User's Guide

TPS2597EVM: Evaluation Module for TPS2597 eFuse

ABSTRACT

This user's guide describes the evaluation module (EVM) for the TPS2597xx eFuse. The TPS2597xx device is a 2.7-V to 23-V, 7-A eFuse with integrated 11-mΩ FET with overcurrent protection, inrush current protection, adjustable overcurrent transient blanking timer, and programmable undervoltage and overvoltage protection.

	Caution	Caution Hot surface. Contact may cause burns. Do not touch!

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1 Introduction

The *TPS2597EVM eFuse Evaluation Board* allows reference circuit evaluation of Texas Instruments (TI) TPS2597xx eFuse. The TPS2597xx device is a 2.7-V to 23-V, 7-A eFuse with integrated 11-mΩ FET with overcurrent protection, inrush current protection, adjustable over current transient blanking timer, and programmable undervoltage and overvoltage protection.

1.1 EVM Features

General TPS2597EVM eFuse evaluation board features include:

- 2.7-V to 23-V (typical) operation
- 1 A to 8 A programmable current limit using onboard jumpers
- Programmable output voltage slew rate control
- Programmable transient current blanking timer
- Programmable current limit
- TVS diode for input transient protection
- On-board Schottky diode at output prevents negative spike during overcurrent faults
- LED status for Power Good and Fault indication

1.2 EVM Applications

This EVM can be used on the following applications:

- Hot-swap, hot-plug
- Server standby rails
- Optical modules
- PCIe, SSDs, and HDDs
- Routers and switches
- Industrial PC
- Digital TV

2 Description

The TPS2597EVM eFuse Evaluation Board has three channels and enables evaluation of TPS25970A, TPS25972A, and TPS25974L eFuses from the TPS2597xx family. Channels 1, 2, 3 are standalone channels and provide programmable OVCSEL, OVLO, ITIMER, dVdt and ILM settings. The input power is applied at connectors J1, J9, J15 while J8, J14, J20 provides the output connection for Channels 1, 2, and 3 respectively. Refer to the schematic in Figure 3-1 and EVM test setup in Figure 5-1. TVS diodes D1, U7, and D14 provide input protection from transient overvoltages, while Schottky diode D2, D12, and D6 provide output protection for the TPS2597xx eFuses in Channels 1, 2, and 3 respectively.

S1, S2, and S3 allow U1, U2, and U3 to be RESET or disabled.

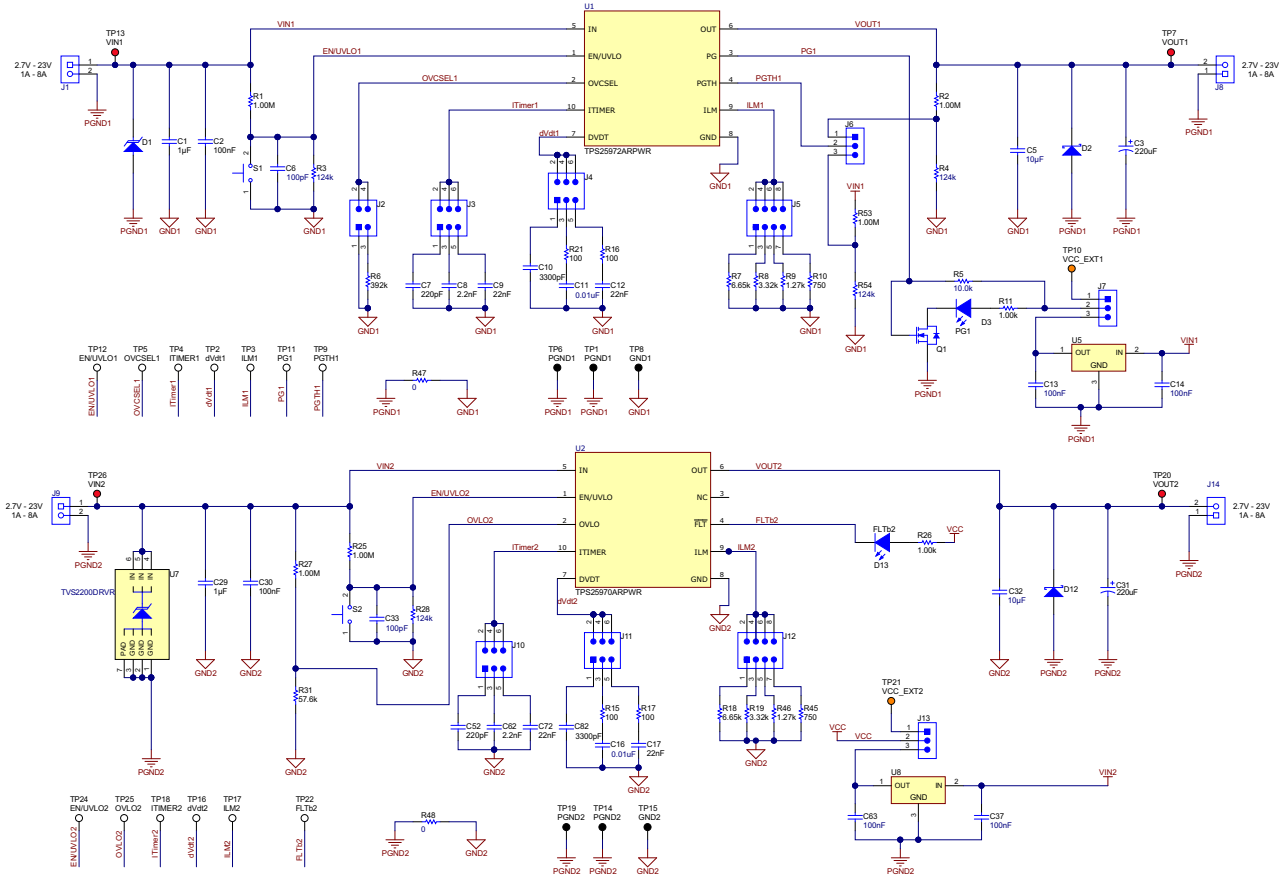
Table 2-1. TPS2597EVM eFuse Evaluation Board Options and Setting

EVM Function	Channel	Vin UVLO Threshold	Vin OV LO/OVC Threshold	ITimer	Output Slew Rate, dVdt	Current Limit	
						Low Setting	Hi Setting
2.7-V to 23-V, 7-A eFuse	CH1	10.87 V	Selectable OVC – 3.87 V, 5.73 V, 13.84 V	Selectable – 170 us, 1.7 ms, 17 ms	Selectable – 1 mV/us, 0.33 mV/us, 0.15 mV/us	0.86 A	7.6 A
	CH2	10.87 V	22 V	Selectable – 170 us, 1.7 ms, 17 ms	Selectable – 1 mV/us, 0.33 mV/us, 0.15 mV/us	0.86 A	7.6 A
	CH3	10.83 V	16.38 V	Selectable – 170 us, 1.7 ms, 17 ms	Selectable – 1 mV/us, 0.33 mV/us, 0.15 mV/us	0.86 A	7.6 A

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3 Schematic

Figure 3-1 illustrates the EVM schematic.



