

# EVALSTDRIVE101 - Rev. 1 Bill Of Material

October 13<sup>th</sup> 2020



Reference	Part / Value	Description	Package	Manufacturer*	Part Number *
CON1	Power connector 2P	PCB Terminal connector 2 positions, 20A current rating	Connector dual row, 2 poles, pitch 5mm	TE Connectivity	2834082-1
CON2	Power connector 3P	PCB Terminal connector 3 positions, 20A current rating	Connector dual row, 3 poles, pitch 5mm	TE Connectivity	2834082-2
C1,C3,C4	1 $\mu$ F , 25V	SMT ceramic capacitor	Size 0805	Kemet	C0805C105K3RACTU
C2	10nF , 25V	SMT ceramic capacitor	Size 0603	Murata	GCM188R72A103KA37D
C5	1 $\mu$ F , 100V	SMT ceramic capacitor	Size 0805	TDK	CGA4J3X7S2A105K125AE
C6	100nF , 100V	SMT ceramic capacitor	Size 0805	Kemet	C0805C104K1RACTU
C7	4.7 $\mu$ F , 25V	SMT ceramic capacitor	Size 0805	TDK	C2012X7R1E475K125AE
C8, C10, C11, C18, C23, C24, C25, C39	100nF, 25V	SMT ceramic capacitor	Size 0603	Kemet	C0603C104K3RACTU
C9, C30	Not Mounted	SMT ceramic capacitor	Size 0603		
C12, C13, C14, C33, C34, C35, C36, C37, C38	220nF , 100V	SMT ceramic capacitor	Size 1206	AVX	12061C224KAT2A
C15, C16, C17	220 $\mu$ F , 100V	THT Electrolytic Capacitor	Dia12.5mm x 25 mm	Panasonic	EEUFS2A221
C19, C20, C21	1nF , 25V	SMT ceramic capacitor	Size 0603	AVX	06035C222KAZ2A
C22, C26, C27, C28, C31, C32	22pF , 25V	SMT ceramic capacitor	Size 0603	Kemet	C0603C220J5GACTU
C29	3.3nF, 25V	SMT ceramic capacitor	Size 0603	Murata	GRM1882C1H332JA01D
D1, D2, D3, D4, D5, D6, D7, D9, D10, D12, D13, D15, D16, D17, D18	BAT43WS	SMT Schottky diode	SOD-323	DIODES Inc.	BAT43WS-7-F
D8, D11, D14	BAT46J	SMT Schottky diode	SOD-323	STMicroelectronics	BAT46JFILM
JP1	GND junction node	PCB layout node (not an actual component)			
JP2, JP3, JP4	Current Sense	PCB layout node (not an actual component)			
JP5, JP6	Open (default)	High current SMT solder contact			
JP7, JP8	Closed (default)	SMT solder contact			
J1, J3, J13	Open (default)	1x2 jumper connector	1x2 Strip contact pitch 2.54mm		
J2	Closed (default)	1x2 jumper connector	1x2 Strip contact pitch 2.54mm		
J4	MC Connector	Header Vertical Connector 2x17 poles, pitch 2.54 mm	2x17 connector, pitch 2.54mm		

J5, J6, J7, J8	Closed 1-2 (default)	1x3 jumper connector	1x3 Strip contact pitch 2.54mm		
J9	Hall/Encoder connector	1x5 connector	1x5 Strip contact pitch 2.54mm		
J10, J11, J12	Closed 2-3 (default)	1x3 jumper connector	1x3 Strip contact pitch 2.54mm		
LED1	RED	CHIPLELED 0805	Size 0805		
LED2, LED3, LED4	YELLOW	CHIPLELED 0805	Size 0805		
Q1, Q2, Q3, Q4, Q5, Q6	STL110N10F7	N-channel 100 V, STripFET™ F7 Power MOSFET	PowerFLAT™ 5x6	STMicroelectronics	STL110N10F7
R1, R3, R5	0	SMT resistor	Size 0603		
R2	22kΩ , 1%	SMT resistor	Size 0603		
R4, R34, R35, R36, R53, R55, R59, R60, R63, R68, R71	10kΩ , 1%	SMT resistor	Size 0603		
R6	51kΩ	SMT resistor	Size 0603		
R7	470Ω , 1/4W	SMT resistor	Size 0603		
R8	39kΩ	SMT resistor	Size 0603		
R9	91kΩ , 1% , 1/4W	SMT resistor	Size 0603		
R10	3.3kΩ , 1%	SMT resistor	Size 0603		
R11, R12, R13, R17, R18, R19	33Ω	SMT resistor	Size 0603		
R40, R41, R42, R66, R76, R77, R78, R79	Not Mounted	SMT resistor	Size 0603		
R14, R15, R16, R20, R21, R22	22kΩ	SMT resistor	Size 0603		
R23, R24, R25, R26, R27, R28	10mΩ , 1% , 3W	SMT resistor	Size 2512	Bourns	CRA2512-FZ-R010ELF
R29	NTC 10kΩ @ 25°C	SMT NTC resistor	Size 0603	Vishay	NTCS0603E3103FMT
R30	910Ω , 1%	SMT resistor	Size 0603		
R31, R32, R33	15kΩ , 1/2W	SMT resistor	Size 0805	Vishay	CRCW080515K0FKEAHP
R37, R38, R39	8.2kΩ	SMT resistor	Size 0603		
R43, R45, R47	100kΩ , 1% , 1/4W	SMT resistor	Size 0603	Vishay	CRCW0603100KFKEAHP
R44, R46, R48	510Ω	SMT resistor	Size 0603		
R49, R50, R51	7.5kΩ , 1%	SMT resistor	Size 0603		
R52, R56, R58, R62, R67, R70	1.54kΩ , 1%	SMT resistor	Size 0603		
R54, R57, R61, R64, R69, R72	20kΩ , 1%	SMT resistor	Size 0603		
R65	1.1kΩ , 1%	SMT resistor	Size 0603		
R73, R74, R75	Not Mounted	SMT resistor	Size 2512		
TP1, TP2, TP3, TP4, TP5, TP6, TP7, TP8, TP9, TP10, TP11, TP12, TP13, TP14, TP15, TP16, TP17, TP18, TP19	Test Point	SMT test Point	Pad size 135x70mils	Harwin	S1751-46R
<b>U1</b>	<b>STDRIVE101</b>	<b>Triple half bridge gate driver</b>	<b>QFN 4x4 24L Pitch 0,5mm</b>	<b>STMicroelectronics</b>	<b>STDRIVE101</b>
U2, U3, U4	TSV991AIQ	Wide bandwidth (20MHz) rail to rail Operational Amplifier	DFN8 2x2	STMicroelectronics	TSV991AIQ2T
MH1, MH2, MH3, MH4	M3 Holes	M3 holes for screw and spacer			
HS1	Optional heatsink + thermal pad	Customized Heatsink		Fischer Elektronik	SK44-75-SA
		Thermal-conductive Pad with low contact thermal impedance		T GLOBAL	PC93-150X150X0.5
*The part numbers suggested can be replaced by an equivalent one. If the field is empty, a generic part number can be used.					