

<b>COMPANY PROPRIETARY</b>			
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Project Voyager: <b>EVT Multi-Channel Voltage.PrjPcb</b>		Variants: <b>[No Variations]</b>	
Title: <b>EVT Controller SPE BUS</b>		CUTSFORTH 5160 Industrial Pl. #101 Ferndale, WA 98248-7819 USA	
Size: <b>A4</b>	Number: <b>160226</b>	Revision: <b>001</b>	
Date: <b>5/28/2026</b>	Time: <b>3:14:29 PM</b>	Sheet <b>3</b> of <b>11</b>	
File: <b>EVTM_SPE_BUS.SchDoc</b>			Status: <b>FINAL</b>

1

2

3

4

A

A

H1 2707482



Housing 2707482

H2 2914877



Housing 2914877



PCB1



ASM1

H3



Raspberry Pi CM5 Heat-Sink

H4



Front Panel Slide

Fiducials :



F3 F4 F5 F6  
F7 F8 F9 F10

B

B

C

C

D

D

1

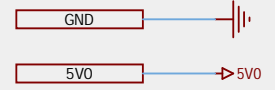
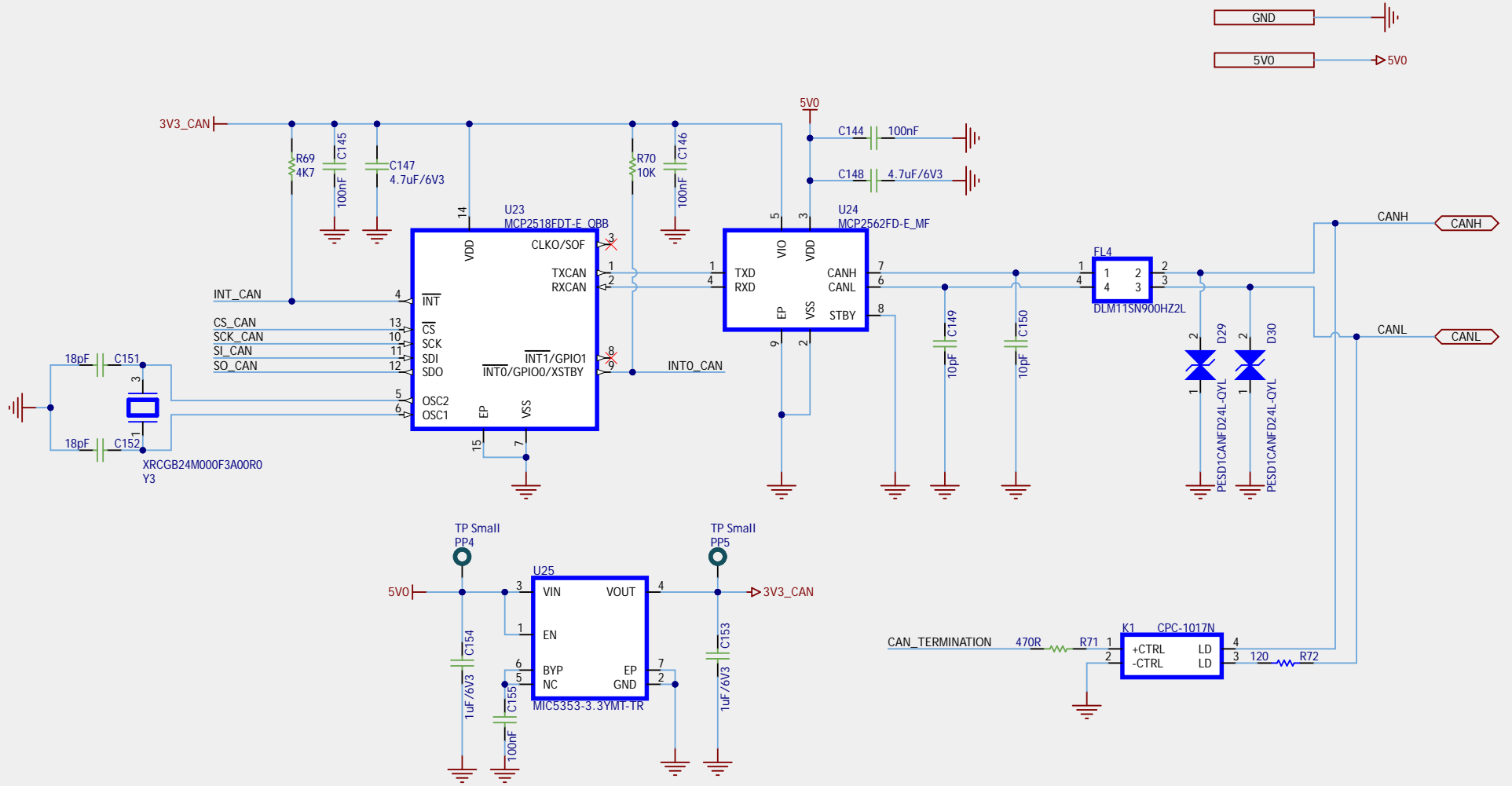
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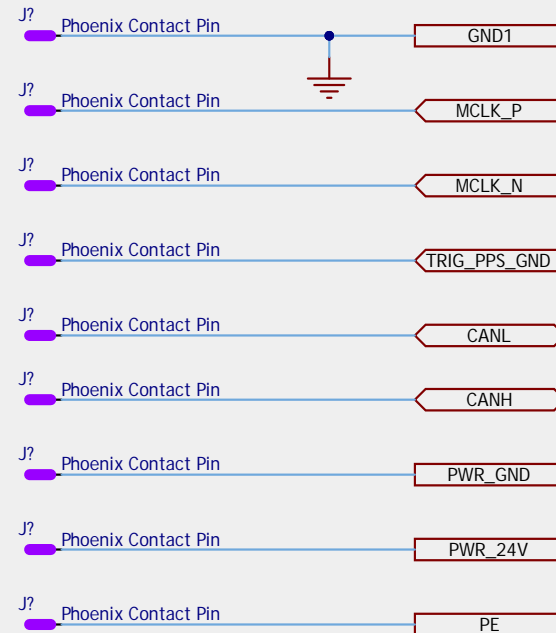