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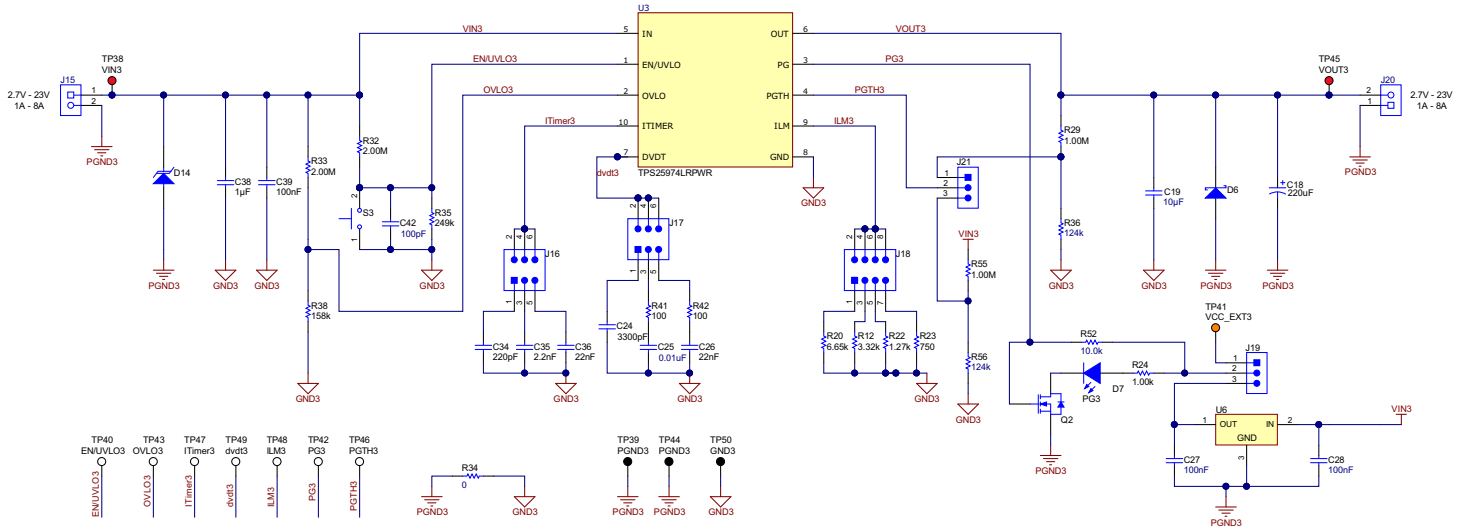


Figure 3-1. TPS2597EVM eFuse Evaluation Board Schematic

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4 General Configurations

4.1 Physical Access

Table 4-1 lists the TPS2597EVM eFuse Evaluation Board input and output connector functionality. Table 4-2 and Table 4-3 describe the test point availability and the jumper functionality. Table 4-4 describes the function of signal LEDs.

Table 4-1. Input and Output Connector Functionality

Channel	Connector	Label	Description
CH1	J1	VIN1(+), PGND(–)	Input of CH1
	J8	VOUT1(+), PGND(–)	Output of CH1
CH2	J9	VIN2(+), PGND(–)	Input of CH2
	J14	VOUT2(+), PGND(–)	Output of CH2
CH3	J15	VIN3(+), PGND(–)	Input of CH3
	J20	VOUT3(+), PGND(–)	Output of CH3

Table 4-2. Test Points Description

Channel	Test Points	Label	Description
CH1	TP13	VIN1	CH1 input voltage
	TP7	VOUT1	CH1 output voltage
	TP12	EN/UVLO1	CH1 EN/UVLO signal
	TP5	OVCSEL1	CH1 OVCSEL signal
	TP4	ITIMER1	CH1 ITIMER signal
	TP2	dVdt1	CH1 Output voltage ramp control
	TP3	ILM1	CH1 current limit and monitor signal
	TP11	PG1	CH1 Power Good signal
	TP9	PGTH1	CH1 Power Good threshold signal
	TP10	VCC_EXT1	CH1 external VCC voltage point for U5 LDO
	TP8	GND1	CH1 IC GND signal
	TP6, TP1	PGND1	CH1 power GND signal
CH2	TP26	VIN2	CH2 input voltage
	TP20	VOUT2	CH2 output voltage
	TP24	EN/UVLO2	CH2 EN/UVLO signal
	TP25	OVLO2	CH2 OVLO signal
	TP18	ITIMER2	CH2 ITIMER signal
	TP16	dVdt2	CH2 output voltage ramp control
	TP17	ILM2	CH2 current limit and monitor signal
	TP22	FLTb2	CH2 fault signal
	TP21	VCC_EXT2	CH2 external VCC voltage point for U8 LDO
	TP15	GND2	CH2 IC GND signal
	TP14,TP19	PGND2	CH2 power GND signal

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Table 4-2. Test Points Description (continued)

Channel	Test Points	Label	Description
CH3	TP38	VIN3	CH3 input voltage
	TP45	VOUT3	CH3 output voltage
	TP40	EN/UVLO3	CH3 EN/UVLO signal
	TP43	OVLO3	CH3 OVLO signal
	TP47	ITIMER3	CH3 ITIMER signal
	TP49	dVdt3	CH3 output voltage ramp control
	TP48	ILM3	CH3 current limit and monitor signal
	TP42	PG3	CH3 Power Good signal
	TP46	PGTH3	CH3 Power Good threshold signal
	TP41	VCC_EXT3	CH3 external VCC voltage point for U6 LDO
	TP50	GND3	CH3 IC GND signal
	TP39, TP44	PGND3	CH3 power GND signal

Table 4-3. Jumper Descriptions and Default Positions

Channel	Jumper	Label	Description	Default Jumper Position
CH1	J2	OVCSEl1	1-2 position sets input OVC threshold at 3.87 V	3-4
			3-4 position sets input OVC threshold at 13.84 V	
			No jumper connection sets input OVC threshold at 5.73 V	
	J5	ITIMER1	1-2 position sets the transient current blanking period to 170 us	3-4
			3-4 position sets the transient current blanking period to 1.7 ms	
			5-6 position sets the transient current blanking period to 17 ms	
	J3	dVdt1	1-2 position sets the output slew rate t0 1 mV/us	3-4
			3-4 position the sets output slew rate to 0.33 mV/us	
			5-6 position sets the output slew rate to 0.15 mV/us	
	J4	ILM1	1-2 position sets the current limit to 0.86 A	7-8
			3-4 position sets the current limit to 1.73 A	
			5-6 position sets the current limit to 4.55 A	
			7-8 position sets the current limit to 7.63 A	
	J7	VCC Connection	1-2 position connects external voltage, VCC_EXT1 as reference for PG1	2-3
			2-3 position connects on-board generated voltage, VCC as reference for PG1	
	J6	PGTH1	1-2 position monitors the output voltage	2-3
			2-3 position monitors the input supply	

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Table 4-3. Jumper Descriptions and Default Positions (continued)

Channel	Jumper	Label	Description	Default Jumper Position
CH2	J13	VCC Connection	1-2 position connects external voltage, VCC_EXT2 as pullup for digital signals of U2	2-3
			2-3 position connects on-board generated voltage, VCC as reference for digital signals of U2	
	J11	dVdt2	1-2 position sets the output slew rate to 1 mV/us	2-3
			3-4 position sets the output slew rate to 0.33 mV/us	
			5-6 position sets the output slew rate to 0.15 mV/us	
	J12	ILM2	1-2 position sets the current limit to 0.86 A	7-8
			3-4 position sets the current limit to 1.73 A	
			5-6 position sets the current limit to 4.55 A	
			7-8 position sets the current limit to 7.63 A	
	J10	ITIMER2	1-2 position sets the transient current blanking period to 170 us	3-4
			3-4 position sets the transient current blanking period to 1.7 ms	
			5-6 position sets the transient current blanking period to 17 ms	
CH3	J19	VCC Connection	1-2 position connects external voltage, VCC_EXT3 as reference for PG3	2-3
			2-3 position connects on board generated voltage, VCC as reference for PG3	
	J16	ITIMER3	1-2 position sets the transient current blanking period to 170 us	3-4
			3-4 position sets the transient current blanking period to 1.7 ms	
			5-6 position sets the transient current blanking period to 17 ms	
	J18	ILM3	1-2 position sets the current limit to 0.86 A	7-8
			3-4 position sets the current limit to 1.73 A	
			5-6 position sets the current limit to 4.55 A	
			7-8 Position sets the current limit to 7.63 A	
	J17	dVdt3	1-2 position sets the output slew rate to 1 mV/us	3-4
			3-4 position sets the output slew rate to 0.33 mV/us	
			5-6 position sets the output slew rate to 0.15 mV/us	
	J21	PGTH3	1-2 position monitors the output voltage	2-3
			2-3 position monitors the input supply	

Table 4-4. LED Descriptions

LED	Description
D3	When ON, indicates that PG is asserted for Channel-1
D13	When ON, indicates that FLTb is asserted for Channel-2
D7	When ON, indicates that PG is asserted for Channel-3

4.2 Test Equipment and Setup

4.2.1 Power Supplies

One adjustable power supply with 0-V to 30-V output and 0-A to 10-A output current limit.

