EasyDriver v4.4

An easy to use bipolar stepper motor driver
Use 4 wire, 6 wire or 8 wire steper motors
From about 150mA/phase to about 750mA/phase
Defaults to 5V for Vcc (logic supply), settable to 3.3V
Supply 8V to 30V DC power input on JP1
Do not connect or disconnect motor
whlie EasyDriver is powered

DEFAULT OPTIONS
Short JP5, JP6, JP7 pins
to GND or Vcc to override

SLEEP = Vcc (awake)
MS1 = Vcc (1/8 microstep)
MS2 = Vcc (1/8 microstep)
ENABLE = GND (enabled)
RESET = Vcc (not reset)
PFD = Vcc (slow decay mode)

JP5: 2 SLEEP, 1 MS1
JP6: 2 MS2, 1 ENABLE
JP7: 2 RESET, 1 PFD

DIR is level sensitive
A rising edge on STEP
causes a step
Both take 0V to Vcc

JP2: 3 DIR, 2 STEP, 1 GND

Coil 1 of motor across
OUT1B and OUT1A
Coil 2 of motor across
OUT2B and OUT2A

JP3: 4 OUT1B, 3 OUT1A, 2 OUT2B, 1 OUT2A

TP1 - VREF input to driver
Monitor this test point with meter
as you adjust current adj pot
Valid range 1.0V to Vcc
At VREF of 5V max current will be 833mA
At VREF of 3.3V max current will be 550mA
At VREF of 1V max current will be 166mA
Minimum current gives smoothest microsteps
Maximum current gives highest torque

VCC, TP1, R16 TRIMPOT5Madj pot, R5 5.1K, GND
C4 680pF, R3 20K, GND

IC1 A3967SLB

1	REF	PFD	24
2	RC2	RC1	23
3	/SLEEP	/RESET	22
4	OUT2B	OUT1B	21
5	LOAD_SUPPLY2	LOAD_SUPPLY1	20
6	GND1	GND4	19
7	GND2	GND3	18
8	SENSE2	SENSE1	17
9	OUT2A	OUT1A	16
10	STEP	/ENABLE	15
11	DIR	LOGIC_SUPPLY	14
12	MS1	MS2	13

SLEEP: VCC, 10K R11
OUT2B
V+
R1 .75, GND
OUT2A
STEP
DIR
MS1: VCC, 10K R14

PFD: VCC, R12 10K, NOPOP ??? R17, GND
RESET: R15 10K, VCC
OUT1B
V+
R4 20K, C5 680pF, GND
GND
.75 R2, GND
OUT1A
ENABLE: 10K R13, VCC, GND
LOGIC_SUPPLY: VCC
MS2: R10 10K, VCC

PFD intermediate voltage
Change R12 and add in
R17 to create any voltage
on PFD for best high
speed performance.
See datasheet

Power Input
8V to 30V (Vcc = 5V)
6.3V to 30V (Vcc = 3.3V)

JP1, GND, C3 47uF, GND, C1 .1uF, GND
V+
Must use LM317
For 30V V+ input
IC2 V_REG_317SMD: IN, OUT, ADJ
R8 240
SJ1 Normally Shorted
Cut to use your own
Vcc source from JP4
SJ1
VCC, C2 1uf, GND
R9 1K, PWR_LED YELLOW, GND
JP4

Vcc output
Max 70mA used by EasyDriver
The rest you can use

Both C3 and C1 must
Be rated for >=35V

R6 390, SJ2, GND
R7 330, GND
SJ2 Normally Open -> Vcc=5.0V
SJ2 Closed -> Vcc = 3.3V

Change List:
v4.3 (12/09/2009)
v4.3 Added mounting holes
v4.4 (10/24/2010)
Fixed MIN/MAX silkscreen
All vias now .02"
v4.4 (1/3/2012)
C3 now at 47uF

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