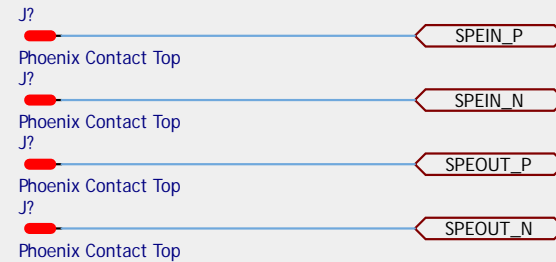
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Project Voyager: <b>EVT Multi-Channel Voltage.PrjPcb</b>		Variants: <b>[No Variations]</b>	
Title: <b>EVTC Hardware used for BOM Listing</b>		CUTSFORTH 5160 Industrial Pl. #101 Ferndale, WA 98248-7819 USA	
Size: <b>A</b>	Number: <b>160226</b>	Revision: <b>001</b>	
Date: <b>5/28/2026</b> Time: <b>3:14:29 PM</b>	Sheet <b>4</b> of <b>11</b>	Status: <b>FINAL</b>	





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Project Voyager: <b>EVT Multi-Channel Voltage.PrjPcb</b>		Variants: <b>[No Variations]</b>	
Title: <b>EVTC CANF Interface</b>		CUTSFORTH 5160 Industrial Pl. #101 Ferndale, WA 98248-7819 USA	
Date: 5/28/2026	Time: 3:14:30 PM	Revision: 001	Sheet 6 of 11
File: EVTM_CANFD.SchDoc		Status: FINAL	



