

# MOTEUR DE 0.13 A

## 0.1V - 10V

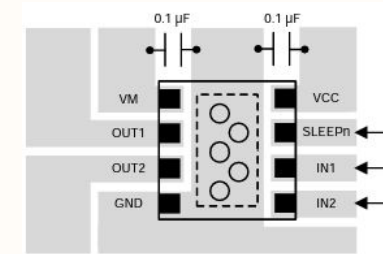
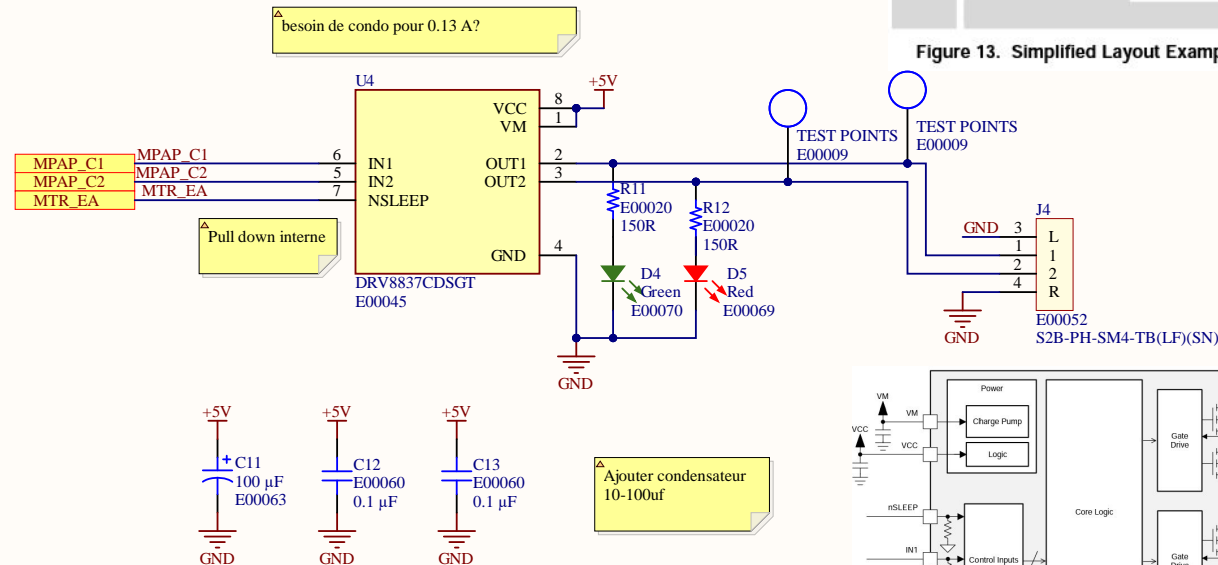
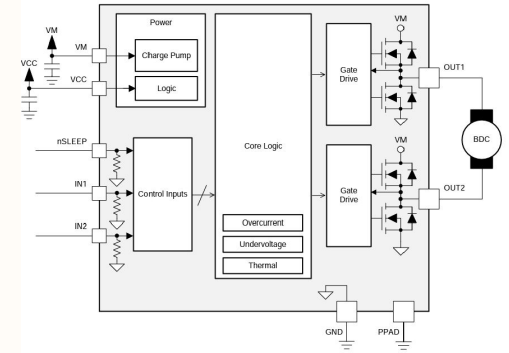
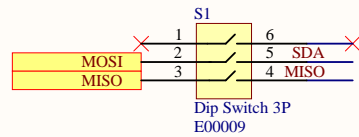
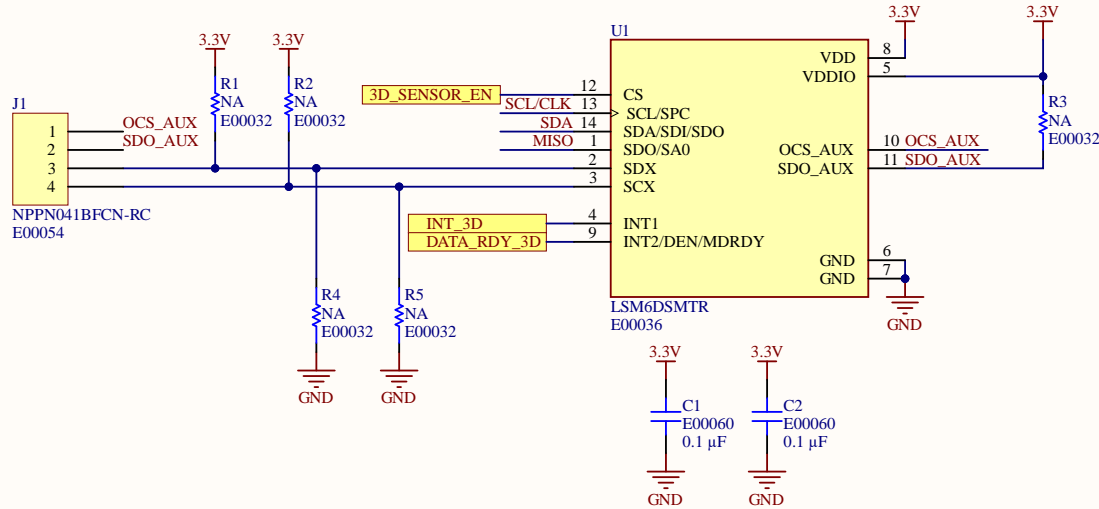


