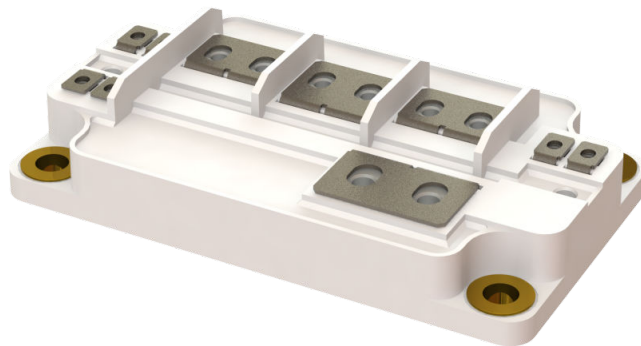


Introduction

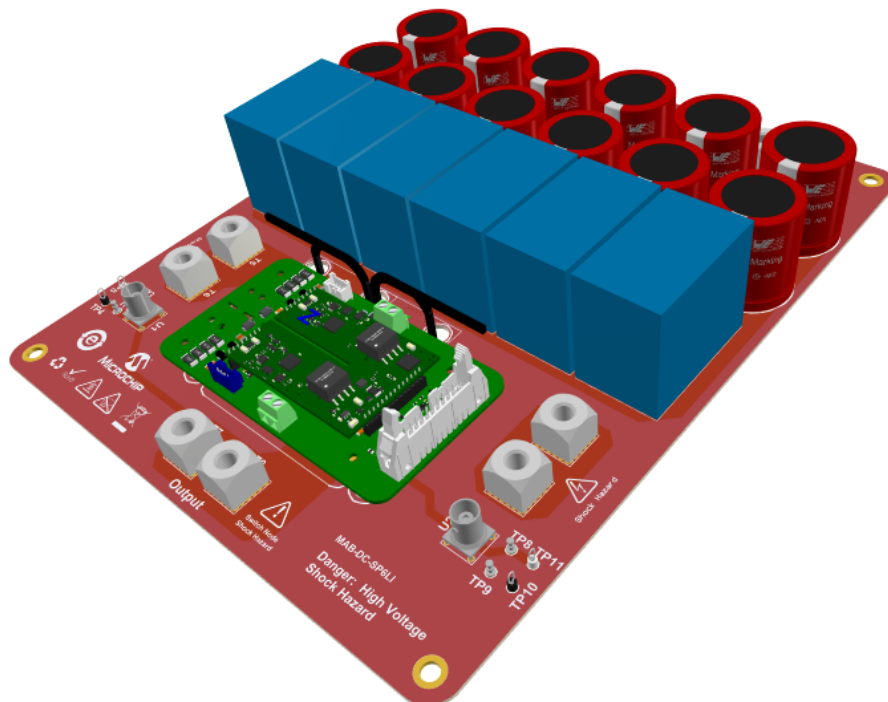
This user guide provides details on an evaluation board for Microchip mSiC MOSFET modules in the SP6LI package and mSiC gate drivers. For example, MSCSM120AM02CT6LING.

Figure 1. Microchip SP6LI SiC Power Module



The SP6LI evaluation board is designed to be a one-stop development platform for SP6LI low inductance SiC module testing with top mount digital gate driver solution.

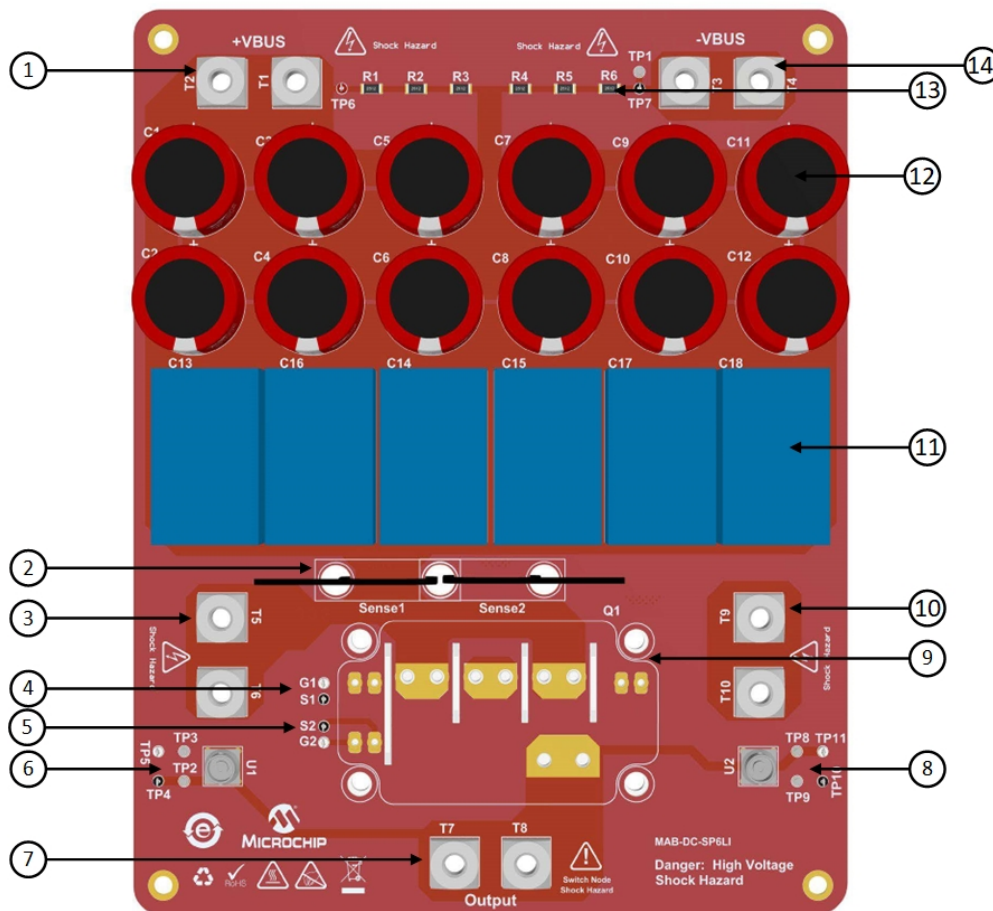
Figure 2. SP6LI Evaluation Board and Digital Gate Driver—3D Model



Features

The following figures show the key hardware features and components of the evaluation board.

Figure 3. SP6LI Evaluation Board—Top View



The following table lists the key features and hardware components available on the top of the evaluation board.

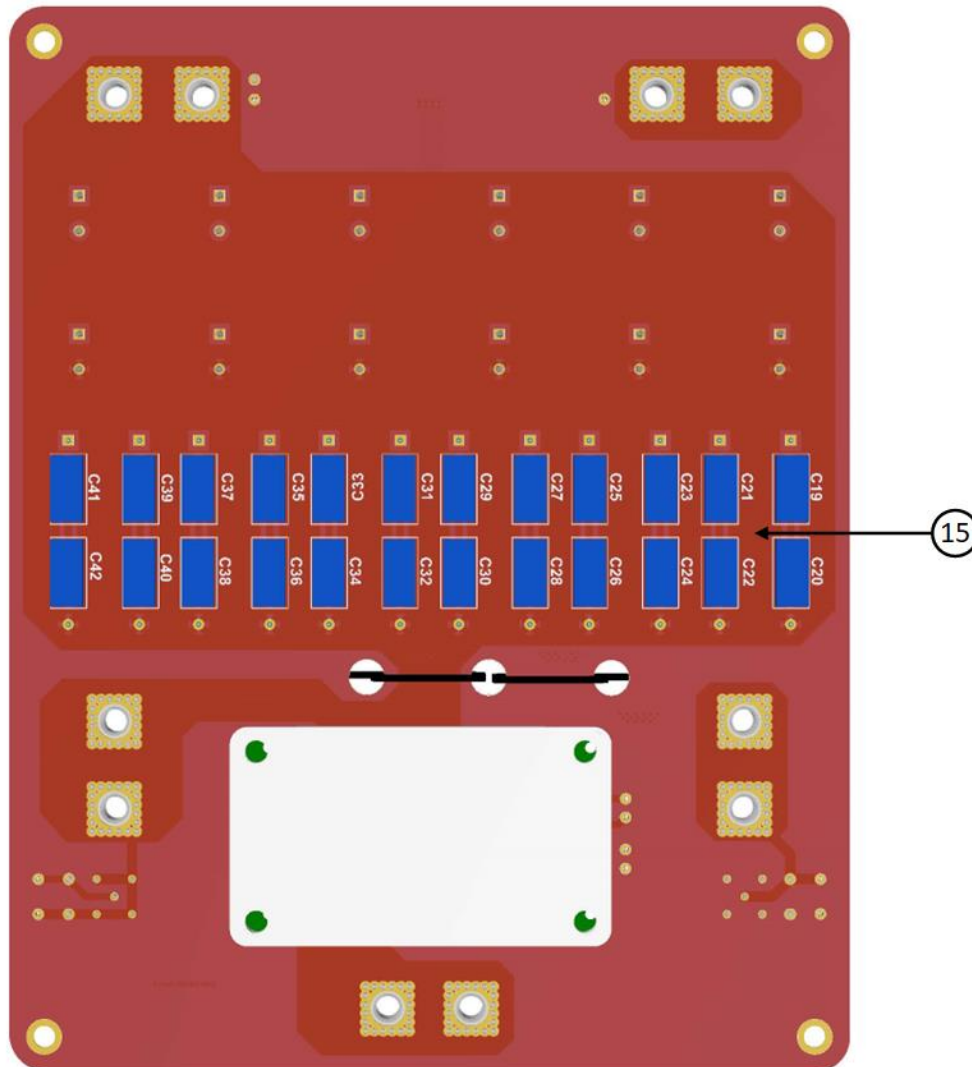
Table 1. Hardware Features and Components of the Evaluation Board—Top View

Number	Key Hardware Features and Components
1	Terminal block connector for providing +VBUS voltage up to 900 V _{DC} with respect to -VBUS
2	Rogowski coil provision for current measurement at the drain and source sides
3	Terminal block connector for connecting the inductor (load) while doing double-pulse testing for the low-side switch. This terminal is also connected to +VBUS.
4	Test point for sensing the high-side gate signal (V _{GS})
5	Test point for sensing the low-side gate signal (V _{GS})
6	Test point for measuring the V _{DS} voltage across high-side switch
7	Terminal block connector for output of module (connected device) as well as for connecting the inductor (load) while doing double-pulse testing
8	Test point for measuring the V _{DS} voltage across low-side switch
9	Placement of the SP6LI SiC module from the bottom side
10	Terminal block for connecting the inductor (load) while doing double-pulse testing for low-side switch. This terminal is also connected to -VBUS.

.....continued

Number	Key Hardware Features and Components
11	Film capacitors of 132 μF
12	Bulk capacitor of 2 mF equivalent in total
13	Bleeder resistor for capacitor discharge
14	Terminal block for connecting -VBUS

Figure 4. SP6LI Evaluation Board—Bottom View



The following table lists the key features and hardware components available on the bottom of the evaluation board.

Table 2. Hardware Features and Components of the Evaluation Board—Bottom View

Number	Key Hardware Features and Components
15	High frequency capacitors of equivalent 0.6 μF

Table of Contents

Introduction.....	1
1. Evaluation Board.....	5
1.1. Pinout.....	5
1.2. Evaluation Board Schematic.....	6
1.3. Evaluation Board PCB Layout	7
1.4. Evaluation Board Mechanical Drawing.....	13
2. Bill of Materials.....	14
3. Hardware Validation.....	15
3.1. Test Conditions.....	15
3.2. Equipment Required for Testing.....	15
3.3. Test Schematics	16
3.4. Test Setup.....	17
3.5. Test Results.....	18
4. Revision History.....	25
Microchip Information.....	26
The Microchip Website.....	26
Product Change Notification Service.....	26
Customer Support.....	26
Microchip Devices Code Protection Feature.....	26
Legal Notice.....	26
Trademarks.....	27
Quality Management System.....	28
Worldwide Sales and Service.....	29

1. Evaluation Board

This section describes the evaluation board pinout, schematics, circuit, and Printed Circuit Board (PCB) layout.

1.1 Pinout

The following tables list the pinout and electrical parameter details for the terminal block and connectors, respectively.