	LEFT SIDE	MODULE	RIGHT SIDE	
1	SPEIN_P	Pass Through Switch	SPEOUT_P	1
2	SPEIN_N	Pass Through Switch	SPEOUT_N	2
3	GND	Direct Connect	GND	3
4	MCLK_P	Direct Connect	MCLK_P	4
5	MCLK_N	Direct Connect	MCLK_N	5
6	TRIG/PPS/OPT GND	Direct Connect	TRIG/PPS/OPT GND	6
7	CAN_H	Direct Connect	CAN_H	7
8	CAN_L	Direct Connect	CAN_L	8
9	PWR_GND	Direct Connect	PWR_GND	9
10	PWR_24V	Direct Connect	PWR_24V	10

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Project Voyager: **EVT Multi-Channel Voltage.PrjPcb** Variants: **[No Variations]**

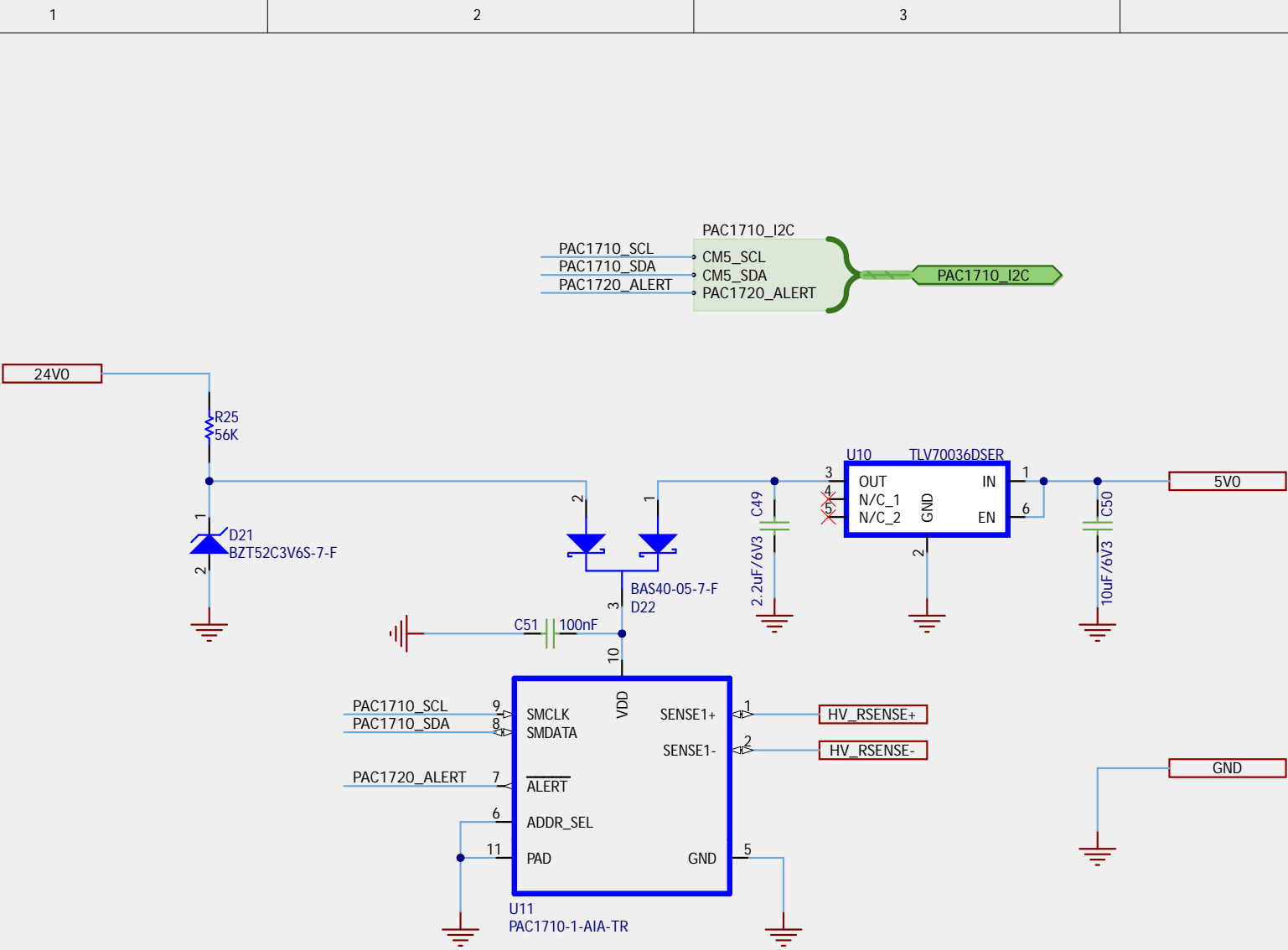
Title: **EVTM DIN BUS**

Size: **A** Number: **160226** Revision: **001**

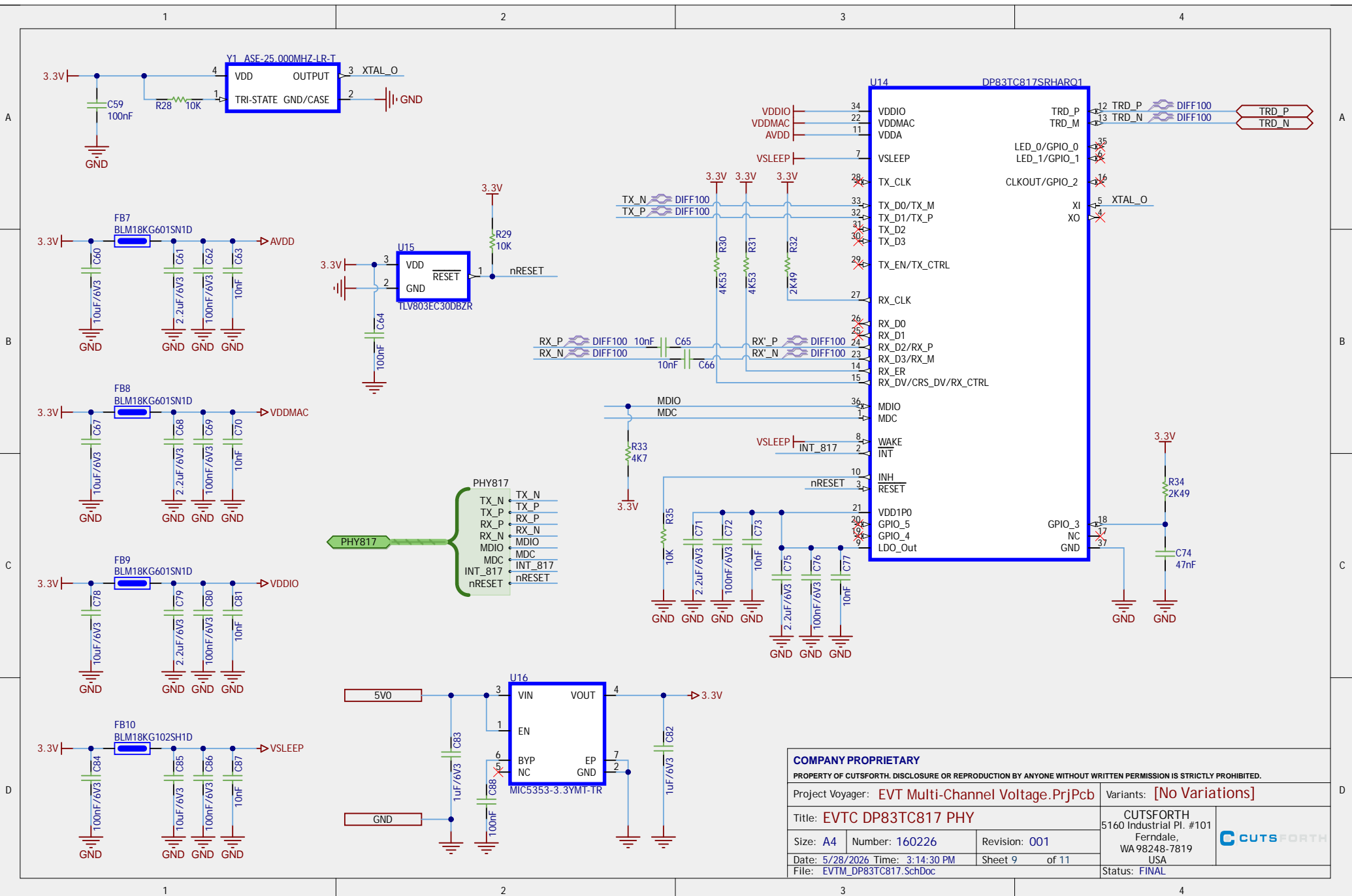
Date: **5/28/2026** Time: **3:14:30 PM** Sheet **7** of **11**

