combination in shut down circuit.

Changes from Prototype:

Capacitor over enable transistor is changed from 100n to 47n (minimum X7R)
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<Variant Name>

	Project Title		Drawn By
	MAC400		JOH
Size A4	PCB Title		Rev
	L6204_DRIVER		D
33 Sheet	33 of	Date:	Product Baan Number
		Wednesday, December 28, 2005	None