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1_EVAL_IMD700A_FOC_3SH_V2.3.SchDoc

Revision History

Rev.	Rel.	Date	Author	Description	Page(s)
2.3	HS	Jan 24, 2023	PG	BLDC motor drive EVAL board for IMD700A	4

EVAL_IMD700A_FOC_3SH

[No Variations]

V 2.3

Infineon Technologies AG
IFAM PSS DCDC
101 N. Pacific Coast Hwy, El Segundo, CA 90245

2023

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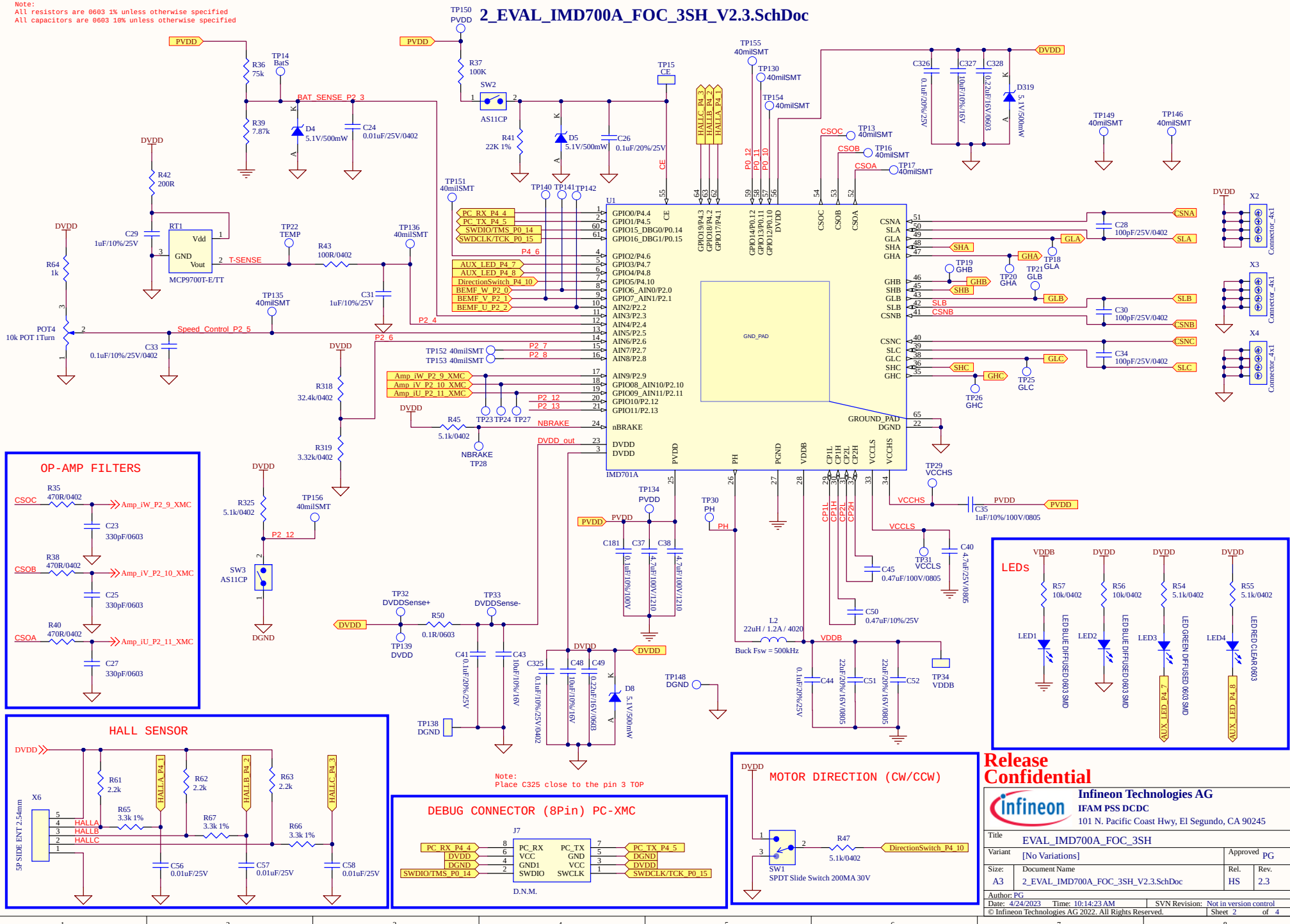
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Note:
All resistors are 0603 1% unless otherwise specified
All capacitors are 0603 10% unless otherwise specified