4.2.2 Meters

One DMM minimum needed.

4.2.3 Oscilloscope

A DPO2024 or equivalent, three 10x voltage probes, and a DC current probe.

4.2.4 Loads

One resistive load or equivalent that can tolerate up to 10-A DC load at 24 V and capable of the output short.

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5 Test Setup and Procedures

In this user's guide, the test procedure is described for TPS25972A, TPS25974L, and TPS25970A devices. Following similar test steps, all other variants from TPS2597xx family can also be evaluated.

Make sure the evaluation board has default jumper settings as shown in Table 5-1.

Table 5-1. Default Jumper Setting for TPS2597EVM eFuse Evaluation Board

J3	J4	J5	J2	J6	J7	J10	J13	J11	J12	J18	J17	J16	J19	J21
3-4	7-8	3-4	3-4	2-3	2-3	3-4	2-3	3-4	7-8	7-8	3-4	3-4	2-3	2-3

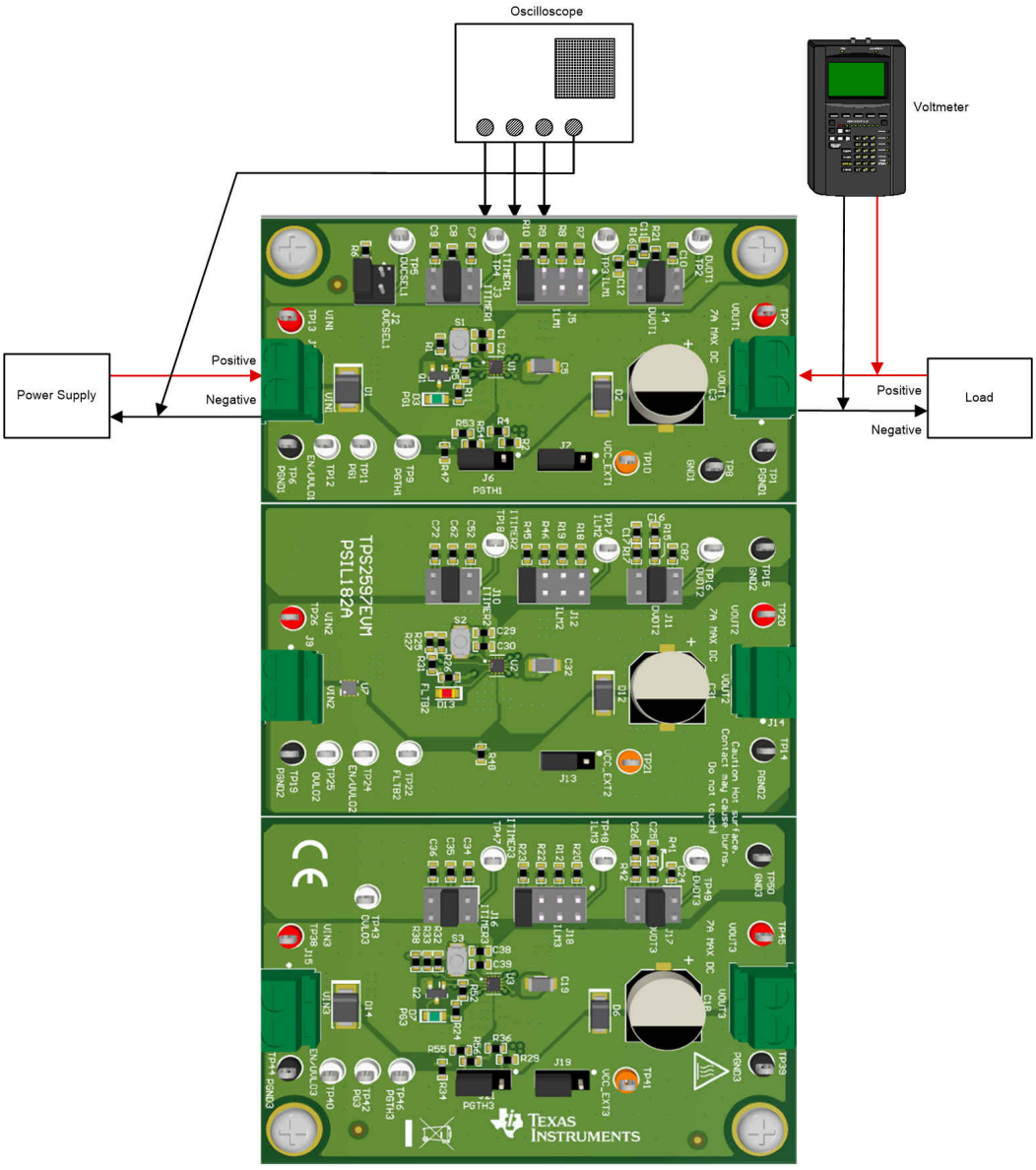


Figure 5-1. TPS2597EVM Setup With Test Equipment

Follow these instructions before starting any test and repeat again before moving to the next test:

- Set the power supply output (VIN) to zero volts.
- Turn ON the power supply and set the power supply output (VIN) to 12 V, current limit = 10 A.
- Turn OFF the power supply.
- Set the jumper setting on EVM to default position as shown in Table 5-1.

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5.1 Hot-Plug Test

Use the following instructions to measure the inrush current during the Hot-Plug event on channel 1:

1. Set Jumper J3 position to desired slew rate as mentioned in Table 4-3.
2. Set the input supply voltage VIN to 12 V and current limit of 10 A. Enable the power supply.
3. Hot-plug the supply between VIN1 and PGND1 points of connector J1.
4. Observe the waveform at VOUT1 (TP7) and input current with an oscilloscope to measure the slew rate and rise time of the eFuse with a given input voltage of 12 V.

Figure 5-2 shows an example of inrush current captured on the TPS2597EVM eFuse evaluation board.