Table 1-1. Pinout and Electrical Parameters for Terminal Block

Designator	Function/Description	Remark
T1, T2	+VBUS	T2 Unmounted
T3, T4	-VBUS	T4 Unmounted
T5, T6	+VBUS	T6 Unmounted
T7, T8	OUTPUT	T8 Unmounted
T9, T10	-VBUS	T10 Unmounted

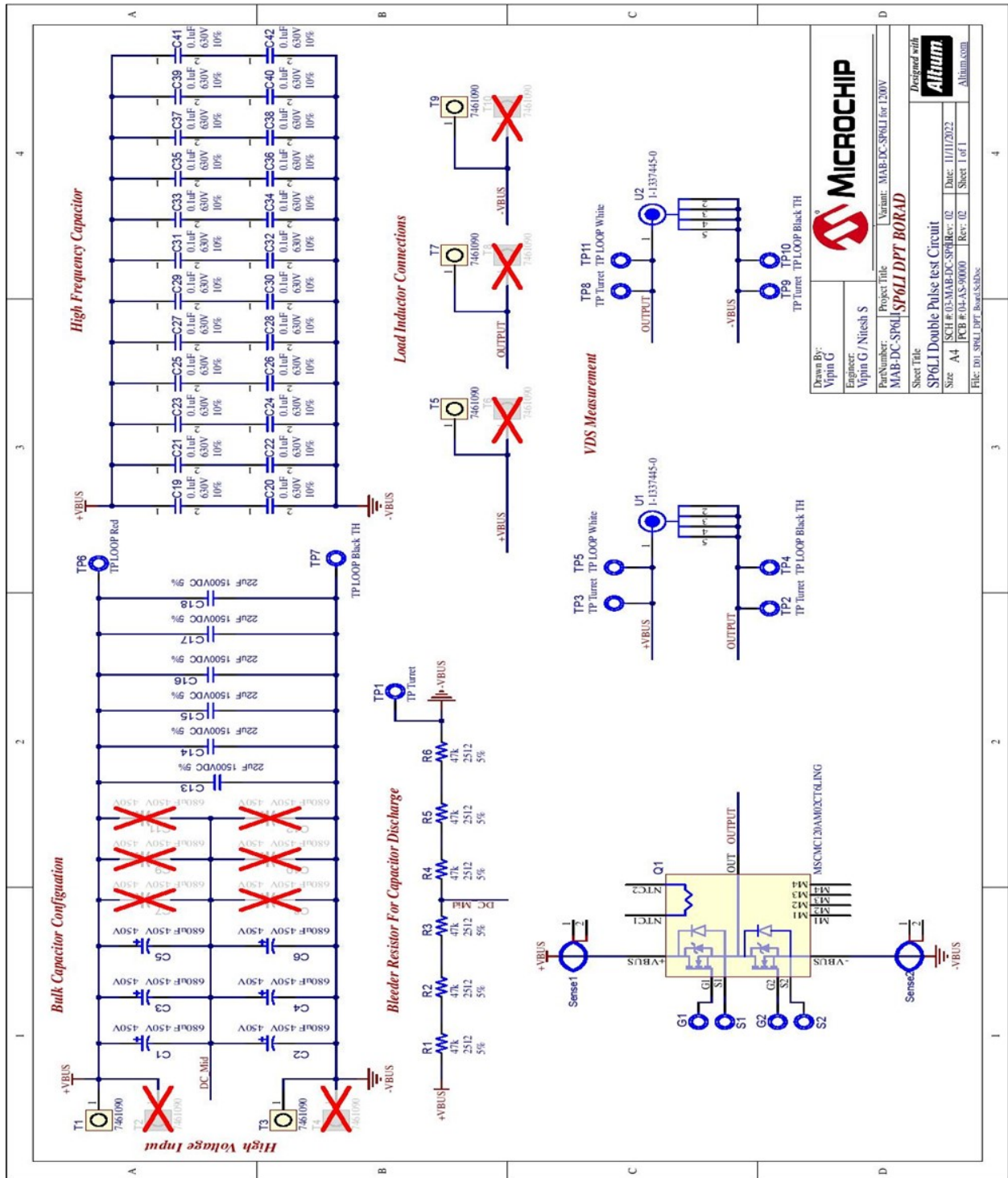
Table 1-2. Pinout and Electrical Parameters for Connectors

Designator	Pin Number	Function/Description	Remark
U1	1	+VBUS	When measuring with these connectors, use a oscilloscope with isolated channels.
	2, 3, 4, 5	OUTPUT	
U2	1	OUTPUT	
	2, 3, 4, 5	-VBUS	

1.2 Evaluation Board Schematic

The following figure shows the schematic for the SP6LI evaluation board.

Figure 1-1. SP6LI Evaluation Board Schematic



1.3 Evaluation Board PCB Layout

The SP6LI evaluation board is a four-layer FR4, 2 mm, and Plated-Through-Hole (PTH) PCB construction. The following figures show the PCB layers.

