Fig. 1

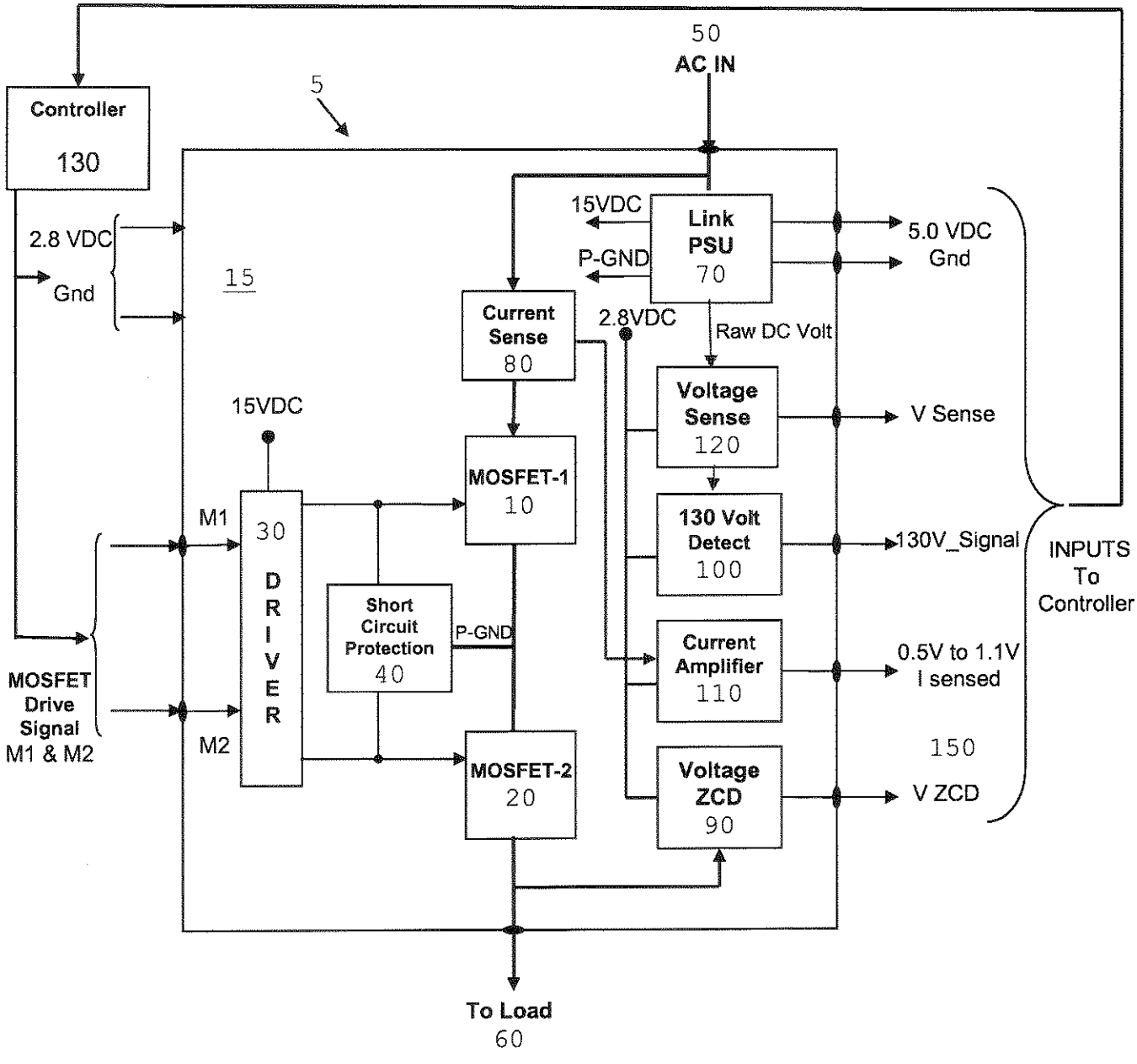

50
AC IN
5
Controller
130
15VDC
Link
PSU
70
5.0 VDC
Gnd
P-GND
2.8 VDC
Gnd
15
Current
Sense
80
2.8VDC
Raw DC Volt
Voltage
Sense
120
V Sense
15VDC
MOSFET-1
10
M1
30
DRIVER
130 Volt
Detect
100
130V_Signal
INPUTS
To
Controller
Short
Circuit
Protection
40
P-GND
Current
Amplifier
110
0.5V to 1.1V
I sensed
MOSFET
Drive
Signal
M1 & M2
M2
150
MOSFET-2
20
Voltage
ZCD
90
V ZCD
To Load
60