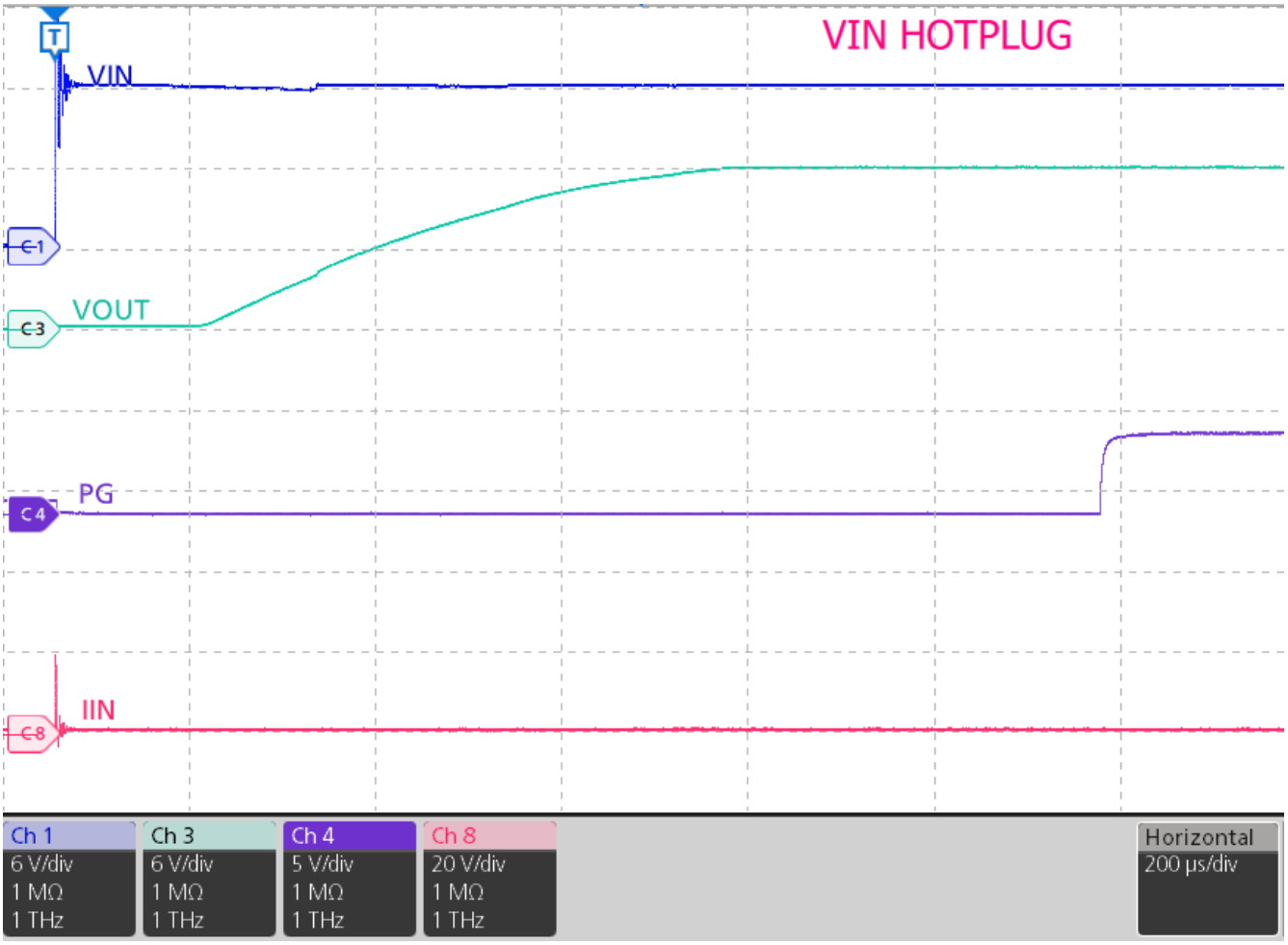


Figure 5-2. TPS2597xx Output Rise Profile (VIN = 12 V, Cout = 10 uF, CdVdT = OPEN, R_{ILM} = 750 Ω, No Load)

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5.2 Overcurrent Test

Use the following instructions to perform the overcurrent test on the circuit breaker variant (TPS25974x) of TPS2597xx eFuse:

1. Place jumper J16 to the appropriate position to obtain required blanking period as per Table 4-3.
2. Set the input supply voltage VIN to 12 V and current limit of 10 A and enable the power supply.
3. Place jumper J18 in s suitable position to set the required current limit as per Table 4-3.
4. Apply an overload greater than the set current limit between VOUT and GND (while testing the current limit variant of TPS2597xx, use a resistive load to apply overcurrent). CC load is not recommended for the current limit test.
5. The device allows the overload current for the programmed ITIMER period and then switches OFF.

Figure 5-3 shows an example of the circuit breaker test on the TPS2597EVM.

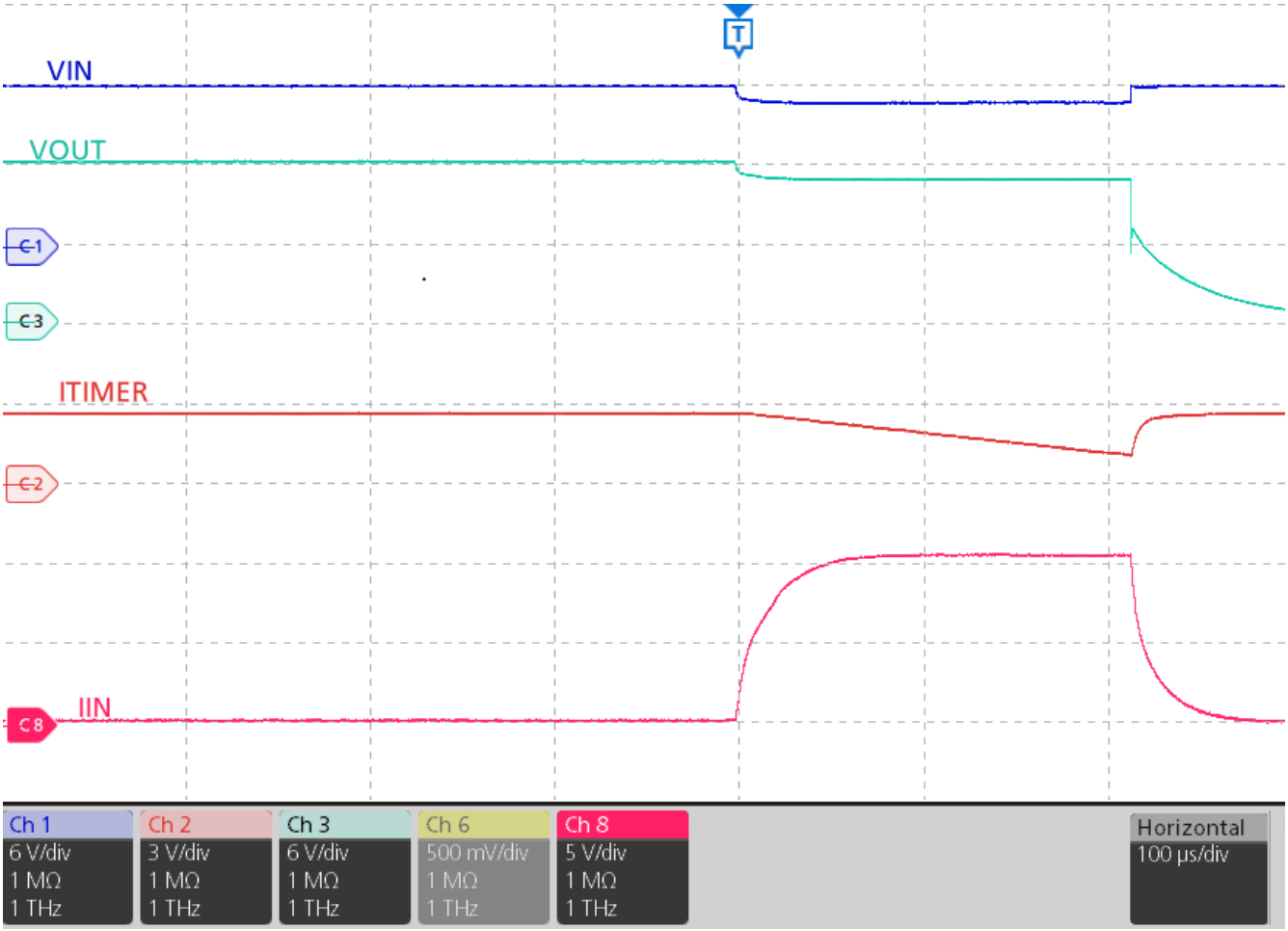


Figure 5-3. Overcurrent Response of TPS25974x for 8-A Current Limit Setting

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5.3 Output Hot-Short Test

Use the following instructions to perform the output Hot-Short test:

1. Set the input supply voltage VIN to 12 V and current limit of 10 A. Turn ON the power supply.
2. Short the output of the device. For example, VOUT to GND with a shorter cable.
3. Observe the waveforms using an oscilloscope.