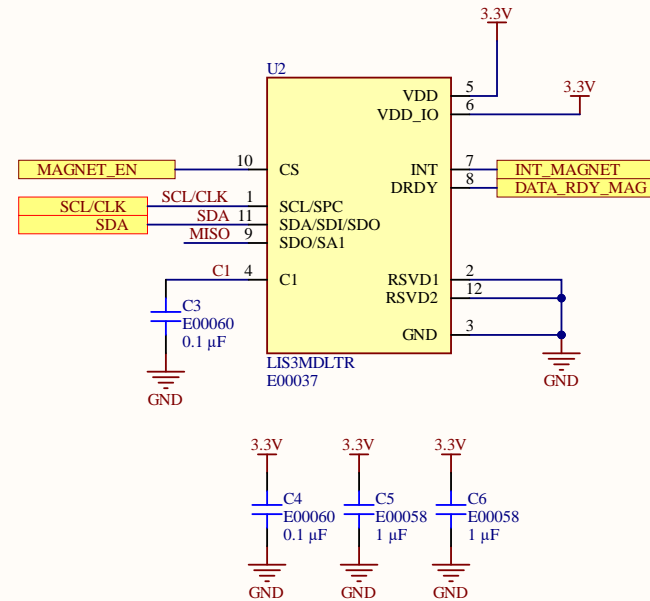
Figure 13. Simplified Layout Example



Dependant des modes, certains Pin sont branchés au VDD\_IO ou unconnect. Commentaire sur datasheet: (Leave pin electrically unconnected and soldered to PCB.)