Fig. 2

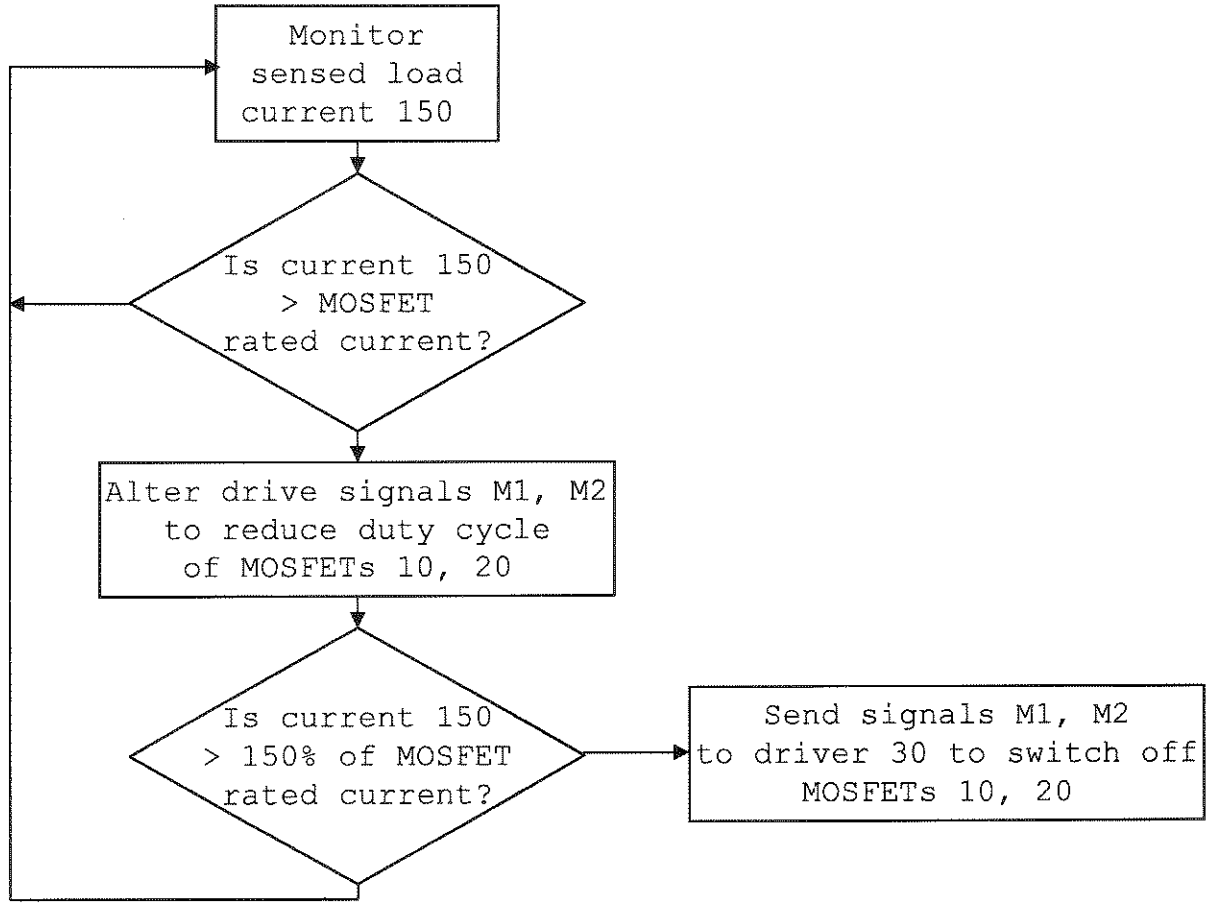
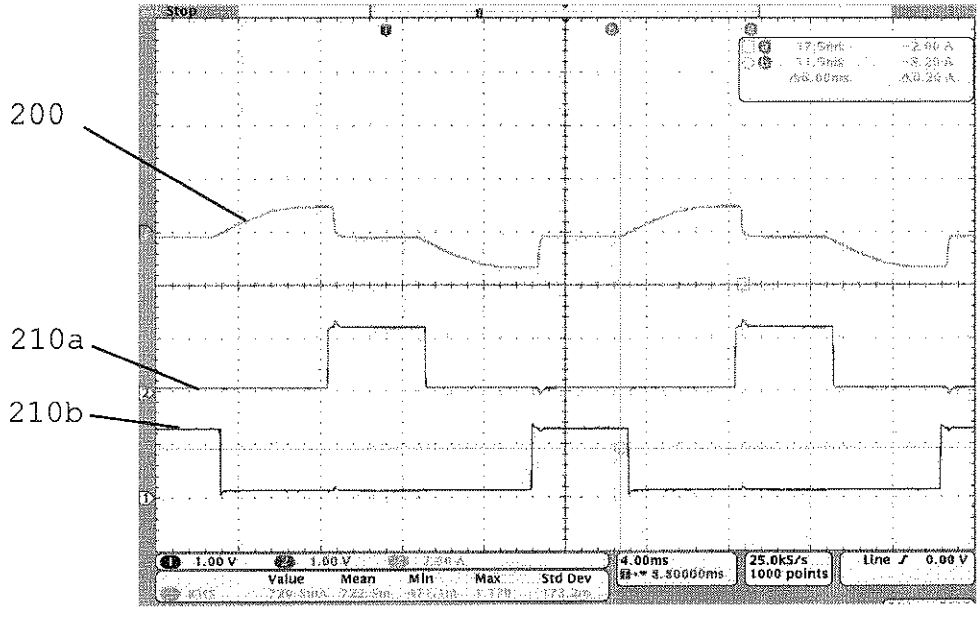
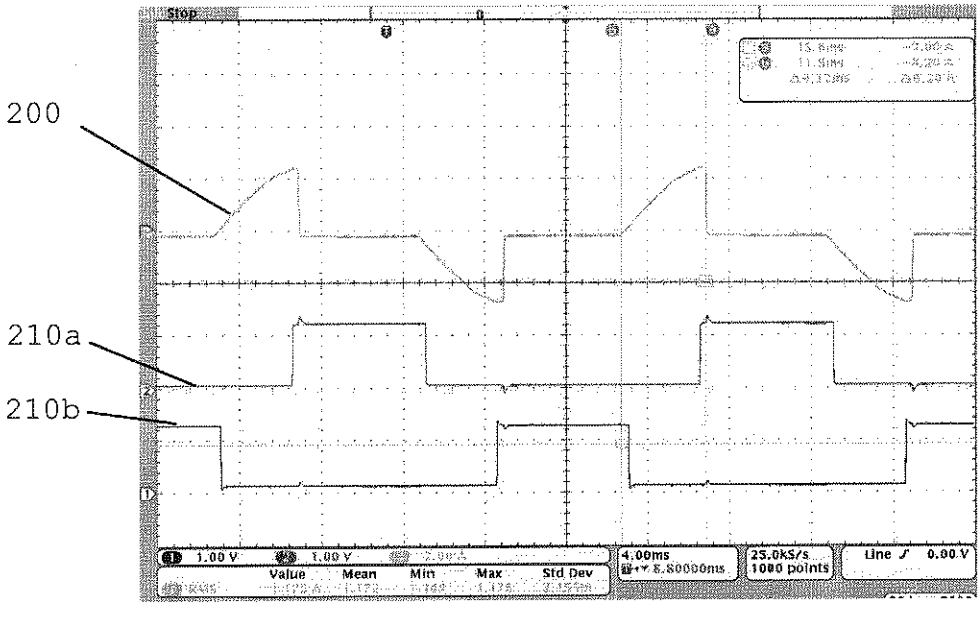

Monitor sensed load current 150
Is current 150 > MOSFET rated current?
Alter drive signals M1, M2 to reduce duty cycle of MOSFETs 10, 20
Is current 150 > 150% of MOSFET rated current?
Send signals M1, M2 to driver 30 to switch off MOSFETs 10, 20

Fig. 3


200
210a
210b
Stop
1.00 V
1.00 V
Value
Mean
Min
Max
Std Dev
4.00ms
25.0kS/s
1000 points
Line
0.00 V

(a)


200
210a
210b
Stop
1.00 V
1.00 V
Value
Mean
Min
Max
Std Dev
4.00ms
25.0kS/s
1000 points
Line
0.00 V

(b)