Figure 5-4 shows test waveform of output hot-short on the TPS2597EVM eFuse evaluation board.

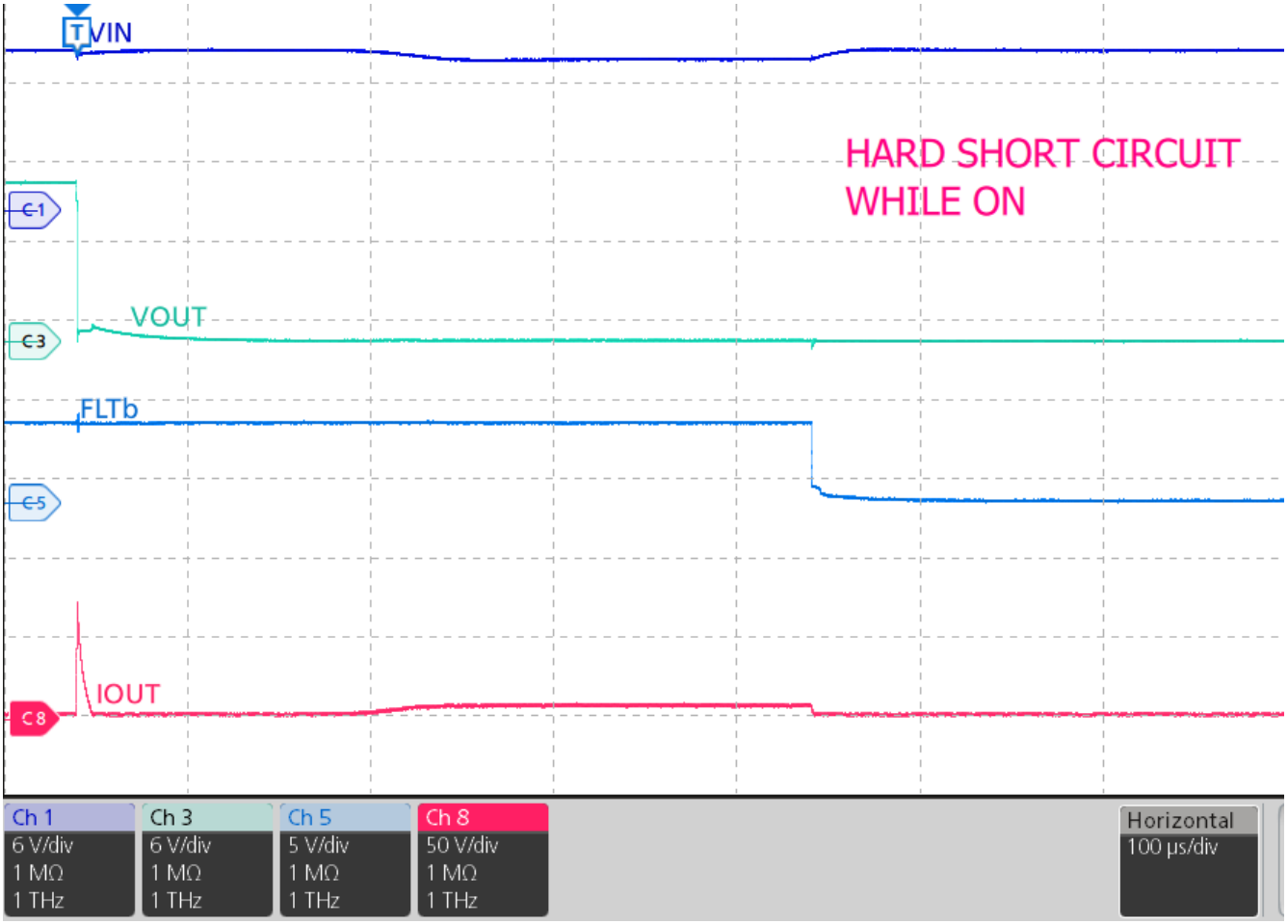


Figure 5-4. Output Hot-Short Response of TPS2597xx Device at Vin = 12 V, Cout = Open, R_{ILM} = 750 Ω

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5.4 Wakeup into Short Test

Use the following instructions to perform the wakeup into short test:

1. Set the input supply voltage VIN to 12 V and current limit of 10 A. Turn OFF the power supply.
2. Short the output of the device for example, VOUT to GND with a shorter cable.
3. Turn ON the power supply.

Figure 5-5 shows test waveform of wakeup into output short on the TPS2597EVM eFuse evaluation board.