Figure 1-2. SP6LI Evaluation Board Top Overlay (Silk-Screen) Layer

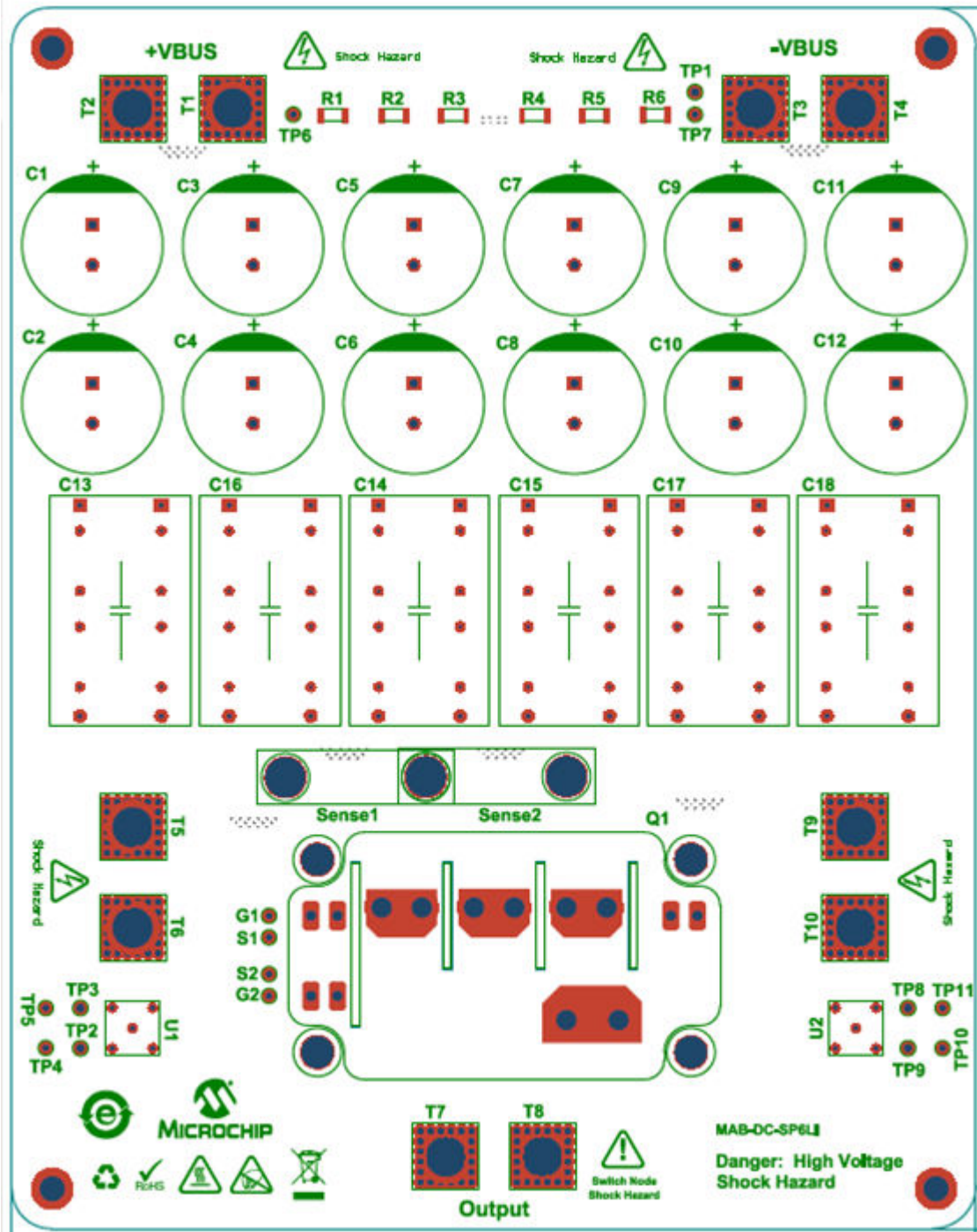


Figure 1-3. SP6LI Evaluation Board Top Layer

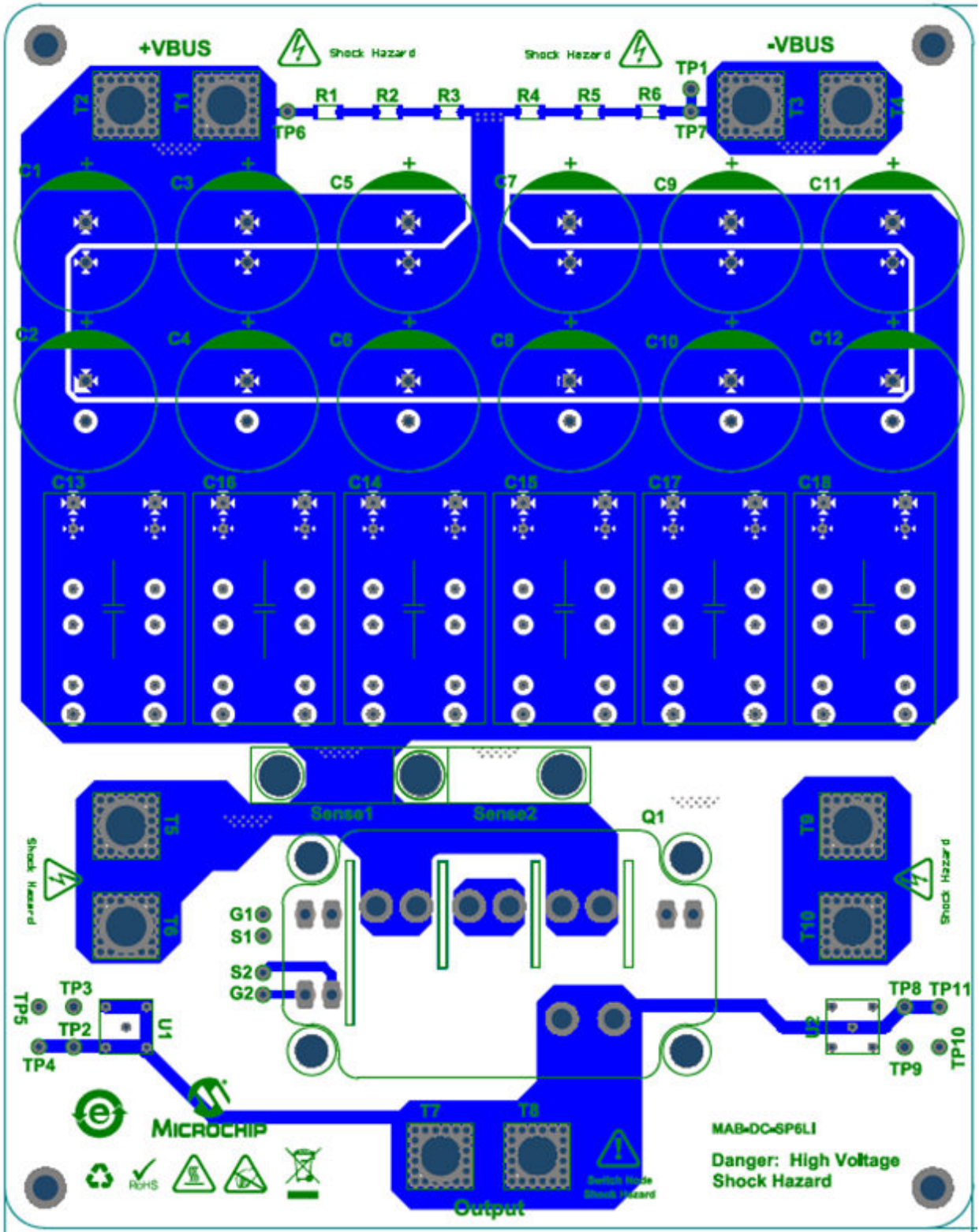


Figure 1-4. SP6LI Evaluation Board Inner Layer 1

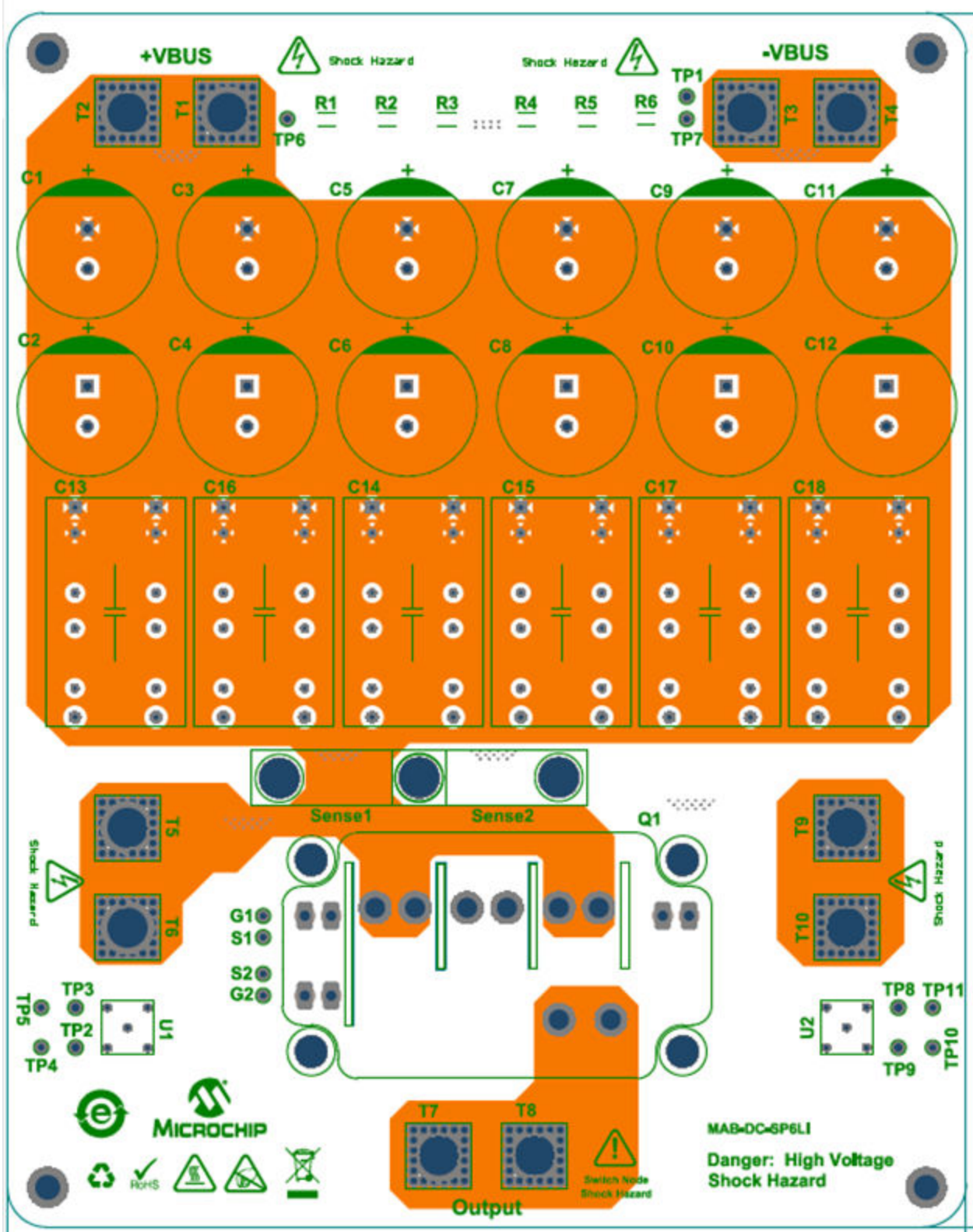


Figure 1-5. SP6LI Evaluation Board Inner Layer 2

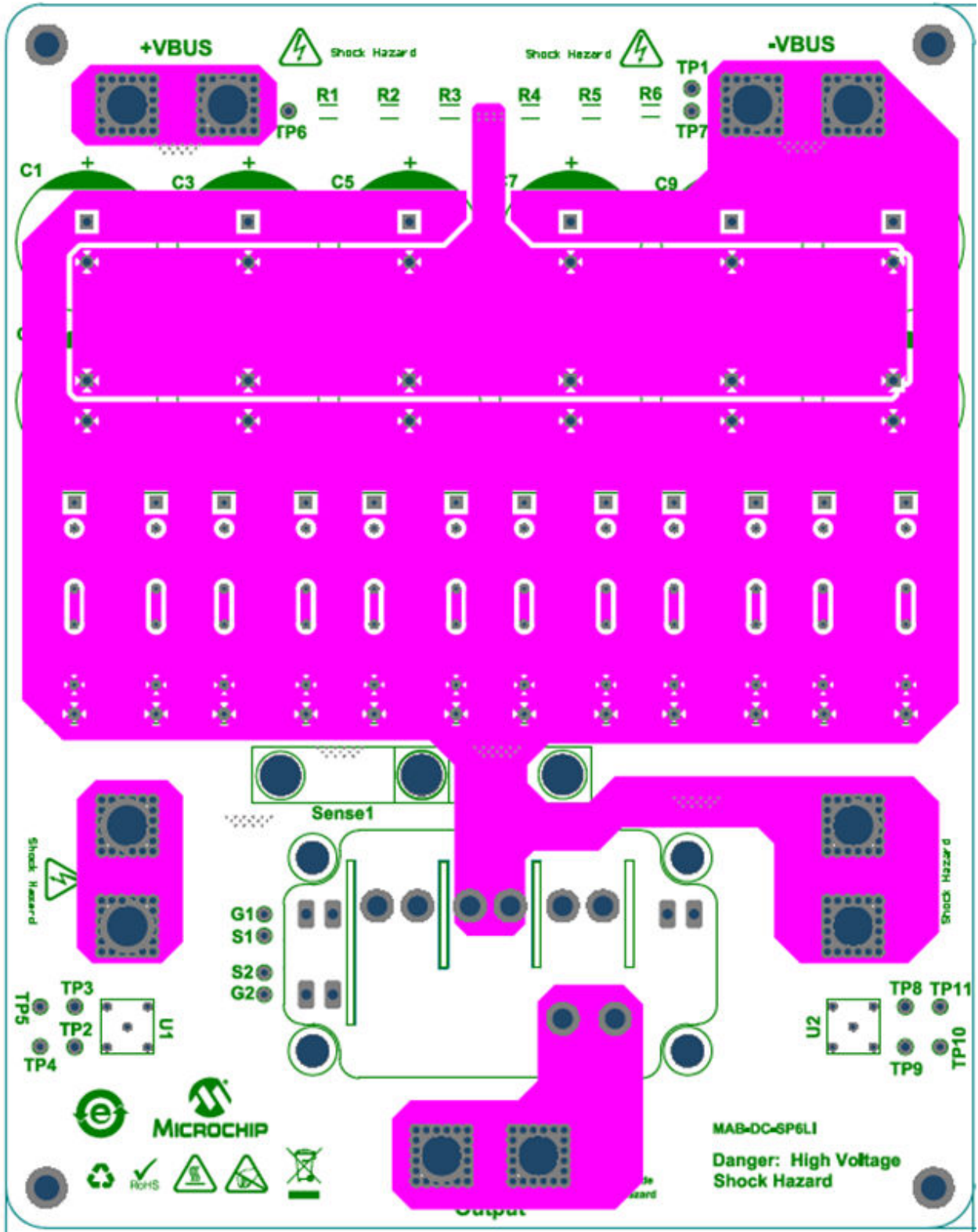


Figure 1-6. SP6LI Evaluation Board Bottom Layer

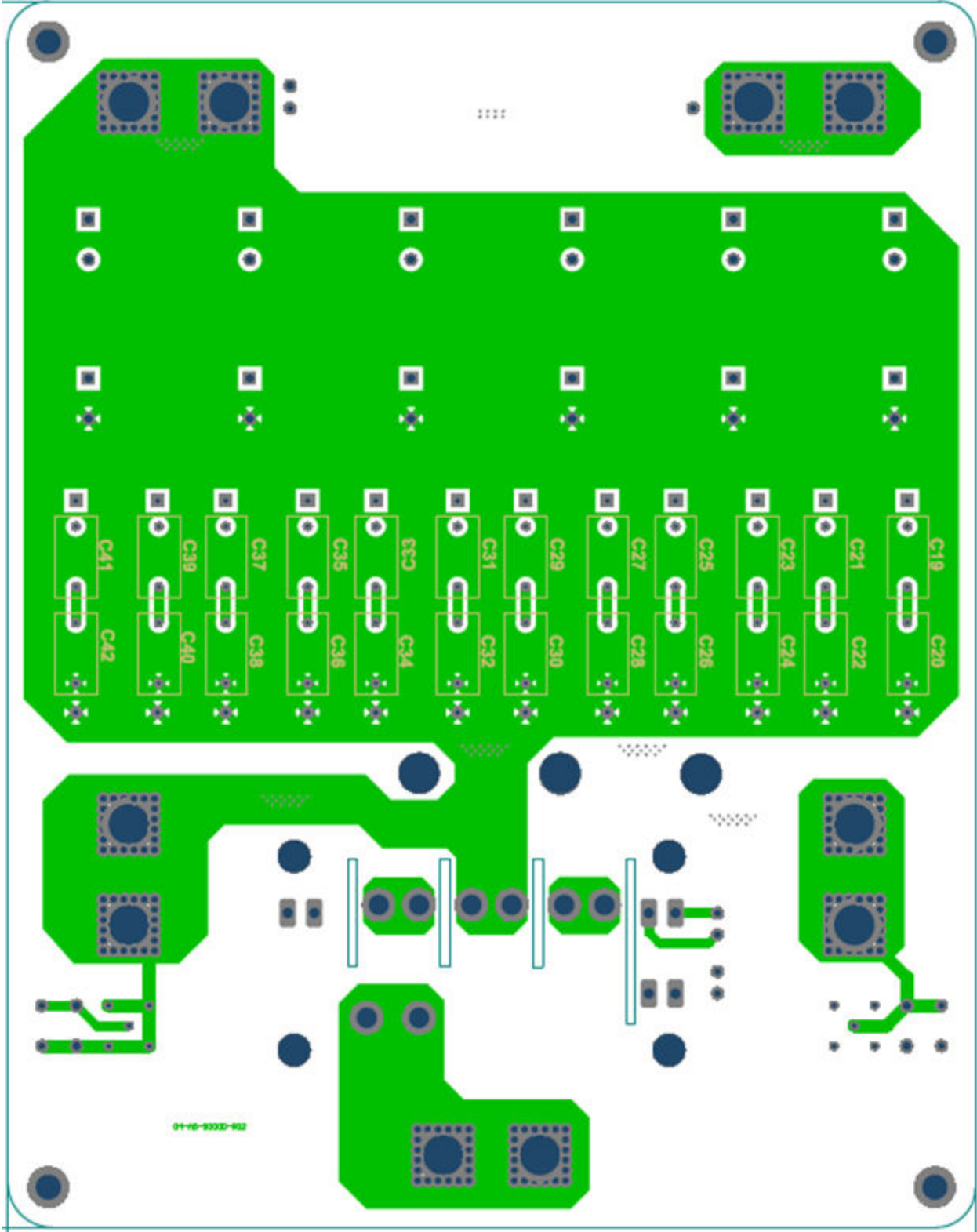
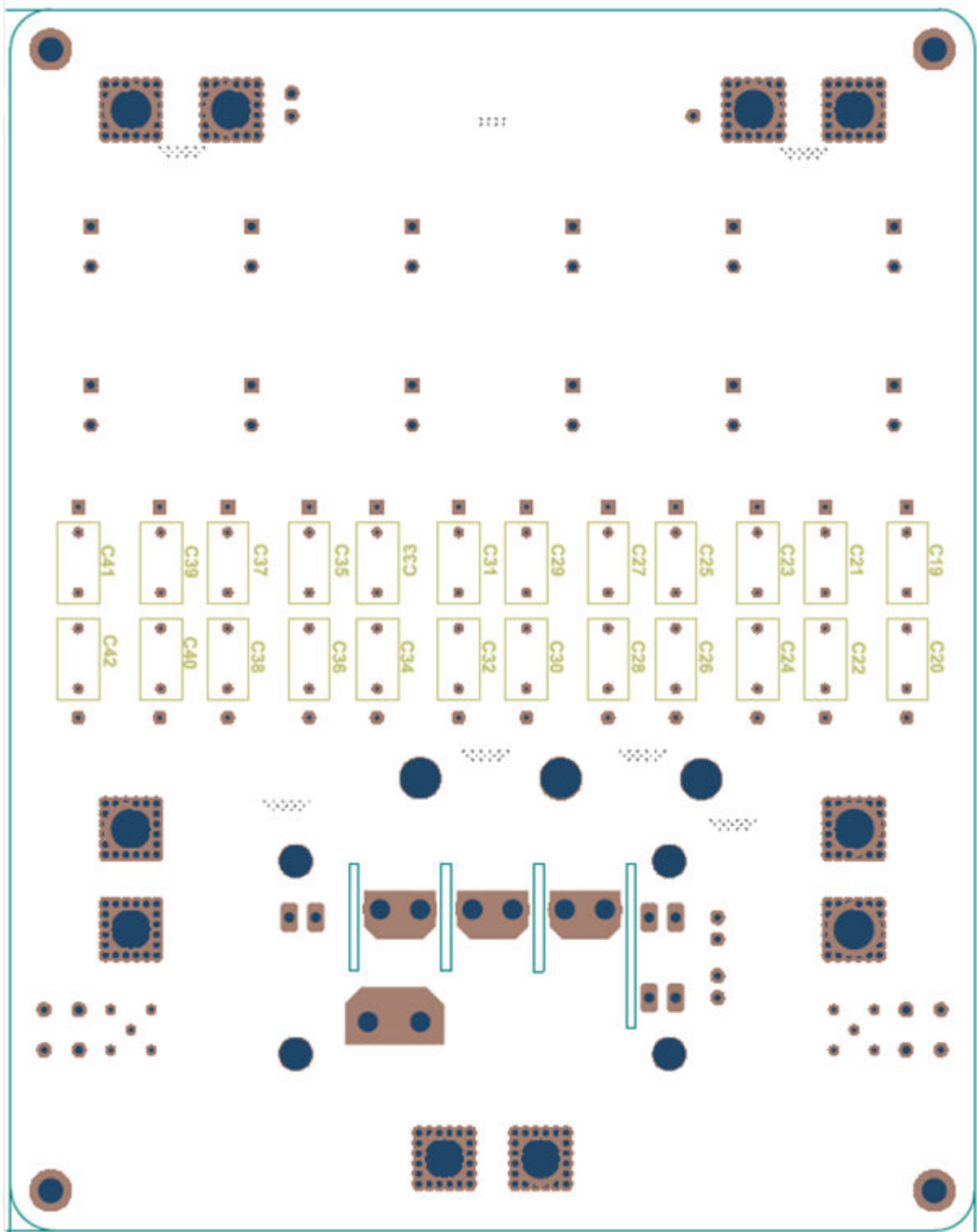