File: **EVTM\_DIN\_BUS.SchDoc** Status: **FINAL**

CUTSFORTH  
 5160 Industrial Pl. #101  
 Ferndale,  
 WA 98248-7819  
 USA

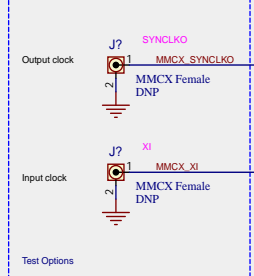


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Project Voyager: <b>EVT Multi-Channel Voltage.PrjPcb</b>		Variants: <b>[No Variations]</b>	
Title: <b>EVTC Current Sensors</b>		CUTSFORTH 5160 Industrial Pl. #101 Ferndale, WA 98248-7819 USA	
Size: <b>A</b>	Number: <b>160226</b>	Revision: <b>001</b>	
Date: <b>5/28/2026</b> Time: <b>3:14:30 PM</b>	Sheet <b>8</b> of <b>11</b>	Status: <b>FINAL</b>	
File: <b>EVTM_Current_Sensor.SchDoc</b>			

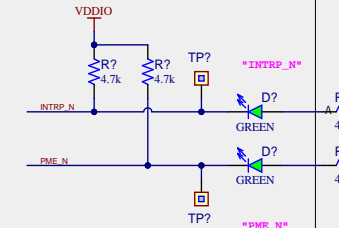
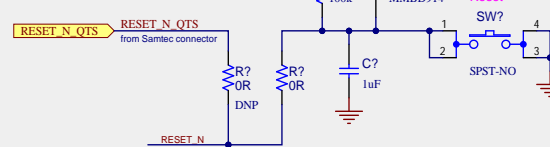
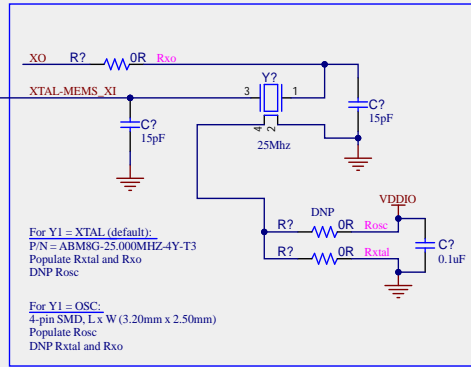
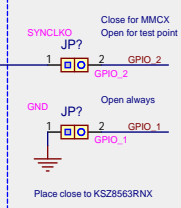


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Project Voyager: <b>EVT Multi-Channel Voltage.PrjPcb</b>		Variants: <b>[No Variations]</b>	
Title: <b>EVTC DP83TC817 PHY</b>		CUTSFORTH 5160 Industrial Pl. #101 Ferndale, WA 98248-7819 USA	
Size: <b>A4</b>	Number: <b>160226</b>	Revision: <b>001</b>	
Date: <b>5/28/2026</b>	Time: <b>3:14:30 PM</b>	Sheet <b>9</b> of <b>11</b>	
File: <b>EVTM_DP83TC817.SchDoc</b>		Status: <b>FINAL</b>	

**External Reference Clocks**



**For AVB/1588**



**Strapping Pins**

Refer to KSZ8563RNX Datasheet for detailed descriptions.

