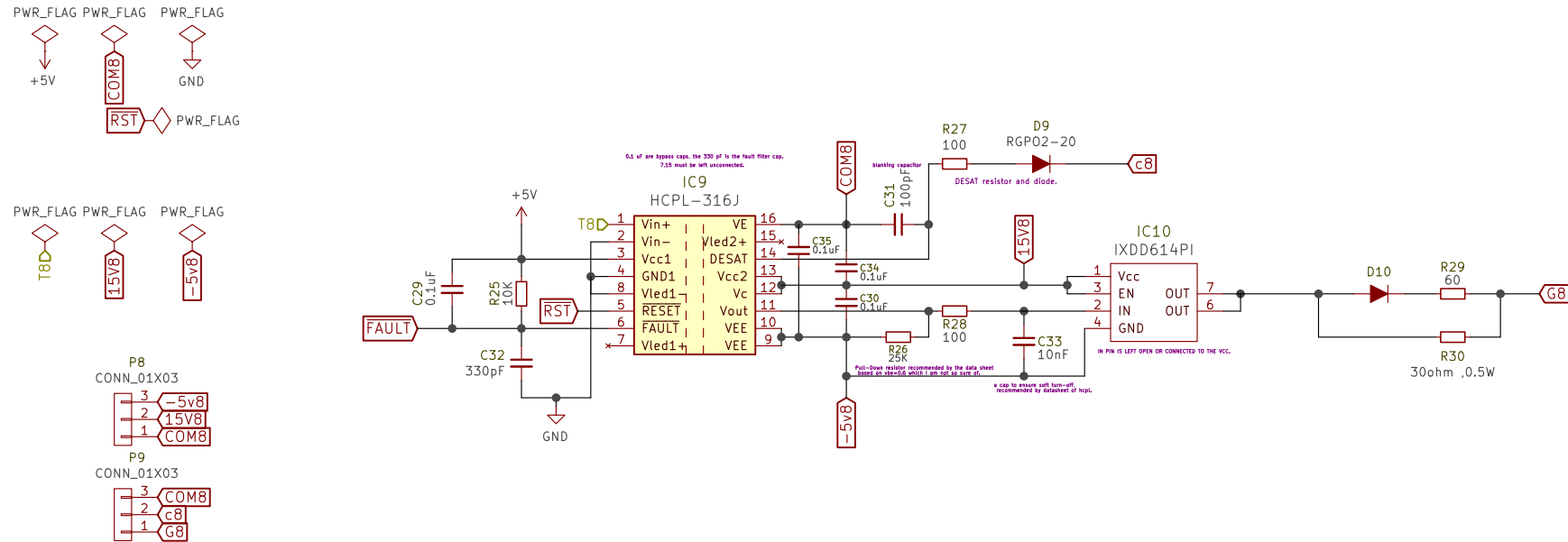# IGBT GATE DRIVER CIRCUIT BASED ON IXDD614PI AND HCPL–316J.

the circuit drives a single IGBT and works as low side and high side drive with undervoltage lockout and DESAT protection.

power flags are used to tell the Eeschema program
which pins are driven by powe sources,
they have no physical existance.

PWR_FLAG   PWR_FLAG   PWR_FLAG

+5V   COM8   GND

RST   PWR_FLAG

PWR_FLAG   PWR_FLAG   PWR_FLAG

T8   15V8   −5v8

P8
CONN_01X03

3 −5v8
2 15V8
1 COM8

P9
CONN_01X03

3 COM8
2 c8
1 G8

+5V

IC9
HCPL–316J

0.1 uF are bypass caps, the 330 pF is the fault filter cap.
7,15 must be left unconnected.

T8

1 Vin+   VE   16
2 Vin−   Vled2+   15
3 Vcc1   DESAT   14
4 GND1   Vcc2   13
8 Vled1   Vc   12
5 RESET   Vout   11
6 FAULT   VEE   10
7 Vled1+   VEE   9

FAULT

C29
0.1uF

R25
10K

RST

C32
330pF

GND

COM8

C31
100pF

blanting capacitor

R27
100

D9
RGPO2−20

c8

DESAT resistor and diode.

C35
0.1uF

C34
0.1uF

C30
0.1uF

R26
25K

R28
100

Pull–Down resistor recommended by the data sheet
based on vbe=0.6 which i am not so sure of.

15V8

−5v8

15V8

IC10
IXDD614PI

1 Vcc
3 EN   OUT   7
2 IN   OUT   6
4 GND

C33
10nF

IN PIN IS LEFT OPEN OR CONNECTED TO THE VCC.

a cap to ensure soft turn–off,
recommended by datasheet of hcpl.

D10

R29
60

G8

R30
30ohm ,0.5W

T1 is the PWM control signal from the microcontroller.

5 volt is the vcc of the microcontroller.

COM is the auxiliary emitter of the IGBT.

G is the Gate of the IGBT.

C is the collector of the IGBT.

GND is the ground of the microcontroller.