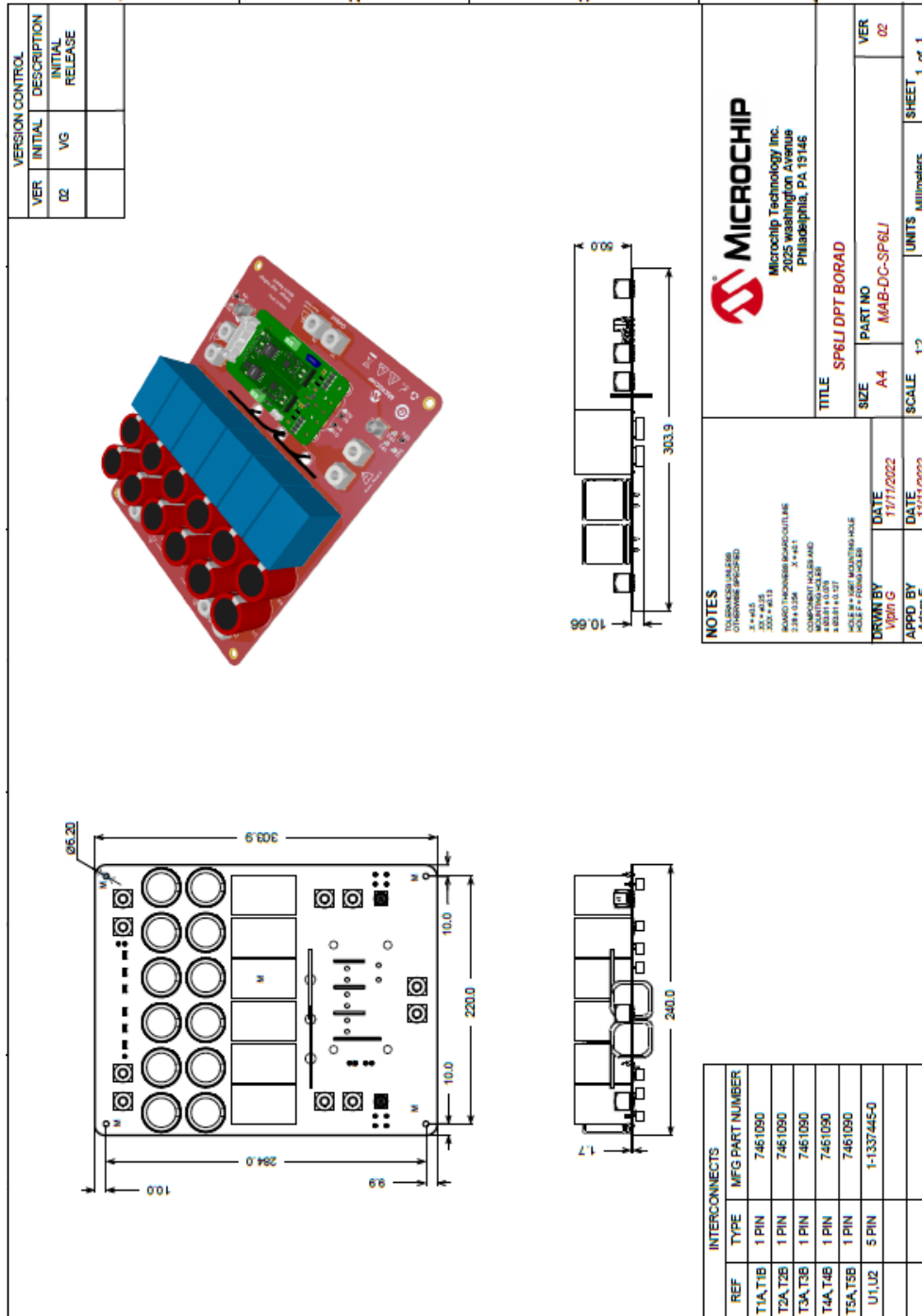
Figure 1-7. SP6LI Evaluation Board Bottom Overlay (Silk-Screen) Layer



1.4 Evaluation Board Mechanical Drawing

The following figure shows the mechanical drawing for the SP6LI evaluation board with placement and mounting of SP6CA1 (core adaptor board) with 2ASC-12A2HP (1200V dual-channel HP augmented core—ASD2).

Figure 1-8. SP6LI Evaluation Board Mechanical Drawing



2. Bill of Materials

The following table lists the bill of materials for the SP6LI evaluation board.

Table 2-1. SP6LI Evaluation Board BOM

Qty	Designator	Description	Manufacturer	Manufacturer Part Number
6	C1, C2, C3, C4, C5, C6	CAP ALUM 680 μ F 450V 20% RAD SNAP P10D35H57	TDK Electronics Inc.	B43644A5687M000
6	C13, C14, C15, C16, C17, C18	CAP FILM 22 μ F 1500V 5% RAD P52.5L57.5W35H50	KEMET	C4AQS5W5220A3NJ
24	C19, C20, C21, C22, C23, C24, C25, C26, C27, C28, C29, C30, C31, C32, C33, C34, C35, C36, C37, C38, C39, C40, C41, C42	CAP FILM 0.1 μ F 630V 10% B32672L	EPCOS/TDK	B32672L6104K000
4	G1, G2, TP5, TP11	CON TP LOOP White TH	Keystone	5012
1	Q1	SIC PHASE LEG MOSFET MODULE MSCMC120AM02CT6LING SP6	Microsemi	MSCMC120AM02CT6LING
6	R1, R2, R3, R4, R5, R6	RES TKF 47 k Ω 5% 1W SMD 2512	Panasonic Electronic Components	ERJ-1TYJ473U
5	S1, S2, TP4, TP7, TP10	CON TP LOOP Black TH	Keystone	5011
2	Sense1, Sense2	Rogowski coil provision	—	—
5	T1, T3, T5, T7, T9	CON TERMINAL Female REDCUBE M8 20 pin Press Fit Brass TH Vert	Würth Elektronik	7461090
5	TP1, TP2, TP3, TP8, TP9	CON TP PIN Tin TH	Harwin	H2121-01
1	TP6	CON TP LOOP Red TH	Keystone	5010
2	U1, U2	CON BNC JACK Female 5 pin 50 Ohm TH PCB mount	TE Connectivity AMP Connectors	1-1337445-0
1	PCB	4 Layer Board	Microchip	04-AS-90000-R2

3. Hardware Validation

This section contains test conditions, equipment required for testing, test schematics, and test setup for the SP6LI evaluation board.

3.1 Test Conditions

The following table lists the test conditions for validating the SP6LI evaluation board.

Table 3-1. Test Condition

Parameters	Values
Device under test	MSCSM120AM03CT6LIAG (SP6LI 1200V, 3.1 mΩ)
Gate driver used (core)	Microchip digital gate driver 2ASC-12A2HP
Core adaptor used	SP6CA1
Device placed at	Half bridge high-side and low-side
DC bus voltage	600V
Load current	400A
Gate resistors R_{Gon}	1.1Ω
Gate resistors R_{Goff}	1.1Ω
Temperature	25 °C
Load for DPT test for T_{off}	Inductor of 350 μH
Load for DSAT test	Resistor of 1Ω
Snubber (RC or C)	None
C_{GS}	None
Scope filter	None

3.2 Equipment Required for Testing

The following equipments are required to test and characterize the SP6LI evaluation board:

- Low voltage variable DC power supply (0–30V/2A)
- DC unregulated high-voltage power supply (0–2500V/1.5A)
- Oscilloscope (LeCroy model HDO6104A)
- Rogowski current waveform transducer (1.0 mV/A) (for current measurement)
- GW Instek GOP-050 high-voltage differential probes (for high-voltage measurement)
- PICkit 3/PICkit 4 In-circuit debugger (for programming primary side controller)

Note: Equivalent equipment can be used.

3.3 Test Schematics

The following figures show test schematics for measuring the switching losses for high-side and low-side SiC MOSFET devices.

Figure 3-1. Schematic to Measure the Switching Losses for High-Side SiC MOSFET

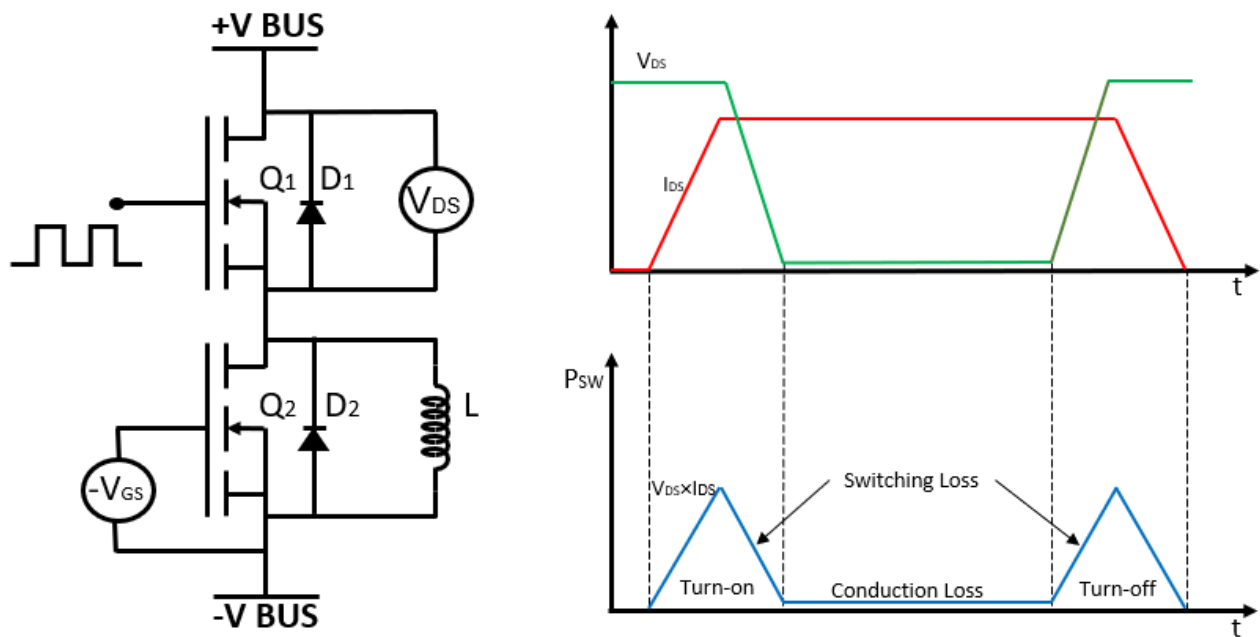
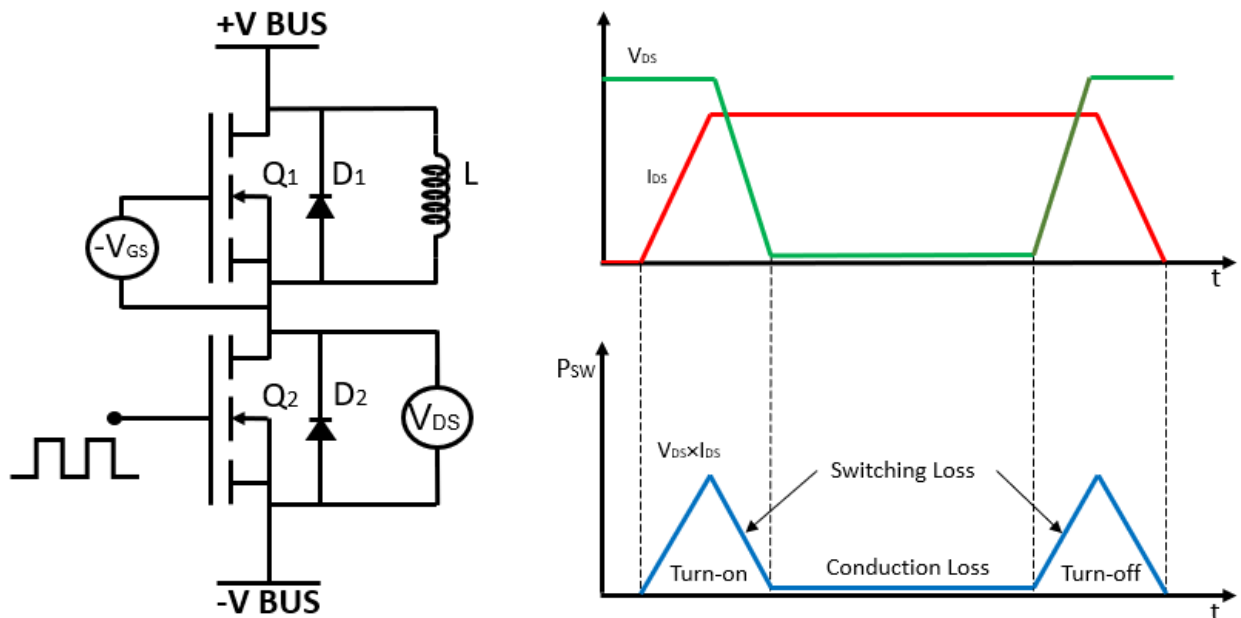


Figure 3-2. Schematic to Measure the Switching Losses for Low-Side SiC MOSFET



3.4 Test Setup

The following figures show the test setup for double-pulse testing and for DSAT testing.