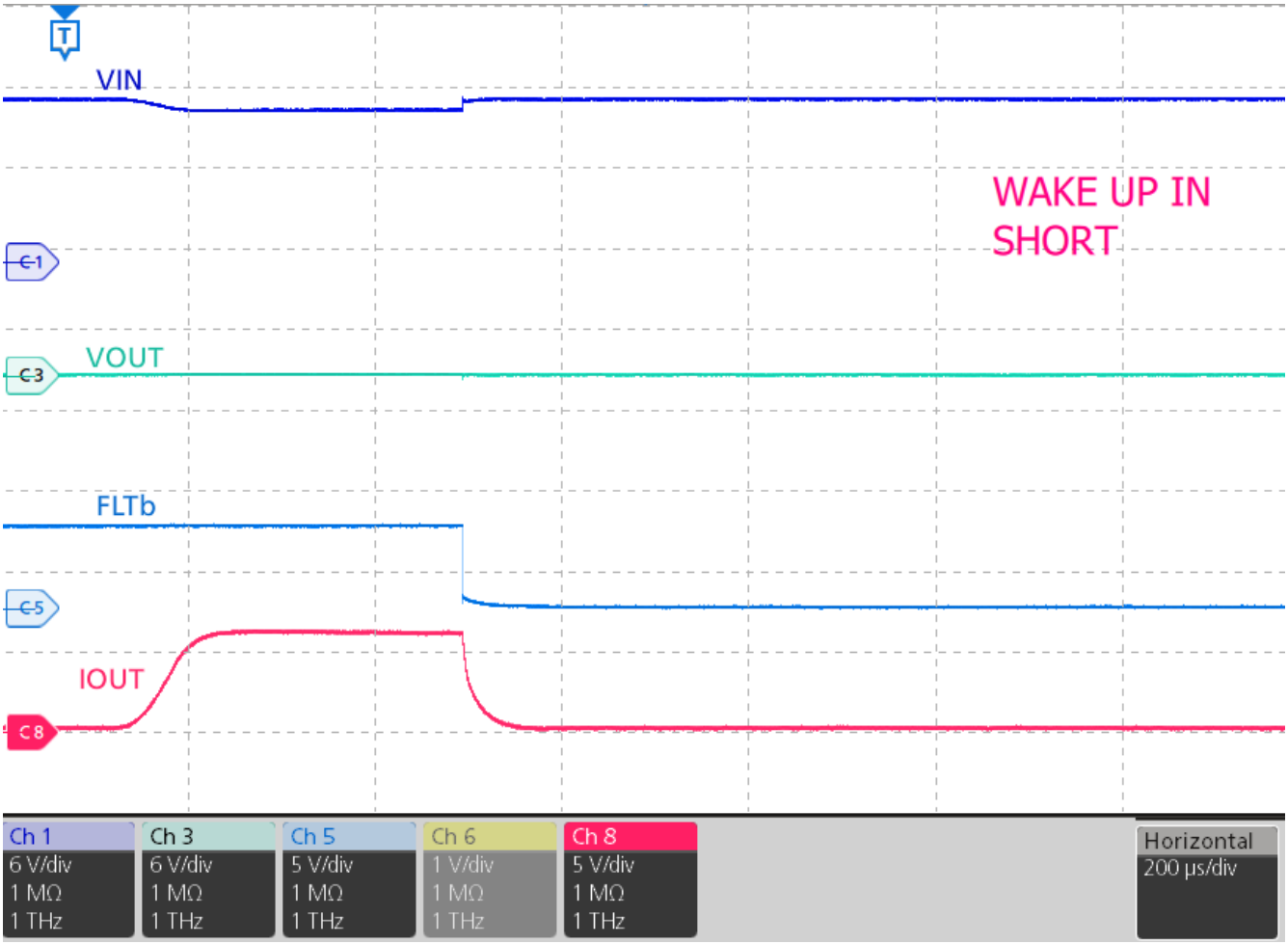


Figure 5-5. Test Waveform of Wakeup into Output Short for TPS2597xx Device at Vin = 12 V, Cout = Open, R_{ILM} = 750 Ω

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5.5 Overvoltage Clamp Test

Use the following instructions to perform the overvoltage protection test on channel 1:

1. Remove input TVS diodes.
2. Set the input supply voltage VIN to 12 V and current limit of 10 A. Apply the supply between VIN1 and PGND1 at connector J1 and enable the power supply.
3. Increase the input supply VIN from 12 V to 16 V and observe the waveforms using an oscilloscope.

Figure 5-6 shows overvoltage response of TPS25972x on the TPS2597EVM eFuse evaluation board.

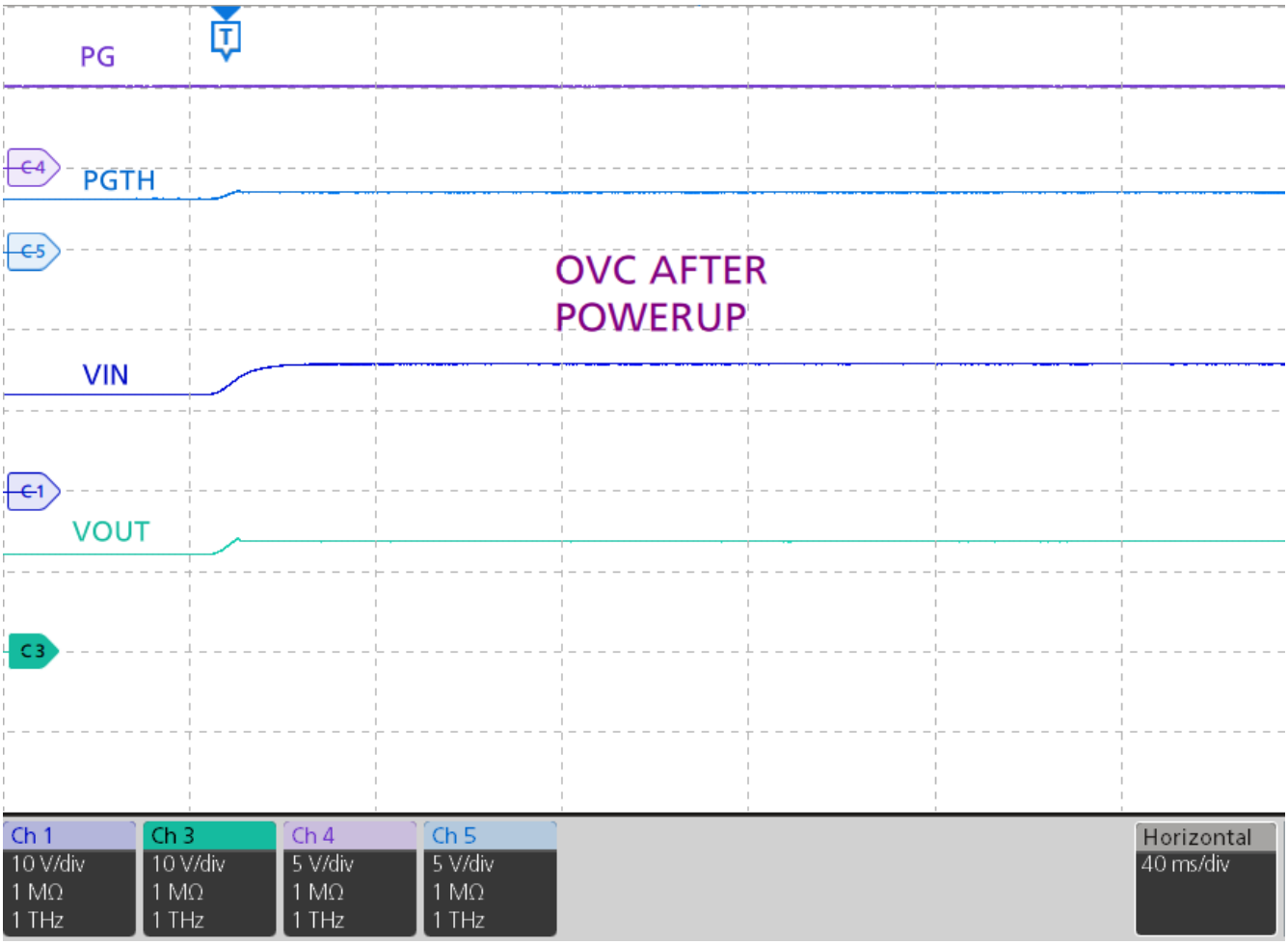


Figure 5-6. Overvoltage Protection Response of the TPS25972x Device

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6 EVAL Board Assembly Drawings and Layout Guidelines

6.1 PCB Drawings

Figure 6-1 shows component placement of the EVAL Board. Figure 6-2 shows PCB layout images.