Pin#	Name	Mode 1 function	Mode 2 function	Mode 3 / Mode 4 function
1	SDO/SA0	SPI 4-wire interface serial data output (SDO) I <sup>2</sup> C least significant bit of the device address (SA0)	SPI 4-wire interface serial data output (SDO) I <sup>2</sup> C least significant bit of the device address (SA0)	SPI 4-wire interface serial data output (SDO) I <sup>2</sup> C least significant bit of the device address (SA0)
2	SDx	Connect to VDDIO or GND	I <sup>2</sup> C serial data master (MSDA)	Auxiliary SPI 3/4-wire interface serial data input (SDI) and SPI 3-wire serial data output (SDO)
3	SCx	Connect to VDDIO or GND	I <sup>2</sup> C serial clock master (MSCL)	Auxiliary SPI 3-wire interface serial port clock (SPC_Aux)
4	INT1	Programmable interrupt 1		
5	VDDIO <sup>(1)</sup>	Power supply for I/O pins		
6	GND	0 V supply		
7	GND	0 V supply		
8	VDD <sup>(1)</sup>	Power supply		
9	INT2	Programmable interrupt 2 (INT2) / Data enable (DEN)	Programmable interrupt 2 (INT2) / Data enable (DEN) I <sup>2</sup> C master external synchronization signal (MDRDY)	Programmable interrupt 2 (INT2) / Data enable (DEN)
10	OCS_Aux	Leave unconnected <sup>(2)</sup>	Leave unconnected <sup>(2)</sup>	Auxiliary SPI 3/4-wire interface enable
11	SDO_Aux	Connect to VDD_IO or leave unconnected <sup>(2)</sup>	Connect to VDD_IO or leave unconnected <sup>(2)</sup>	Auxiliary SPI 3-wire interface: leave unconnected <sup>(2)</sup> Auxiliary SPI 4-wire interface: serial data output (SDO_Aux)
12	CS	I <sup>2</sup> C/SPI mode selection (1: SPI idle mode / I <sup>2</sup> C communication enabled; 0: SPI communication mode / I <sup>2</sup> C disabled)	I <sup>2</sup> C/SPI mode selection (1: SPI idle mode / I <sup>2</sup> C communication enabled; 0: SPI communication mode / I <sup>2</sup> C disabled)	I <sup>2</sup> C/SPI mode selection (1: SPI idle mode / I <sup>2</sup> C communication enabled; 0: SPI communication mode / I <sup>2</sup> C disabled)
13	SCL	I <sup>2</sup> C serial clock (SCL) SPI serial port clock (SPC)	I <sup>2</sup> C serial clock (SCL) SPI serial port clock (SPC)	I <sup>2</sup> C serial clock (SCL) SPI serial port clock (SPC)
14	SDA	I <sup>2</sup> C serial data (SDA) SPI serial data input (SDI) 3-wire interface serial data output (SDO)	I <sup>2</sup> C serial data (SDA) SPI serial data input (SDI) 3-wire interface serial data output (SDO)	I <sup>2</sup> C serial data (SDA) SPI serial data input (SDI) 3-wire interface serial data output (SDO)

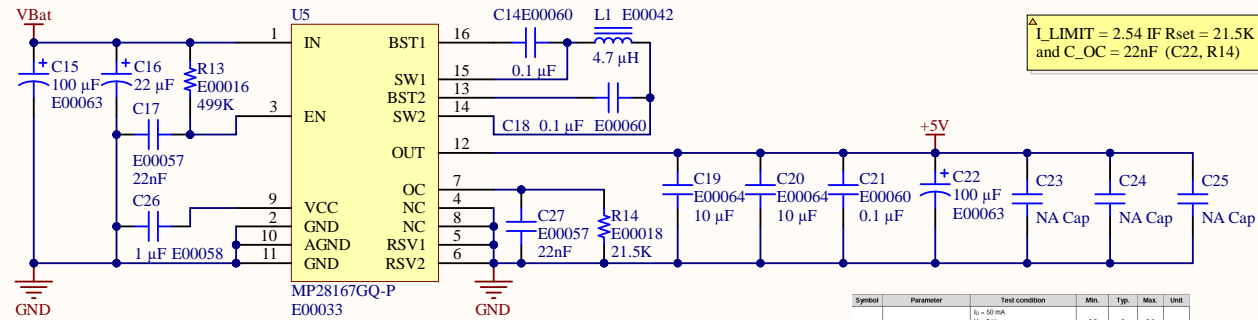


Verifie le courant l'inductance, le  
"Selecting the inductor page 16"