Figure 3-3. Double-Pulse Test Setup for Testing High-Side Switch

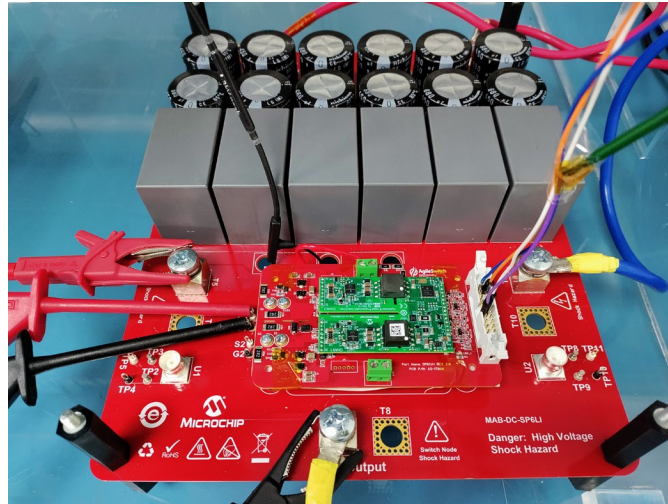


Figure 3-4. Double-Pulse Test Setup for Testing Low-Side Switch

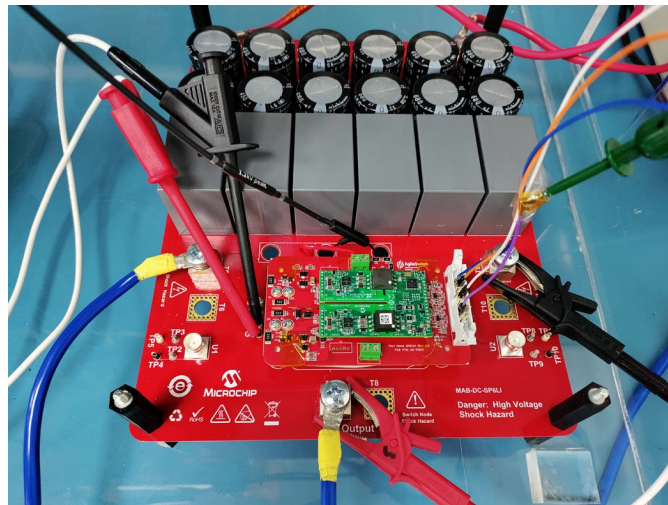


Figure 3-5. DSAT Test Setup for Testing High-Side Switch

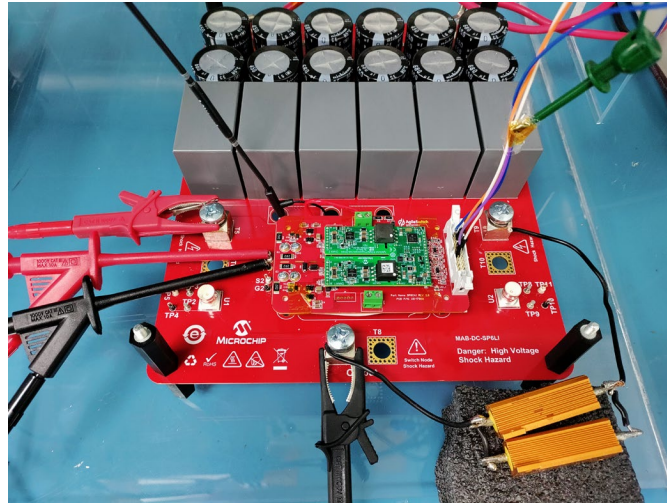
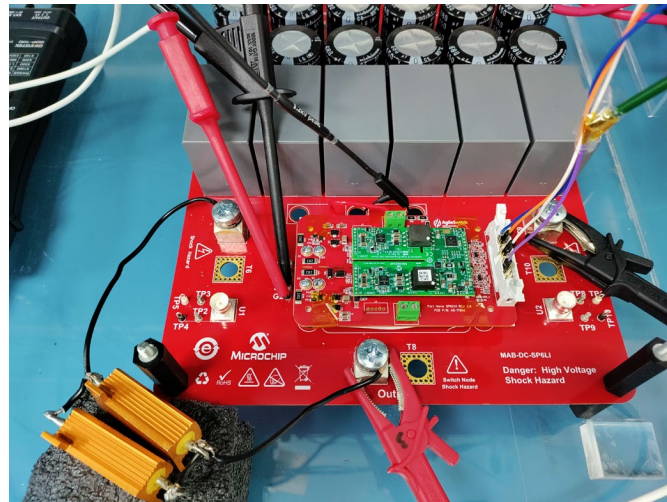


Figure 3-6. DSAT Test Setup for Testing Low-Side Switch



3.5 Test Results

This section shows the test results for turn-on measurement, turn-off measurement, and DSAT operation of high-side and low-side switch.

3.5.1 Turn-On Measurements

The following sections show the results for turn-on of high-side and low-side switch.

High-Side

The following figures show the test results for turn-on of high-side SiC MOSFET.

Figure 3-7. Characteristic Waveform during Turn-On Switching Transients for High-Side SiC MOSFET

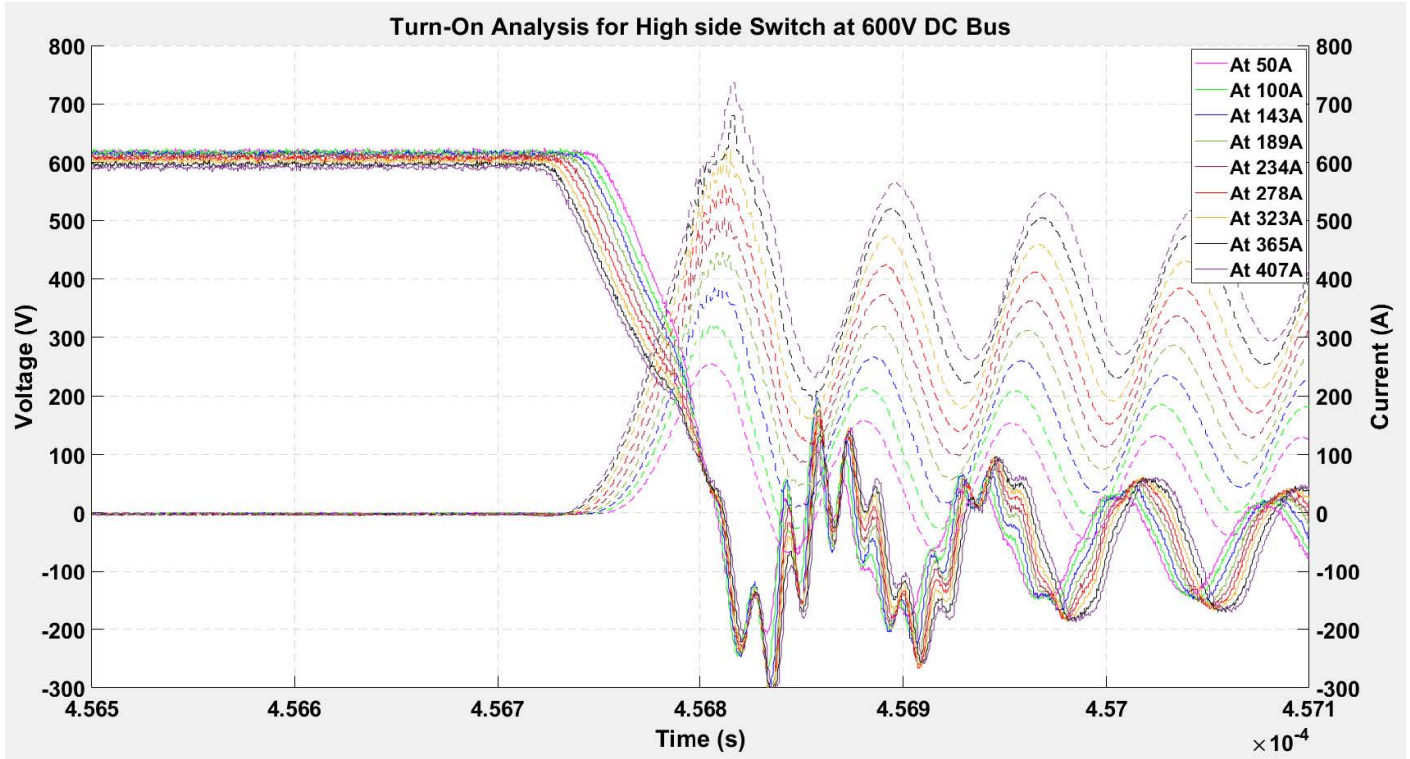
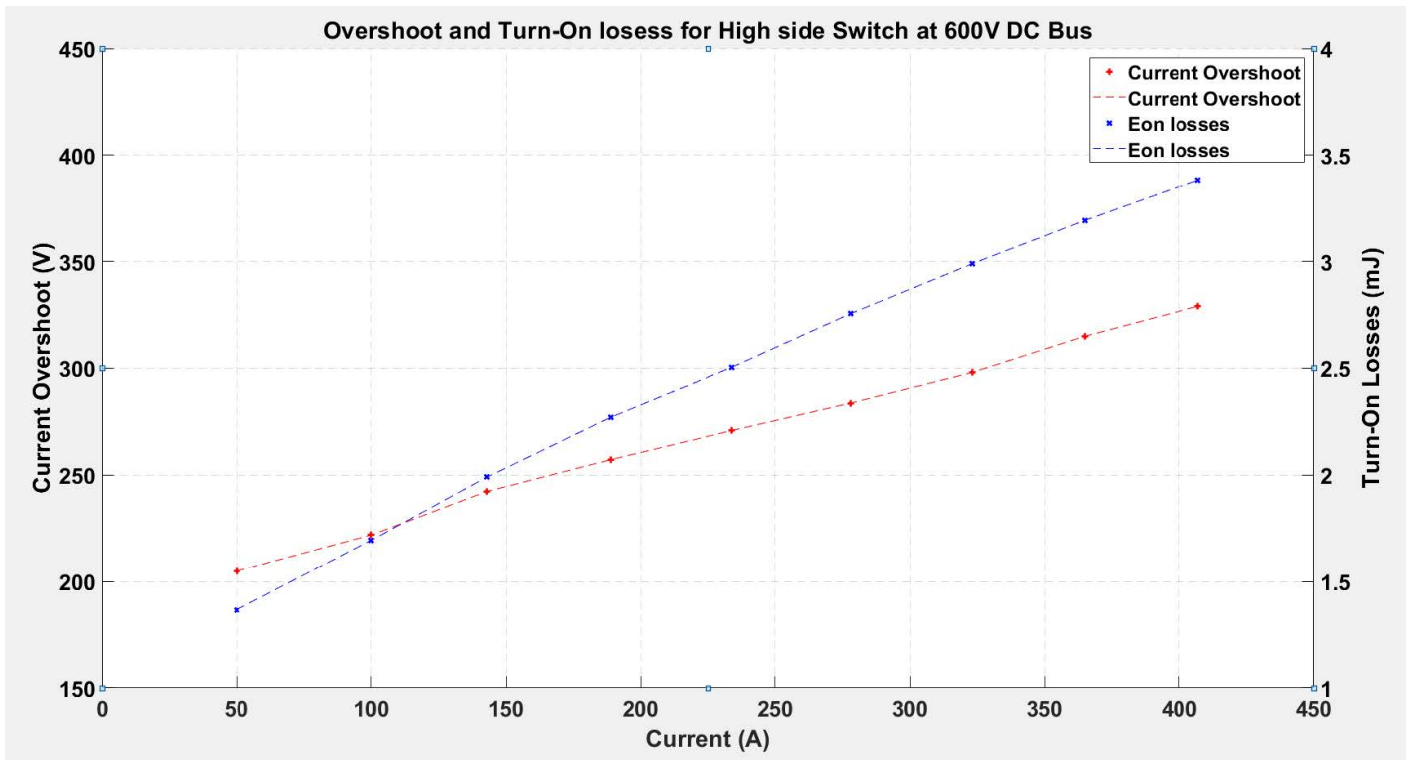


Figure 3-8. Current Overshoot vs Turn-On Losses at 600 V_{DC} Bus with Respect to Change in Current



Low-Side

The following figures show the test results for turn-on of low-side SiC MOSFET.

Figure 3-9. Characteristic Waveform during Turn-On Switching Transients for Low-Side SiC MOSFET