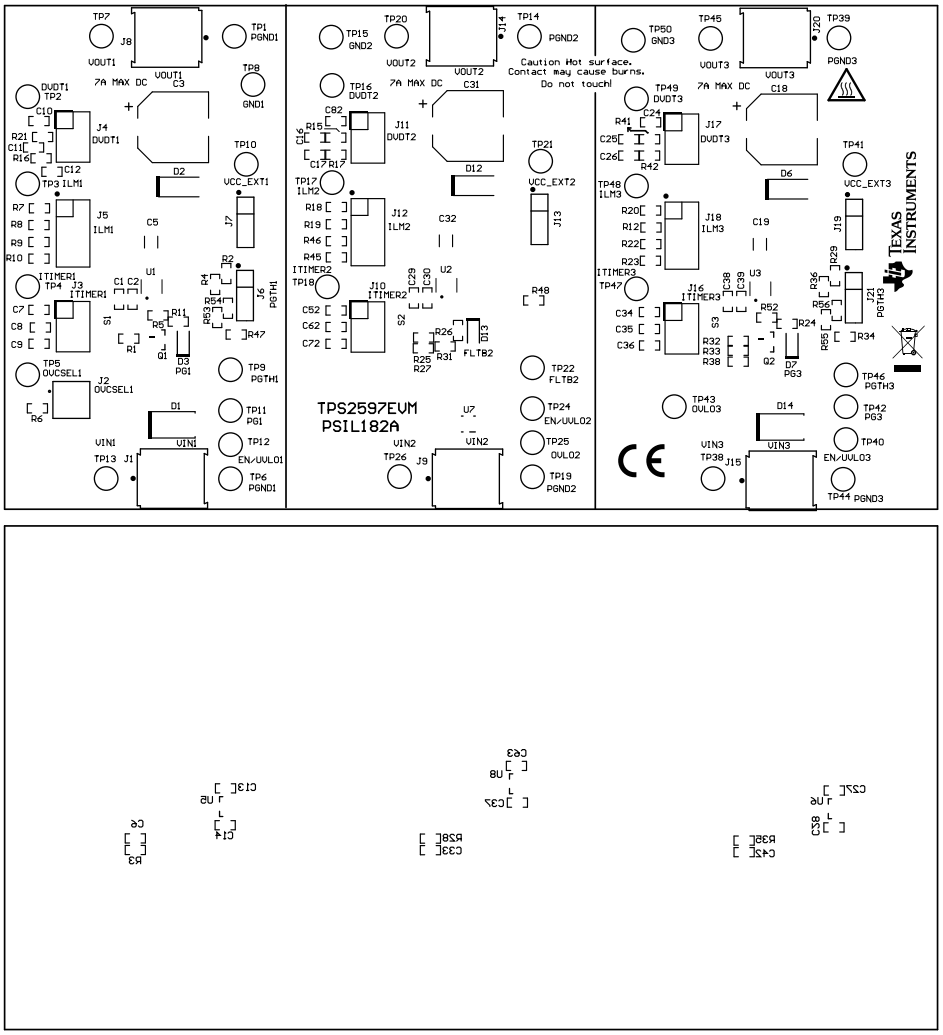
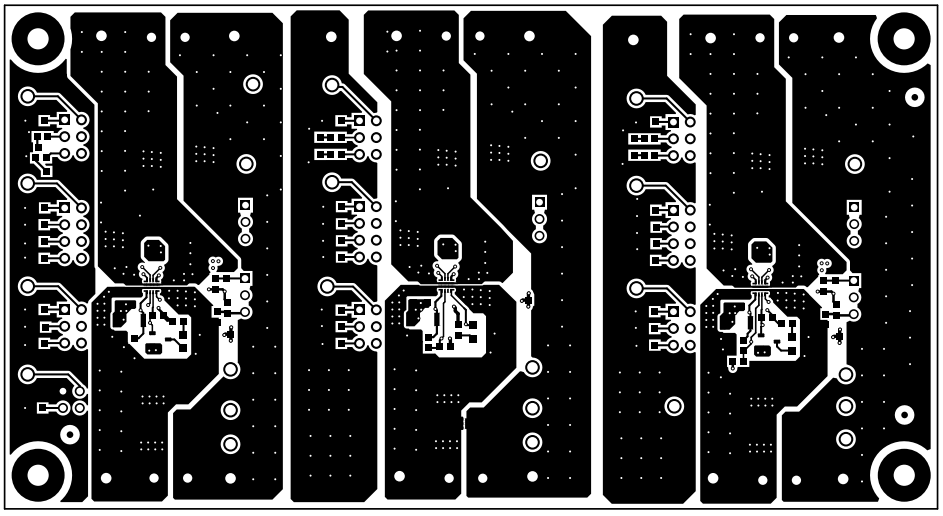


Figure 6-1. TPS2597EVM Board (a) Top Assembly (b) Bottom Assembly



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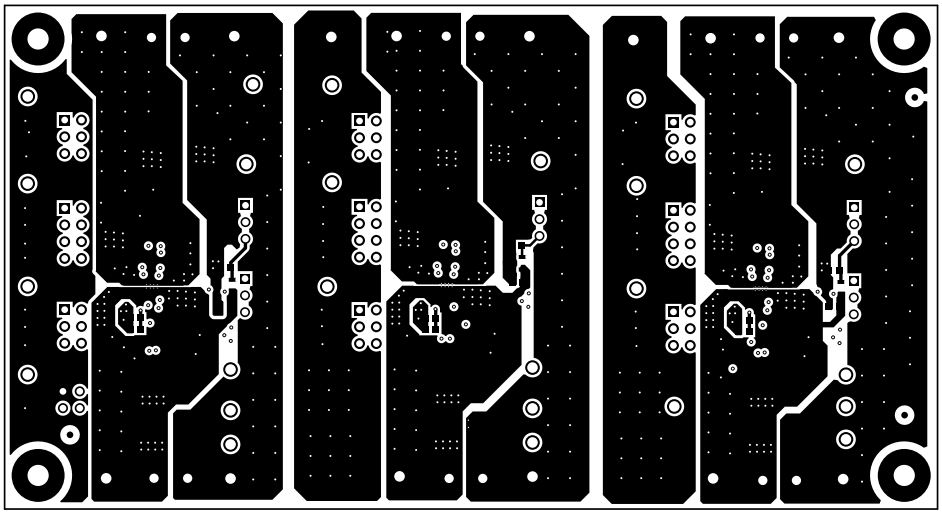


Figure 6-2. TPS2597EVM Board (a) Top Layer (b) Bottom Layer

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7 Bill Of Materials (BoM)

Table 7-1 lists the EVM BoM.

Table 7-1. Bill of Materials

Designator	Quantity	Value	Description	Package Reference	Part Number	Manufacturer	Alternate Manufacturer(1)
!PCB	1		Printed Circuit Board		PSIL182	Any	
C1, C29, C38	3	1 uF	CAP, CERM, 1 uF, 35 V, +/- 10%, X7R, 0603	0603	C1608X7R1V105K080AC	TDK	
C2, C30, C39	3	0.1 uF	CAP, CERM, 0.1 uF, 50 V, +/- 10%, X7R, 0603	0603	C1608X7R1H104K080AA	TDK	
C3, C18, C31	3	220 uF	CAP, AL, 220 uF, 35 V, +/- 20%, 0.15 ohm, SMD	SMT Radial G	EEE-FC1V221P	Panasonic	
C5, C19, C32	3	10 uF	CAP, CERM, 10 µF, 50 V,+/- 10%, X7R, AEC-Q200 Grade 1, 1206	1206	CGA5L1X7R1H106K160AC	TDK	
C6, C33, C42	3	100 pF	CAP, CERM, 100 pF, 50 V, +/- 5%, C0G/NP0, 0603	0603	885012006057	Wurth Elektronik	
C7, C34, C52	3	220 pF	CAP, CERM, 220 pF, 50 V, +/- 10%, X7R, 0603	0603	C0603C221K5RACTU	Kemet	
C8, C35, C62	3	2200 pF	CAP, CERM, 2200 pF, 50 V, +/- 10%, X7R, 0603	0603	C0603C222K5RAC	Kemet	
C9, C12, C17, C26, C36, C72	6	0.022 uF	CAP, CERM, 0.022 uF, 50 V, +/- 10%, X7R, 0603	0603	C0603X223K5RACTU	Kemet	
C10, C24, C82	3	3300 pF	CAP, CERM, 3300 pF, 50 V, +/- 10%, X7R, 0603	0603	C0603X332K5RACTU	Kemet	
C11, C16, C25	3	0.01 uF	CAP, CERM, 0.01 uF, 50 V, +/- 5%, C0G/NP0, 0603	0603	GRM1885C1H103JA01D	MuRata	
C13, C14, C27, C28, C37, C63	6	0.1 uF	CAP, CERM, 0.1 uF, 50 V, +/- 10%, X7R, 0603	0603	06035C104KAT2A	AVX	
D1, D14	2	16 V	Diode, TVS, Uni, 16 V, 26 Vc, SMB	SMB	SMBJ16A-13-F	Diodes Inc.	
D2, D6, D12	3	30 V	Diode, Schottky, 30 V, 3 A, SMA	SMA	B330A-13-F	Diodes Inc.	
D3	1	PG1	LED, Green, SMD	LED_0805	LTST-C170KGKT	Lite-On	
D7	1	PG3	LED, Green, SMD	LED_0805	LTST-C170KGKT	Lite-On	
D13	1	FLTb2	LED, Red, SMD	Red 0805 LED	LTST-C170KRKT	Lite-On	
FID1, FID2, FID3, FID4, FID5, FID6	6		Fiducial mark. There is nothing to buy or mount.	N/A	N/A	N/A	
H1, H2, H3, H4	4		Machine Screw, Round, #4-40 x 1/4, Nylon, Philips panhead	Screw	NY PMS 440 0025 PH	B&F Fastener Supply	
H5, H6, H7, H8	4		Standoff, Hex, 0.5"L #4-40 Nylon	Standoff	1902C	Keystone	
J1, J8, J9, J14, J15, J20	6		Terminal Block, 2x1, 5.08mm, TH	10.16x15.2x9mm	282841-2	TE Connectivity	