2_EVAL_IMD700A_FOC_3SH_V2.3.SchDoc

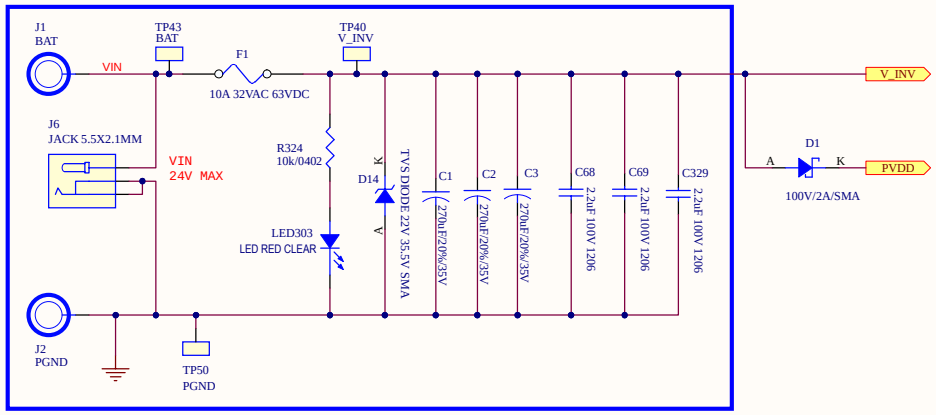


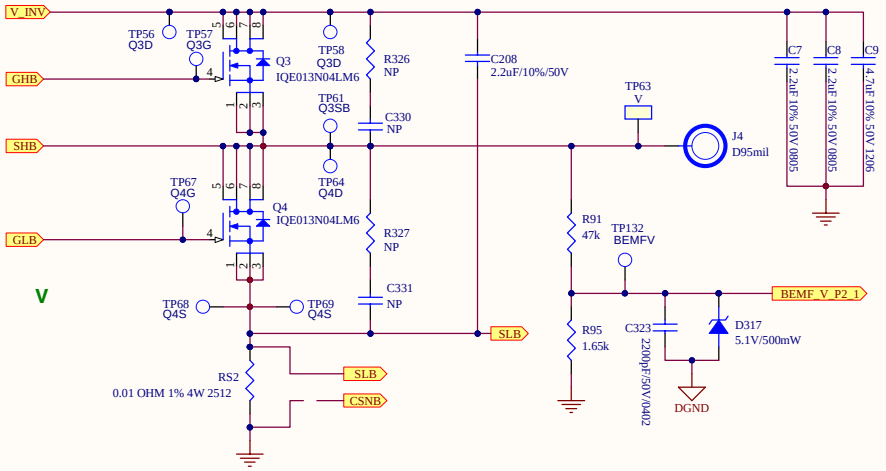
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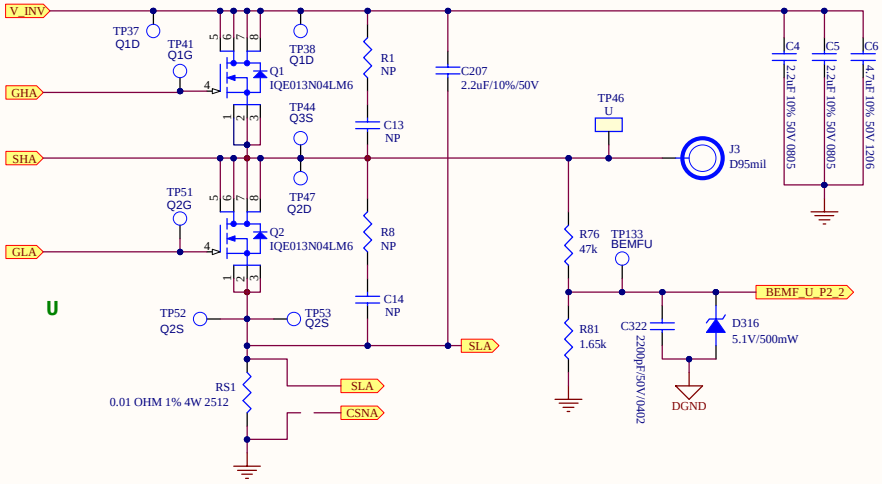
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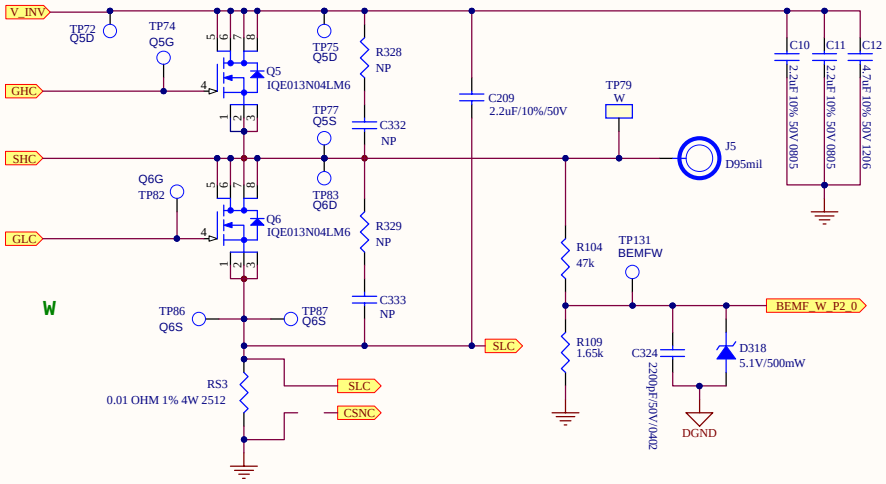
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PCB standoffs