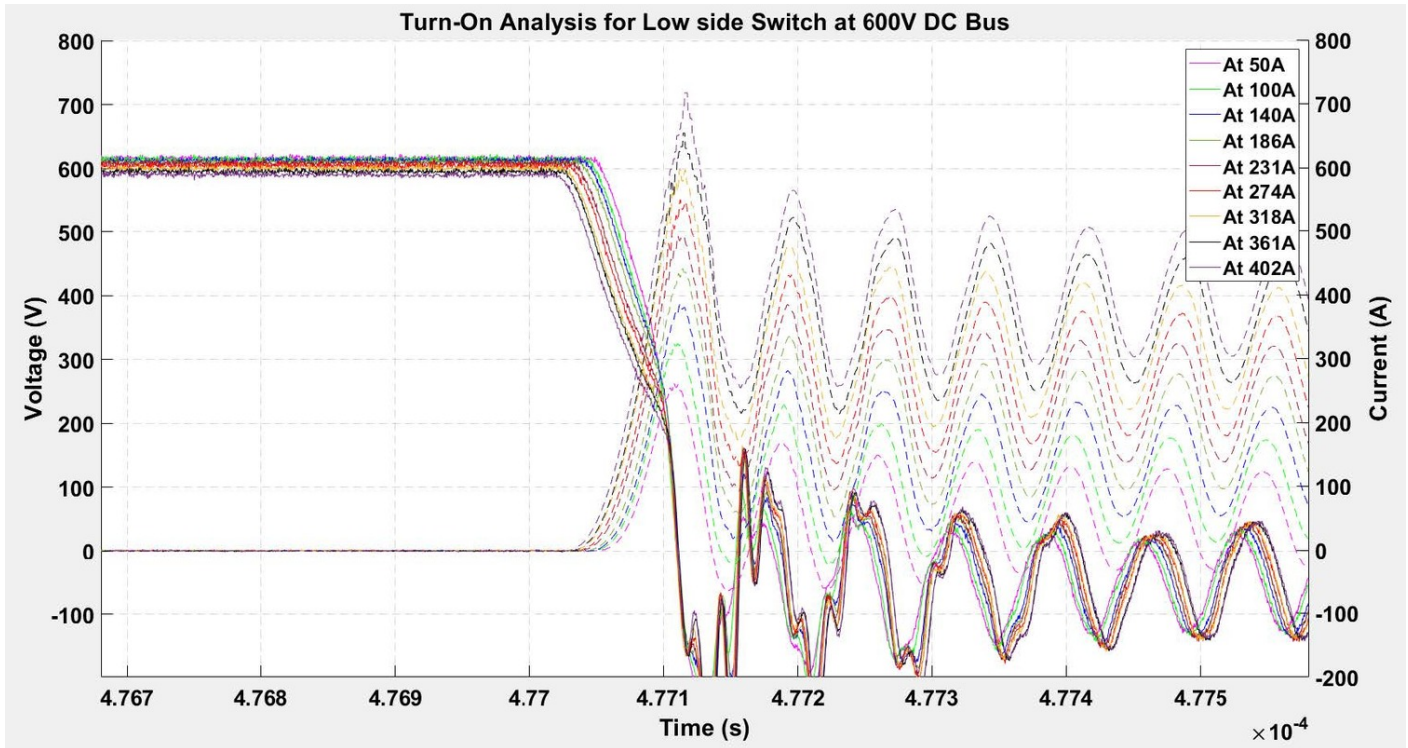
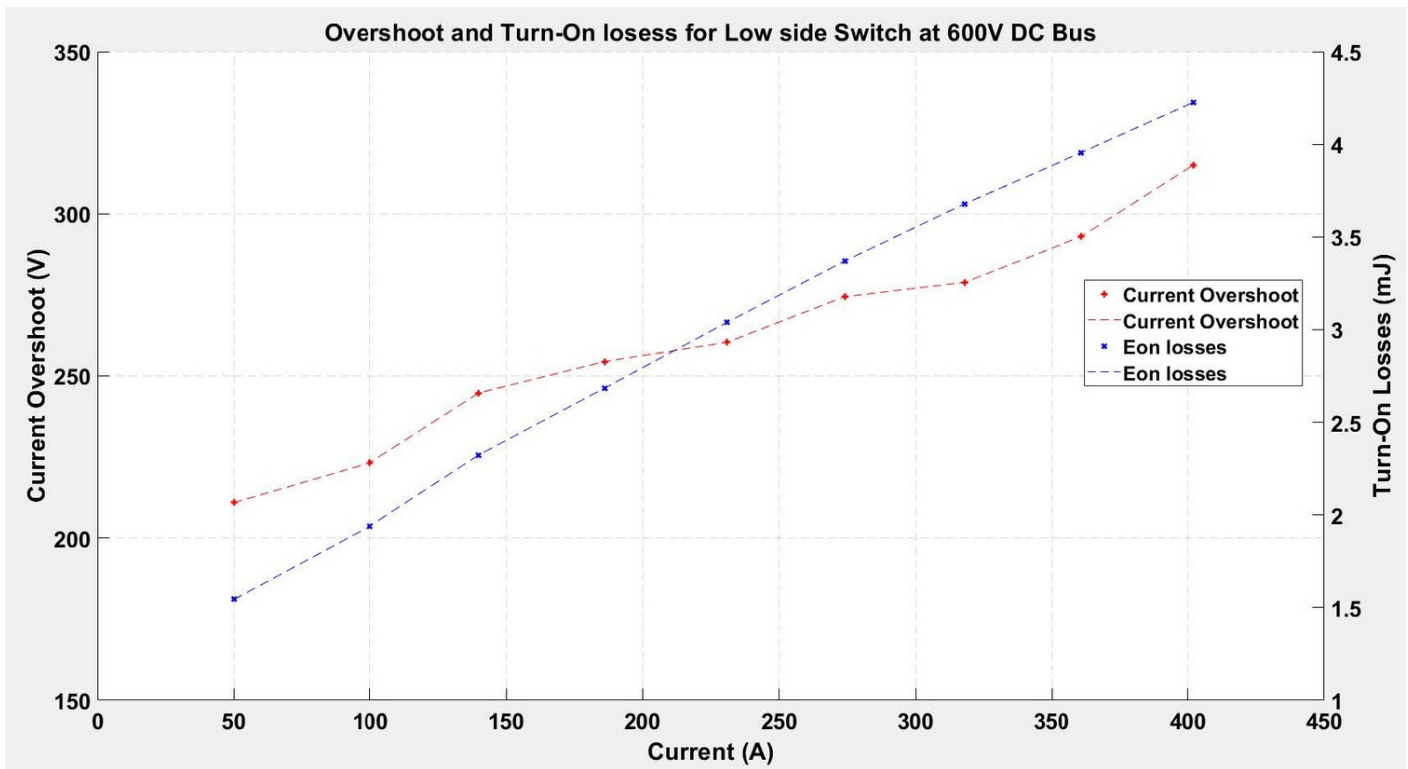


Figure 3-10. Current Overshoot vs Turn-On Losses at 600 V_{DC} Bus with Respect to Change in Current



3.5.2 Turn-Off Measurements

The following sections show the results for turn-off of high-side and low-side.

High-Side

The following figures show the test results for turn-off of high-side switch.

Figure 3-11. Characteristic Waveform during Turn-Off Switching Transients for High-Side SiC MOSFET

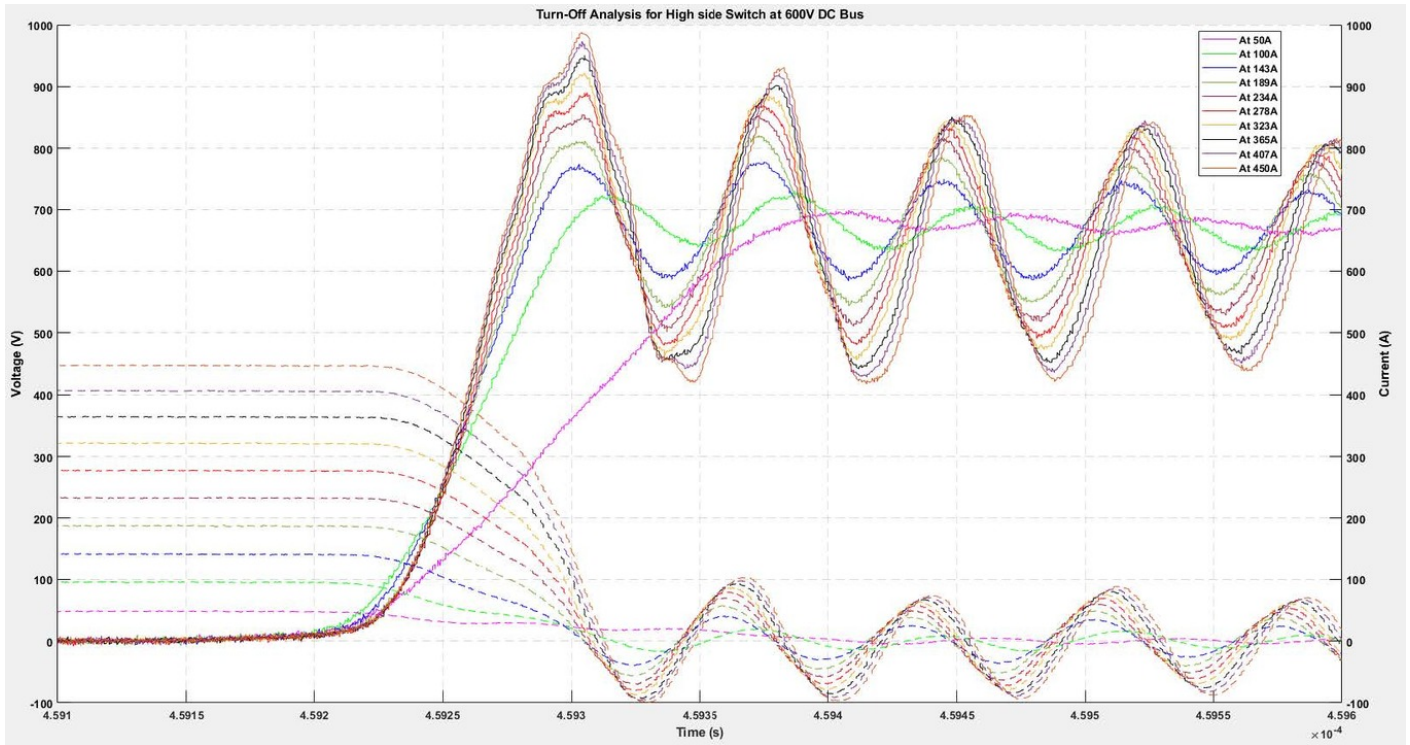
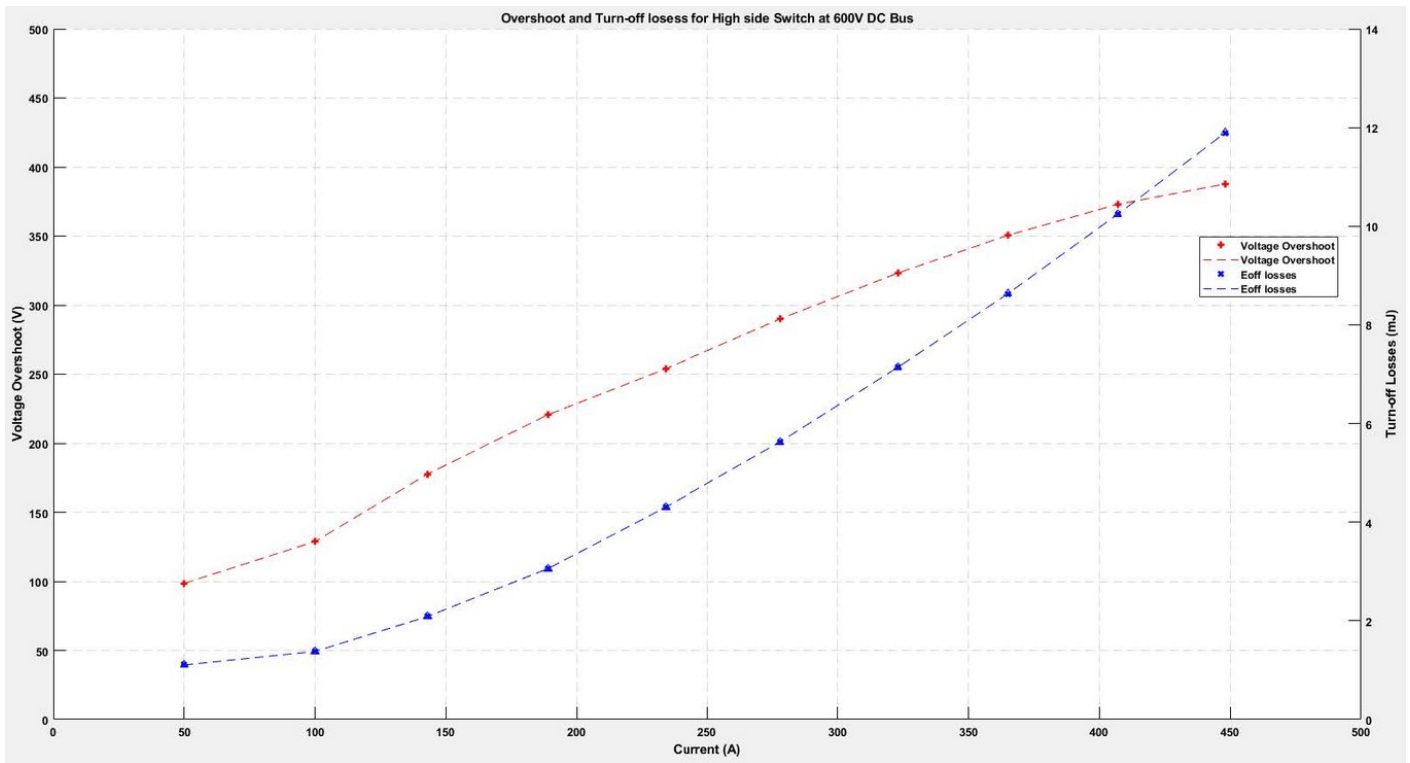


Figure 3-12. Voltage Overshoot vs Turn-On Losses at 600 V_{DC} Bus with Respect to Change in Current



Low-Side

The following figures show the test results for turn-off of low-side switch.

Figure 3-13. Characteristic Waveform during Turn-Off Switching Transients for Low-Side SiC MOSFET