Strapping pins have internal pull-ups/pull-downs (default values); external pull-ups/pull-downs are used to override internal values.

RXD3, RXD2	Port_3 xMII Mode
0, 0	MII (default)
0, 1	RMII
1, 0	<Reserved>
1, 1	RGMI

RXD1, RXD0	Management Mode
0, 0	MDCMDIO (default)
0, 1	IC Slave
1, x	SPI Slave

LED2_1	Port_3 Speed in RGMII
0	100Mbps
1	10/100Mbps (default)

LED1_1	IBA Mode
0	Enable (default)
1	Disable

LED2_0	Port_3 MII / RMII Configuration
0	MII: PHY Mode RMII: Clock Mode - RMII 50MHz Reference Clock output on RX_CLK pin
1	MII: MAC Mode RMII: Normal Mode - RMII 50MHz Reference Clock input to TX_CLK pin (default)

LED1_0	Start Switch Configuration
0	Start Switch disabled Switch will not forward packets until the Start bit is set in Register 0x0_3_00.
1	Start Switch enabled (default) Switch will forward packets immediately after reset.

RX_ER, PME_N	PHY Ports 1 and 2 Configuration
0, 0	<Reserved>
0, 1	Auto-Negotiation enable with EEE enable (default)
1, 0	Auto-Negotiation disable (Force 100Mbps, Full-duplex mode), and Auto-MDIX disable (set to MDIX mode)
1, 1	Auto-Negotiation disable (Force 100Mbps, Full-duplex mode), and Auto-MDIX disable (set to MDI mode)

J? LED1\_1\_PU

J? LED1\_1\_PD

IBA Mode #2-3

SH? Shunt 2.54mm 1x2

Place across pins 2 and 3 of IBA Mode Header

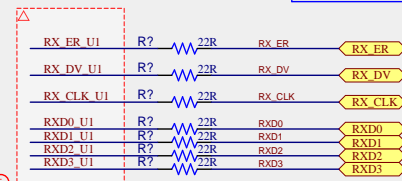
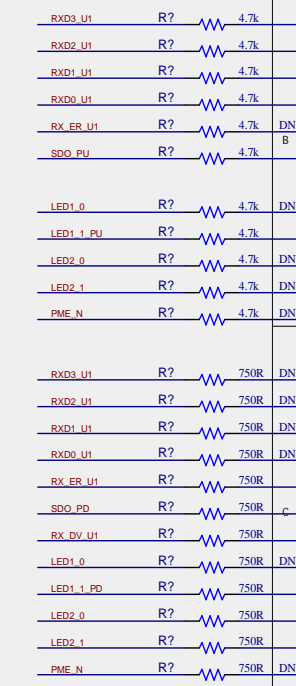
J? SDO\_PU

J? SDO\_PD

Quiet-WIRE #2-3

SH? Shunt 2.54mm 1x2

Place across pins 2 and 3 of Quiet-WIRE Header



Net Class 1

ClassName: RGMII-RX\_U1

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Project Voyager: EVT Multi-Channel Voltage.PrjPcb Variants: [No Variations]

Title: EVTM KSZ8563 Switch\_SchDoc CUTSFORTH  
5160 Industrial Pl. #101  
Fernside, WA 98248-7819 USA

Status: WORKING

Size: A3 Number: 160226 Revision: 001

Date: 5/28/2026 Time: 3:14:30 PM Sheet 10 of 11

File: EVTM KSZ8563 Switch\_SchDoc