ST1 stand ST2 stand ST3 stand ST4 stand

NT1 HEX NUT 1/4" STEEL 4-40
NT2 HEX NUT 1/4" STEEL 4-40
NT3 HEX NUT 1/4" STEEL 4-40
NT4 HEX NUT 1/4" STEEL 4-40

PCB fiducials

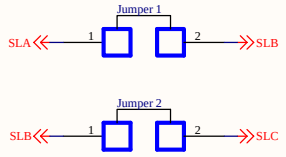
FD1 FD2 FD3 FD4 FD5 FD6 FD7 FD8

NET SHORT in PCB (TOP [X:Y])

NT Net Tie

DGND PGND

Note: For single shunt configuration jumper 1 and 2 need to be shorted.
Removed 2 shunts from the board and mount only 1 shunt.



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Added Offpage connectors

DGND

On-board J-Link with UART

SWD_DIR	SPI Master	U0C0
SWD_IN	SWD DIR	GPIO-P1.3
SWD_OUT	MISO	DX0B-P1.4
SWCLK	MOSI	DOUT0-P1.5
	CLK_OUT	SCLKOUT-P1.1
	CS_OUT	SELO0-P1.0
	SPI Slave	U0C1
	CS_IN	DX2A-P2.3
	CLK_IN	DX1A-P2.4
	PULL Select	GPIO-P0.8
	ADC	
	AIN	P14.9
RXD	UART2 (DM2)	U1C0
TXD	RXD	DX0A-P0.4
	TXD	DOUT0-P0.5
	TX_ENABLE	GPIO-P0.7
	TXACTIVE#	GPIO-P0.6
	RESET#	GPIO-P0.3
DEBUG_LED#	DEBUG_LED#	GPIO-P0.2
COM_LED#	AUX_LED#	GPIO-P0.1

Configure COMDIS# as open-drain output
Configure wiggler-P0.5 as USIC_Tx but only active while X-spy function is selected
Configure wiggler-P0.4 as USIC_Rx but only active while X-spy function is selected
Configure wiggler-P0.3 as RESET# detect input but with additional open-drain output capabilities

IC301
XMC4200_QFN48
Digital
Analog
Hibernate_RTC
Supply
USB

VDD3.3ISO
VDD5ISO
ISOGND
DGND

R301 680R/0402
R302 680R/0402
LED301 LED GREEN DIFFUSED 0603 SMD
LED302 LED RED CLEAR
TX
RX
DEBUG_LED#
COM_LED#
SWD_OUT
SWD_IN
SWD_DIR
SWCLK
CS
COM LED
Level Shifter
No RESET Pin
UART
SPD
SWV
JTAG
C301 0.1uF/25V/0402
R305 510R
Q301 12MHz_S_3.2X2.5
C302 15pF_0402
C303 15pF_0402
R311 10k/0402
C304 10000PF/25V/0402
JP301
XMC_SWD
DBGPRES#
WTCK
WTMS
EPAD
R306 22R/0402
R307 22R/0402
WUSB_D_N
WUSB_D_P
D301 30V/1A/SOD323
L301 74279267
R308 4k7/0402
R309 10k/0402
D302
ESD5V3U2U-03F
X302C
USB
USB-Micro
R310 1M
C312 0.1uF/25V/0402
C305 0.1uF/25V/0402
C306 0.1uF/25V/0402
C307 4.7uF_0603
C308 0.1uF/25V/0402
C309 0.1uF/25V/0402
C310 0.1uF/25V/0402
C311 0.1uF/25V/0402

Power Supply

IC302
IFX54441LDV33
C313 10uF/25V
C314 10000PF/25V/0402
C315 10uF/25V

Isolator

IC303
SI866X
IC304
74LVC1G126GW
D315 500mA/30V/TSLP-2-17
R323 0R/0402
R321 0R/0402
R322 0R/0402
R312 10k/0402
R314 1M
R316 0R
C316 1uF/0402
C317 1uF/0402
C318 0.1uF/25V/0402
C319 0.1uF/25V/0402
PC_TX_P4_5
PC_RX_P4_4
SWDCLK/TCK_P0_15
SWDIO/TMS_P0_14
TX
SWCLK
SWD_DIR
SWD_OUT
RX
SWD_IN

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