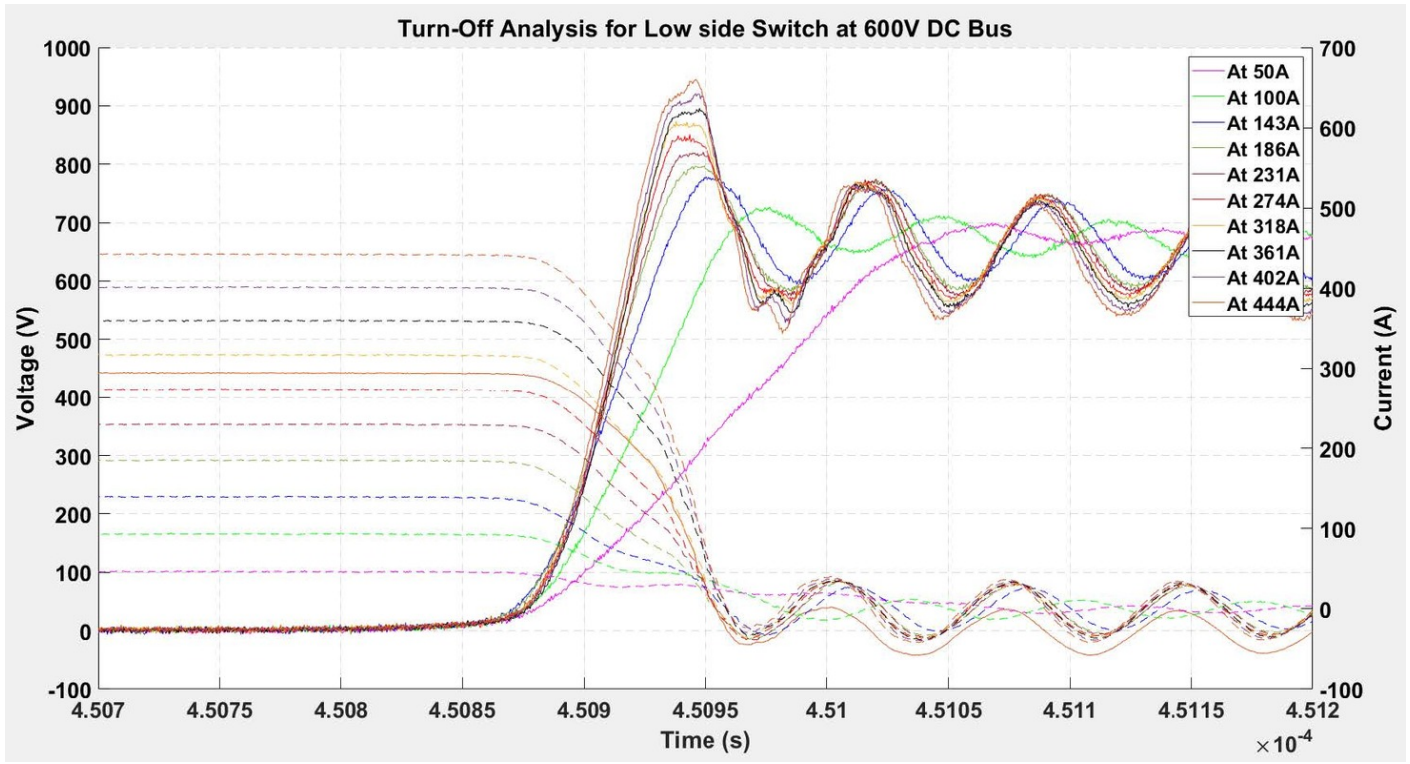
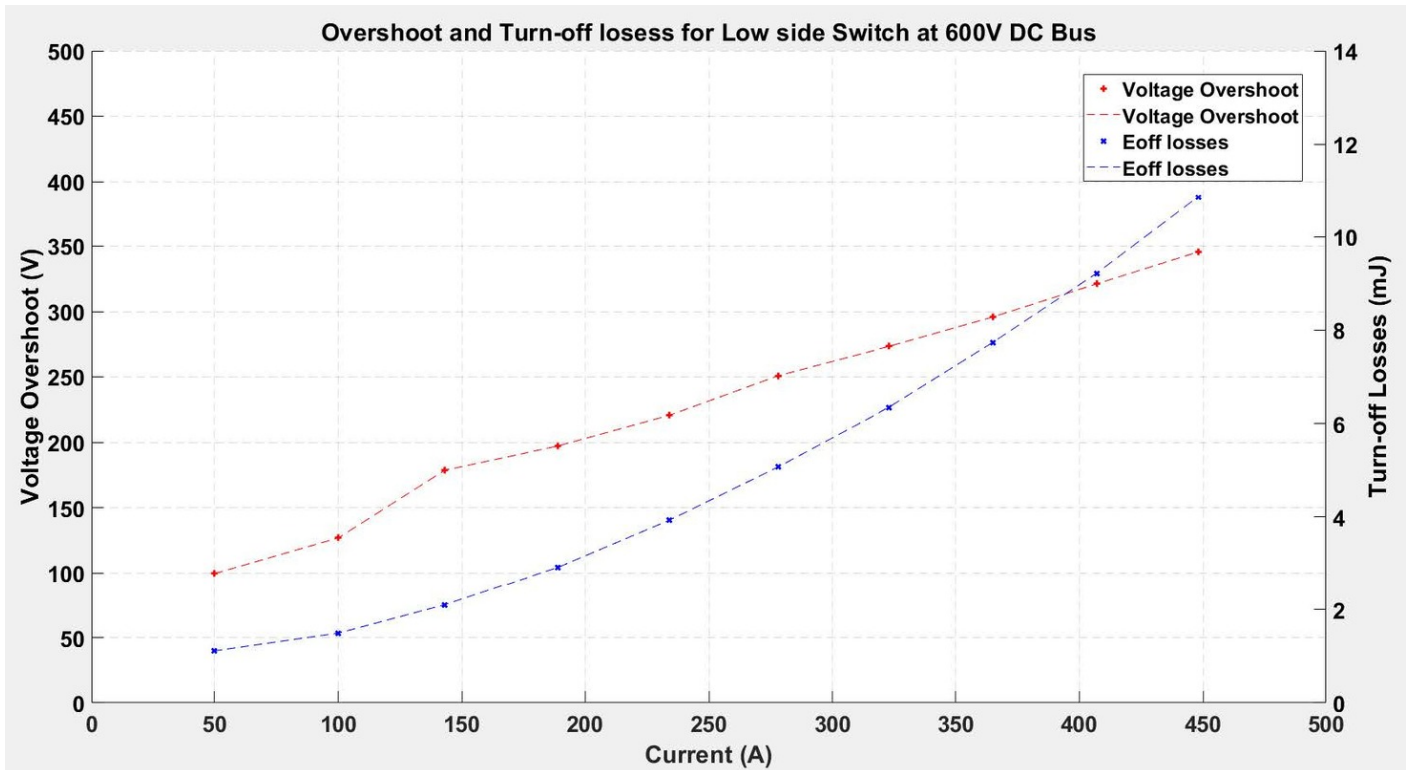


Figure 3-14. Voltage Overshoot vs Turn-On Losses at 600 V_{DC} Bus with Respect to Change in Current



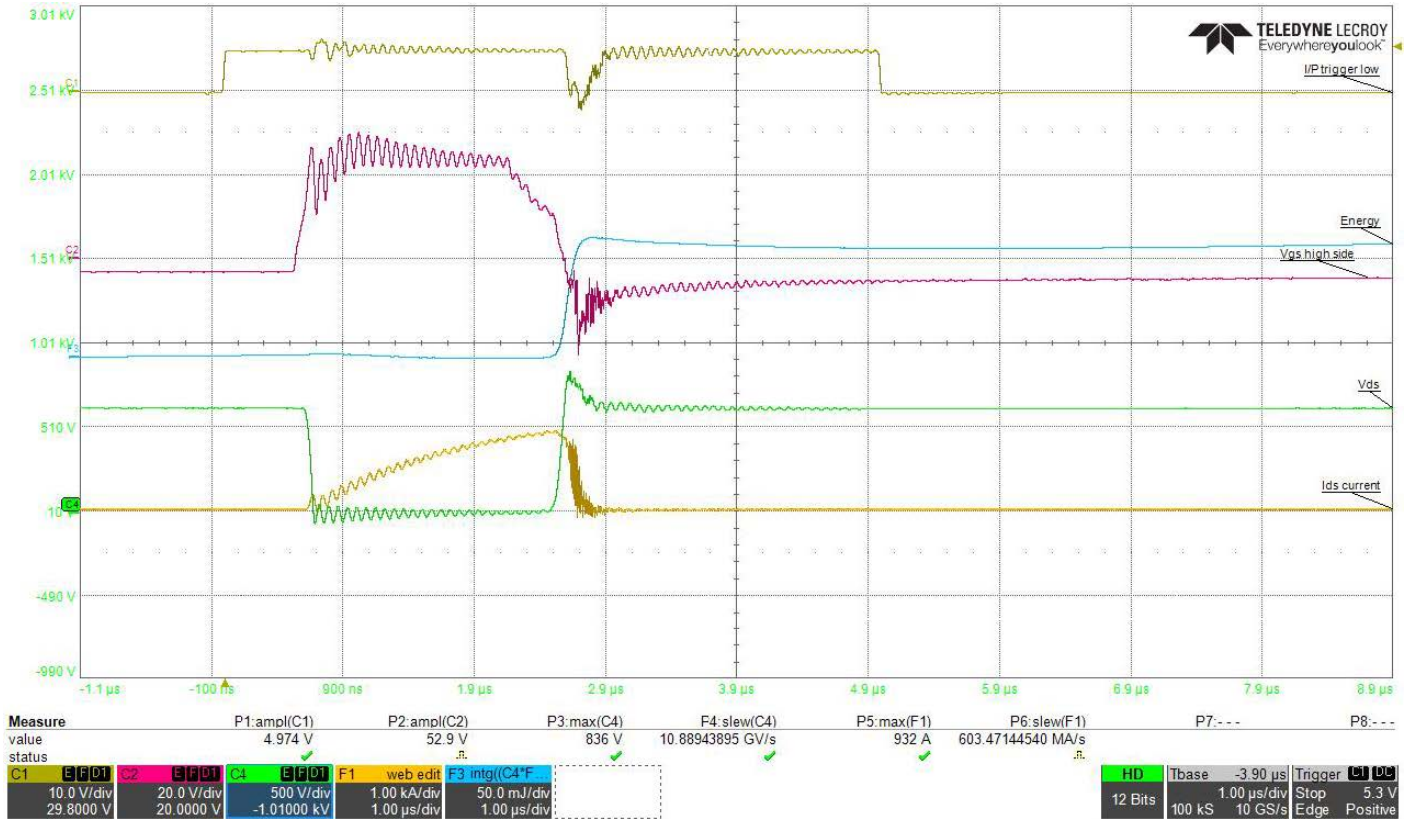
3.5.3 DSAT Operation

The following sections show the results for DSAT (over current protection) of high-side and low-side switch.

High-Side

The following figure shows the test result for DSAT of high-side switch overcurrent condition set at 900A.

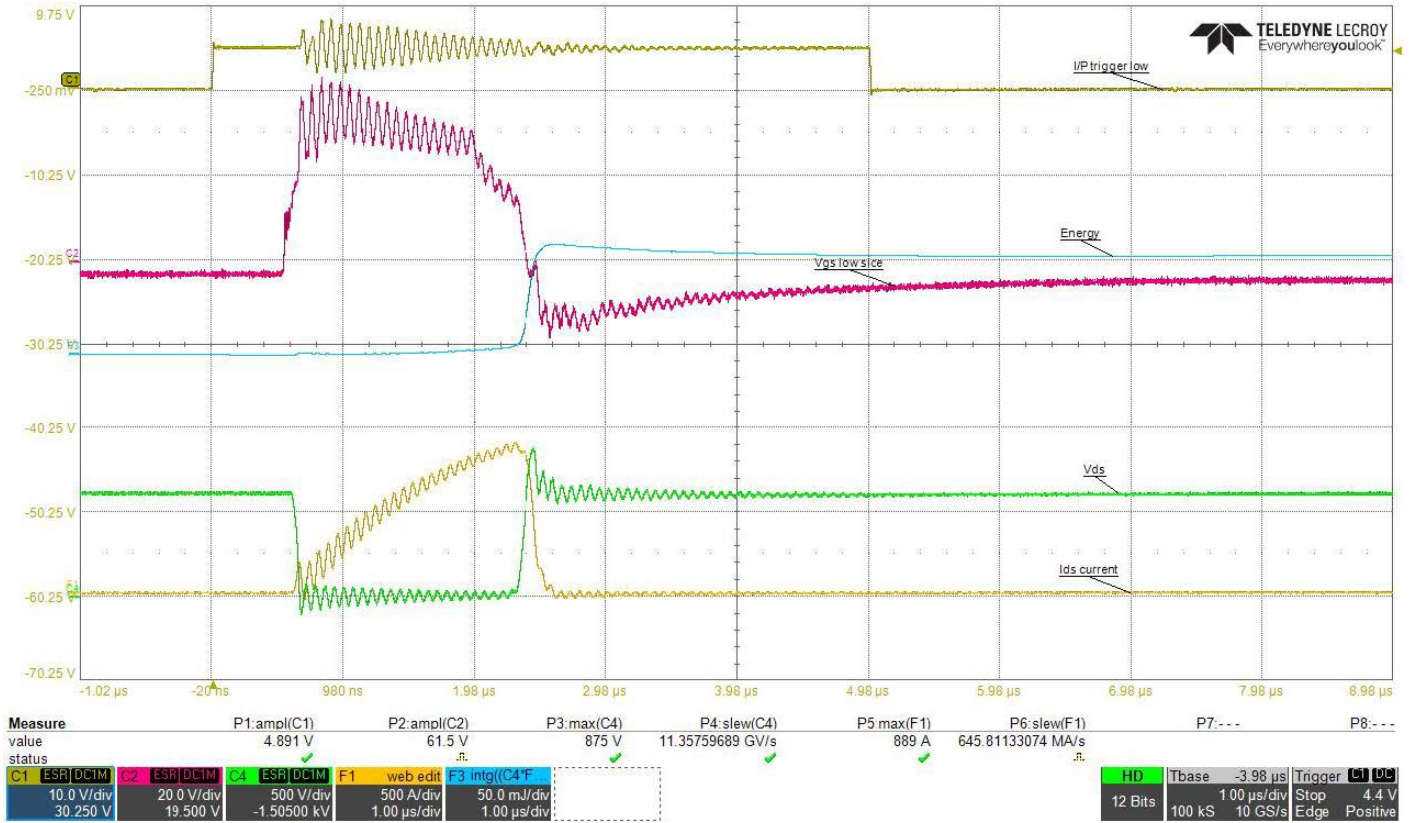
Figure 3-15. High-Side over Current DSAT Test Results at 600 V_{DC}



Low-Side

The following figure shows the test result for DSAT of low-side switch overcurrent condition set at 900A.

Figure 3-16. Low-Side over Current DSAT Test Results at 600 V_{DC}



4. Revision History

The revision history describes the changes that were implemented in the document. The changes are listed by revision, starting with the most current publication.

Revision	Date	Description
A	12/2023	Initial revision

Microchip Information

The Microchip Website

Microchip provides online support via our website at www.microchip.com/. This website is used to make files and information easily available to customers. Some of the content available includes:

- **Product Support** – Data sheets and errata, application notes and sample programs, design resources, user’s guides and hardware support documents, latest software releases and archived software
- **General Technical Support** – Frequently Asked Questions (FAQs), technical support requests, online discussion groups, Microchip design partner program member listing
- **Business of Microchip** – Product selector and ordering guides, latest Microchip press releases, listing of seminars and events, listings of Microchip sales offices, distributors and factory representatives

Product Change Notification Service

Microchip’s product change notification service helps keep customers current on Microchip products. Subscribers will receive email notification whenever there are changes, updates, revisions or errata related to a specified product family or development tool of interest.