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Table 7-1. Bill of Materials (continued)

Designator	Quantity	Value	Description	Package Reference	Part Number	Manufacturer	Alternate Manufacturer(1)
J2	1		Header, 100mil, 2x2, Tin, TH	Header, 2x2, 2.54mm, TH	PEC02DAAN	Sullins Connector Solutions	
J3, J4, J10, J11, J16, J17	6		Header, 100mil, 3x2, Tin, TH	3x2 Header	PEC03DAAN	Sullins Connector Solutions	
J5, J12, J18	3		Header, 100mil, 4x2, Tin, TH	Header, 4x2, 100mil, Tin	PEC04DAAN	Sullins Connector Solutions	
J6, J7, J13, J19, J21	5		Header, 100mil, 3x1, Tin, TH	Header, 3 PIN, 100mil, Tin	PEC03SAAN	Sullins Connector Solutions	
Q1, Q2	2	60 V	MOSFET, N-CH, 60 V, 115 A, SOT-23	SOT-23	2N7002	Fairchild Semiconductor	
R1, R2, R25, R27, R29, R53, R55	7	1.00 Meg	RES, 1.00 M, 1%, 0.1 W, 0603	0603	RC0603FR-071ML	Yageo, Yageo America	
R3, R4, R28, R36, R54, R56	6	124 k	RES, 124 k, 1%, 0.1 W, AEC-Q200 Grade 0, 0603	0603	CRCW0603124KFKEA	Vishay-Dale	
R5, R52	2	10.0 k	RES, 10.0 k, 0.1%, 0.1 W, 0603	0603	RG1608P-103-B-T5	Susumu Co Ltd	
R6	1	392 k	RES, 392 k, 1%, 0.1 W, 0603	0603	RC0603FR-07392KL	Yageo	
R7, R18, R20	3	6.65 k	RES, 6.65 k, 1%, 0.1 W, 0603	0603	RC0603FR-076K65L	Yageo	
R8, R12, R19	3	3.32 k	RES, 3.32 k, 1%, 0.1 W, 0603	0603	RC0603FR-073K32L	Yageo	
R9, R22, R46	3	1.27 k	RES, 1.27 k, 1%, 0.1 W, 0603	0603	RC0603FR-071K27L	Yageo	
R10, R23, R45	3	750	RES, 750, 1%, 0.1 W, 0603	0603	RC0603FR-07750RL	Yageo	
R11, R24, R26	3	1.00 k	RES, 1.00 k, 1%, 0.1 W, 0603	0603	RC0603FR-071KL	Yageo	
R15, R16, R17, R21, R41, R42	6	100	RES, 100, 1%, 0.1 W, 0603	0603	RC0603FR-07100RL	Yageo	
R31	1	57.6 k	RES, 57.6 k, 1%, 0.1 W, 0603	0603	RC0603FR-0757K6L	Yageo	
R32, R33	2	2.00 Meg	RES, 2.00 M, 1%, 0.1 W, 0603	0603	RC0603FR-072ML	Yageo	
R34, R47, R48	3	0	RES, 0, 5%, 0.1 W, 0603	0603	ERJ-3GEY0R00V	Panasonic	
R35	1	249 k	RES, 249 k, 1%, 0.1 W, 0603	0603	RC0603FR-07249KL	Yageo	
R38	1	158 k	RES, 158 k, 1%, 0.1 W, 0603	0603	RC0603FR-07158KL	Yageo	
S1, S2, S3	3		Switch, SPST-NO, 0.05 A, 12 VDC, SMT	3.9x2.9mm	SKRKAEE020	Alps	
SH-J1, SH-J2, SH-J3, SH-J4, SH-J5, SH-J6, SH-J7, SH-J8, SH-J9, SH-J10, SH-J11, SH-J12, SH-J13, SH-J14, SH-J15	15	1x2	Shunt, 100mil, Flash Gold, Black	Closed Top 100mil Shunt	SPC02SYAN	Sullins Connector Solutions	

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Table 7-1. Bill of Materials (continued)

Designator	Quantity	Value	Description	Package Reference	Part Number	Manufacturer	Alternate Manufacturer(1)
TP1, TP6, TP8, TP14, TP15, TP19, TP39, TP44, TP50	9		Test Point, Multipurpose, Black, TH	Black Multipurpose Testpoint	5011	Keystone	
TP2, TP3, TP4, TP5, TP9, TP11, TP12, TP16, TP17, TP18, TP22, TP24, TP25, TP40, TP42, TP43, TP46, TP47, TP48, TP49	20		Test Point, Multipurpose, White, TH	White Multipurpose Testpoint	5012	Keystone	
TP7, TP13, TP20, TP26, TP38, TP45	6		Test Point, Multipurpose, Red, TH	Red Multipurpose Testpoint	5010	Keystone	
TP10, TP21, TP41	3		Test Point, Multipurpose, Orange, TH	Orange Multipurpose Testpoint	5013	Keystone	
U1	1		2.7- 23V, 7 A, 10 mΩ eFuse with accurate current monitor and transient fault management	VQFN-HR9	TPS25972ARPWR	Texas Instruments	
U2	1		2.7- 23V, 7 A, 10 mΩ eFuse with accurate current monitor and transient fault management	VQFN-HR9	TPS25970ARPWR	Texas Instruments	
U3	1		2.7- 23V, 7 A, 10 mΩ eFuse with accurate current monitor and transient fault management	VQFN-HR9	TPS25974LRPWR	Texas Instruments	
U5, U6, U8	3		100 mA, Quasi Low-Dropout Linear Voltage Regulator, 3-pin SOT-23, Pb-Free	DBZ0003A	LM3480IM3-3.3/NOPB	Texas Instruments	
U7	1		22-V Precision Surge Protection Clamp, DRV0006A (WSON-6)	DRV0006A	TVS2200DRVR	Texas Instruments	Texas Instruments

(1) Unless otherwise noted in the Alternate Manufacturer column, all parts can be substituted with equivalents.

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8 Revision History

NOTE: Page numbers for previous revisions may differ from page numbers in the current version.

Changes from Revision * (October 2021) to Revision A (December 2021)	Page
• Changed TPS25970L to TPS25970A throughout the document	1
• Updated the current limit settings in Table 2-1	3
• Updated the output slew rate value in Table 2-1	3
• Updated the ITimer value in Table 2-1	3
• Updated Figure 3-1	4
• Updated Figure 5-1	9
• Updated Figure 6-1 and Figure 6-2	15
• Updated the *Bill of Materials*	17

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