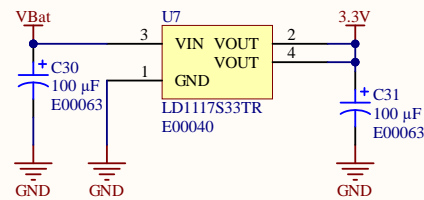
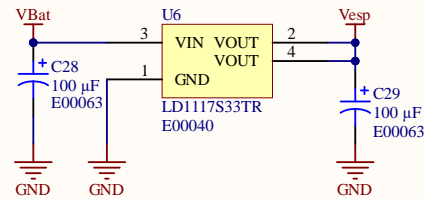
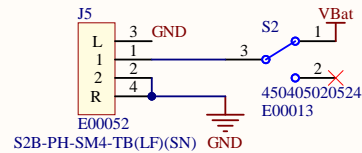
$R_{set}(Kohm) = 76.24 = I_{LIMIT}(A)$

$75.24 / 3A = 28 Kohm$

$I_{LIMIT} = 2.54$  IF  $R_{set} = 21.5K$   
and  $C_{OC} = 22nF$  (C22, R14)



Symbol	Parameter	Test condition	Min.	Typ.	Max.	Unit
$V_o$	Output voltage	$I_o = 500\text{ mA}$ $V_i = 7\text{ V}$ $T_a = 25^\circ\text{C}$ $I_o = 50\text{ mA}$ $V_i = 7\text{ V}$	4.9	5	5.1	V
$V_i$	Operating input voltage	$I_o = 500\text{ mA}$		16		V
$t_o$	Output current limit	$T_a = 25^\circ\text{C}$		1		A
$\Delta V_o$	Line regulation	$V_i = 6\text{ to }16\text{ V}$ $I_o = 5\text{ mA}$		5	28	mV
$\Delta V_o$	Load regulation	$V_i = 6.3\text{ V}$ $I_o = 5\text{ to }500\text{ mA}$		5	28	mV
$I_q$	Quiescent current	$V_i = 6\text{ to }16\text{ V}$ $I_o = 0\text{ mA}$ $V_i = 6.3\text{ to }16\text{ V}$ $I_o = 500\text{ mA}$		0.5	2	mA
		ON mode		50	125	µA
		OFF mode		78		µA
SVR	Supply voltage rejection	$I_o = 5\text{ mA}$ $V_i = 7 \pm 1\text{ V}$ $T_a = 25^\circ\text{C}$ $f = 10\text{ kHz}$		71		dB
eN	Output noise voltage	$B = 10\text{ Hz to }100\text{ kHz}$ $T_a = 25^\circ\text{C}$		50		µV
$V_d$	Dropout voltage	$I_o = 200\text{ mA}$ $I_o = 500\text{ mA}$		0.2	1.3	V
$V_{th}$	Control input logic low			0.4	1.3	V
$V_{th}$	Control input logic high			2		V
$I_k$	Control input current	$V_i = 6\text{ V}$ $V_o = 6\text{ V}$ $T_a = 25^\circ\text{C}$		10		µA
$C_o$	Output bypass capacitance	$ESR = 5.1\text{ m}\Omega$ $I_o = 0\text{ to }500\text{ mA}$		2	10	µF



$6.2 - 3.3 = 2.9V$   
 $2.9V \times 500mA = 1.45W$   
 $2.9V \times 300mA = 0.87W$

Symbol	Parameter	Value	Unit
$V_{in}$	DC Input Voltage	15	V
$P_{tot}$	Power Dissipation	12	W
$T_{stg}$	Storage Temperature Range	-40 to +150	$^\circ\text{C}$
$T_{op}$	Operating Junction Temperature Range	for C Version for standard Version	-40 to +150 0 to +150

$V_d$	Unipolar Voltage	$I_o = 100\text{ mA}$	1	1.1	V
		$I_o = 500\text{ mA}$	1.05	1.15	
		$I_o = 800\text{ mA}$	1.10	1.2	

Titre : Alimentation

Conception : Ilyes Gharmoul

Date : 2023-04-20

Fichier : Alimentation.SchDoc

Modification : Ilyes G

Heure : 14:12:16

Révision : Enseignants

Feuille 5 de 8

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