To register, go to www.microchip.com/pcn and follow the registration instructions.

Customer Support

Users of Microchip products can receive assistance through several channels:

- Distributor or Representative
- Local Sales Office
- Embedded Solutions Engineer (ESE)
- Technical Support

Customers should contact their distributor, representative or ESE for support. Local sales offices are also available to help customers. A listing of sales offices and locations is included in this document.

Technical support is available through the website at: www.microchip.com/support

Microchip Devices Code Protection Feature

Note the following details of the code protection feature on Microchip products:

- Microchip products meet the specifications contained in their particular Microchip Data Sheet.
- Microchip believes that its family of products is secure when used in the intended manner, within operating specifications, and under normal conditions.
- Microchip values and aggressively protects its intellectual property rights. Attempts to breach the code protection features of Microchip product is strictly prohibited and may violate the Digital Millennium Copyright Act.
- Neither Microchip nor any other semiconductor manufacturer can guarantee the security of its code. Code protection does not mean that we are guaranteeing the product is “unbreakable”. Code protection is constantly evolving. Microchip is committed to continuously improving the code protection features of our products.

Legal Notice

This publication and the information herein may be used only with Microchip products, including to design, test, and integrate Microchip products with your application. Use of this information in any other manner violates these terms. Information regarding device applications is provided only for your convenience and may be superseded by updates. It is your responsibility to ensure

that your application meets with your specifications. Contact your local Microchip sales office for additional support or, obtain additional support at www.microchip.com/en-us/support/design-help/client-support-services.

THIS INFORMATION IS PROVIDED BY MICROCHIP "AS IS". MICROCHIP MAKES NO REPRESENTATIONS OR WARRANTIES OF ANY KIND WHETHER EXPRESS OR IMPLIED, WRITTEN OR ORAL, STATUTORY OR OTHERWISE, RELATED TO THE INFORMATION INCLUDING BUT NOT LIMITED TO ANY IMPLIED WARRANTIES OF NON-INFRINGEMENT, MERCHANTABILITY, AND FITNESS FOR A PARTICULAR PURPOSE, OR WARRANTIES RELATED TO ITS CONDITION, QUALITY, OR PERFORMANCE.

IN NO EVENT WILL MICROCHIP BE LIABLE FOR ANY INDIRECT, SPECIAL, PUNITIVE, INCIDENTAL, OR CONSEQUENTIAL LOSS, DAMAGE, COST, OR EXPENSE OF ANY KIND WHATSOEVER RELATED TO THE INFORMATION OR ITS USE, HOWEVER CAUSED, EVEN IF MICROCHIP HAS BEEN ADVISED OF THE POSSIBILITY OR THE DAMAGES ARE FORESEEABLE. TO THE FULLEST EXTENT ALLOWED BY LAW, MICROCHIP'S TOTAL LIABILITY ON ALL CLAIMS IN ANY WAY RELATED TO THE INFORMATION OR ITS USE WILL NOT EXCEED THE AMOUNT OF FEES, IF ANY, THAT YOU HAVE PAID DIRECTLY TO MICROCHIP FOR THE INFORMATION.

Use of Microchip devices in life support and/or safety applications is entirely at the buyer's risk, and the buyer agrees to defend, indemnify and hold harmless Microchip from any and all damages, claims, suits, or expenses resulting from such use. No licenses are conveyed, implicitly or otherwise, under any Microchip intellectual property rights unless otherwise stated.

Trademarks

The Microchip name and logo, the Microchip logo, Adaptec, AVR, AVR logo, AVR Freaks, BesTime, BitCloud, CryptoMemory, CryptoRF, dsPIC, flexPWR, HELDO, IGLOO, JukeBlox, KeeLoq, Kleer, LANCheck, LinkMD, maXStylus, maXTouch, MediaLB, megaAVR, Microsemi, Microsemi logo, MOST, MOST logo, MPLAB, OptoLyzer, PIC, picoPower, PICSTART, PIC32 logo, PolarFire, Prochip Designer, QTouch, SAM-BA, SenGenuity, SpyNIC, SST, SST Logo, SuperFlash, Symmetricom, SyncServer, Tachyon, TimeSource, tinyAVR, UNI/O, Vectron, and XMEGA are registered trademarks of Microchip Technology Incorporated in the U.S.A. and other countries.

AgileSwitch, ClockWorks, The Embedded Control Solutions Company, EtherSynch, Flashtec, Hyper Speed Control, HyperLight Load, Libero, motorBench, mTouch, Powermite 3, Precision Edge, ProASIC, ProASIC Plus, ProASIC Plus logo, Quiet-Wire, SmartFusion, SyncWorld, TimeCesium, TimeHub, TimePictra, TimeProvider, and ZL are registered trademarks of Microchip Technology Incorporated in the U.S.A.

Adjacent Key Suppression, AKS, Analog-for-the-Digital Age, Any Capacitor, AnyIn, AnyOut, Augmented Switching, BlueSky, BodyCom, Clockstudio, CodeGuard, CryptoAuthentication, CryptoAutomotive, CryptoCompanion, CryptoController, dsPICDEM, dsPICDEM.net, Dynamic Average Matching, DAM, ECAN, Espresso T1S, EtherGREEN, EyeOpen, GridTime, IdealBridge, IGaT, In-Circuit Serial Programming, ICSP, INICnet, Intelligent Paralleling, IntelliMOS, Inter-Chip Connectivity, JitterBlocker, Knob-on-Display, MarginLink, maxCrypto, maxView, memBrain, Mindi, MiWi, MPASM, MPF, MPLAB Certified logo, MPLIB, MPLINK, mSiC, MultiTRAK, NetDetach, Omniscient Code Generation, PICDEM, PICDEM.net, PICkit, PICtail, Power MOS IV, Power MOS 7, PowerSmart, PureSilicon, QMatrix, REAL ICE, Ripple Blocker, RTAX, RTG4, SAM-ICE, Serial Quad I/O, simpleMAP, SimpliPHY, SmartBuffer, SmartHLS, SMART-I.S., storClad, SQI, SuperSwitcher, SuperSwitcher II, Switchtec, SynchroPHY, Total Endurance, Trusted Time, TSHARC, Turing, USBCheck, VariSense, VectorBlox, VeriPHY, ViewSpan, WiperLock, XpressConnect, and ZENA are trademarks of Microchip Technology Incorporated in the U.S.A. and other countries.

SQTP is a service mark of Microchip Technology Incorporated in the U.S.A.

The Adaptec logo, Frequency on Demand, Silicon Storage Technology, and Symmcom are registered trademarks of Microchip Technology Inc. in other countries.

GestIC is a registered trademark of Microchip Technology Germany II GmbH & Co. KG, a subsidiary of Microchip Technology Inc., in other countries.

All other trademarks mentioned herein are property of their respective companies.

© 2023, Microchip Technology Incorporated and its subsidiaries. All Rights Reserved.

ISBN: 978-1-6683-3657-1

Quality Management System

For information regarding Microchip's Quality Management Systems, please visit www.microchip.com/quality.

Worldwide Sales and Service

AMERICAS	ASIA/PACIFIC	ASIA/PACIFIC	EUROPE
<p>Corporate Office 2355 West Chandler Blvd. Chandler, AZ 85224-6199 Tel: 480-792-7200 Fax: 480-792-7277 Technical Support: www.microchip.com/support Web Address: www.microchip.com</p> <p>Atlanta Duluth, GA Tel: 678-957-9614 Fax: 678-957-1455</p> <p>Austin, TX Tel: 512-257-3370</p> <p>Boston Westborough, MA Tel: 774-760-0087 Fax: 774-760-0088</p> <p>Chicago Itasca, IL Tel: 630-285-0071 Fax: 630-285-0075</p> <p>Dallas Addison, TX Tel: 972-818-7423 Fax: 972-818-2924</p> <p>Detroit Novi, MI Tel: 248-848-4000</p> <p>Houston, TX Tel: 281-894-5983</p> <p>Indianapolis Noblesville, IN Tel: 317-773-8323 Fax: 317-773-5453 Tel: 317-536-2380</p> <p>Los Angeles Mission Viejo, CA Tel: 949-462-9523 Fax: 949-462-9608 Tel: 951-273-7800</p> <p>Raleigh, NC Tel: 919-844-7510</p> <p>New York, NY Tel: 631-435-6000</p> <p>San Jose, CA Tel: 408-735-9110 Tel: 408-436-4270</p> <p>Canada - Toronto Tel: 905-695-1980 Fax: 905-695-2078</p>	<p>Australia - Sydney Tel: 61-2-9868-6733</p> <p>China - Beijing Tel: 86-10-8569-7000</p> <p>China - Chengdu Tel: 86-28-8665-5511</p> <p>China - Chongqing Tel: 86-23-8980-9588</p> <p>China - Dongguan Tel: 86-769-8702-9880</p> <p>China - Guangzhou Tel: 86-20-8755-8029</p> <p>China - Hangzhou Tel: 86-571-8792-8115</p> <p>China - Hong Kong SAR Tel: 852-2943-5100</p> <p>China - Nanjing Tel: 86-25-8473-2460</p> <p>China - Qingdao Tel: 86-532-8502-7355</p> <p>China - Shanghai Tel: 86-21-3326-8000</p> <p>China - Shenyang Tel: 86-24-2334-2829</p> <p>China - Shenzhen Tel: 86-755-8864-2200</p> <p>China - Suzhou Tel: 86-186-6233-1526</p> <p>China - Wuhan Tel: 86-27-5980-5300</p> <p>China - Xian Tel: 86-29-8833-7252</p> <p>China - Xiamen Tel: 86-592-2388138</p> <p>China - Zhuhai Tel: 86-756-3210040</p>	<p>India - Bangalore Tel: 91-80-3090-4444</p> <p>India - New Delhi Tel: 91-11-4160-8631</p> <p>India - Pune Tel: 91-20-4121-0141</p> <p>Japan - Osaka Tel: 81-6-6152-7160</p> <p>Japan - Tokyo Tel: 81-3-6880-3770</p> <p>Korea - Daegu Tel: 82-53-744-4301</p> <p>Korea - Seoul Tel: 82-2-554-7200</p> <p>Malaysia - Kuala Lumpur Tel: 60-3-7651-7906</p> <p>Malaysia - Penang Tel: 60-4-227-8870</p> <p>Philippines - Manila Tel: 63-2-634-9065</p> <p>Singapore Tel: 65-6334-8870</p> <p>Taiwan - Hsin Chu Tel: 886-3-577-8366</p> <p>Taiwan - Kaohsiung Tel: 886-7-213-7830</p> <p>Taiwan - Taipei Tel: 886-2-2508-8600</p> <p>Thailand - Bangkok Tel: 66-2-694-1351</p> <p>Vietnam - Ho Chi Minh Tel: 84-28-5448-2100</p>	<p>Austria - Wels Tel: 43-7242-2244-39 Fax: 43-7242-2244-393</p> <p>Denmark - Copenhagen Tel: 45-4485-5910 Fax: 45-4485-2829</p> <p>Finland - Espoo Tel: 358-9-4520-820</p> <p>France - Paris Tel: 33-1-69-53-63-20 Fax: 33-1-69-30-90-79</p> <p>Germany - Garching Tel: 49-8931-9700</p> <p>Germany - Haan Tel: 49-2129-3766400</p> <p>Germany - Heilbronn Tel: 49-7131-72400</p> <p>Germany - Karlsruhe Tel: 49-721-625370</p> <p>Germany - Munich Tel: 49-89-627-144-0 Fax: 49-89-627-144-44</p> <p>Germany - Rosenheim Tel: 49-8031-354-560</p> <p>Israel - Ra'anana Tel: 972-9-744-7705</p> <p>Italy - Milan Tel: 39-0331-742611 Fax: 39-0331-466781</p> <p>Italy - Padova Tel: 39-049-7625286</p> <p>Netherlands - Drunen Tel: 31-416-690399 Fax: 31-416-690340</p> <p>Norway - Trondheim Tel: 47-72884388</p> <p>Poland - Warsaw Tel: 48-22-3325737</p> <p>Romania - Bucharest Tel: 40-21-407-87-50</p> <p>Spain - Madrid Tel: 34-91-708-08-90 Fax: 34-91-708-08-91</p> <p>Sweden - Gothenberg Tel: 46-31-704-60-40</p> <p>Sweden - Stockholm Tel: 46-8-5090-4654</p> <p>UK - Wokingham Tel: 44-118-921-5800 Fax: 44-118-921-5820</p>

X-ON Electronics

Largest Supplier of Electrical and Electronic Components

Click to view similar products for [Power Management IC Development Tools](#) category:

Click to view products by [Microchip](#) manufacturer:

Other Similar products are found below :

[EVB-EP5348UI](#) [BQ25010EVM](#) [ISL80019AEVAL1Z](#) [ISLUSBI2CKIT1Z](#) [ISL8002AEVAL1Z](#) [ISL91108IIA-EVZ](#) [MAX8556EVKIT](#)
[MAX15005AEVKIT+](#) [ISL28022EVKIT1Z](#) [STEVAL-ISA008V1](#) [DRI0043](#) [KITPF8100FRDMEVM](#) [EVB-EN6337QA](#)
[SAMPLEBOXILD8150TOBO1](#) [MAX18066EVKIT#](#) [AP62300WU-EVM](#) [KITA2GTC387MOTORCTRTOBO1](#) [AEK-MOT-TK200G1](#)
[EVLONE65W](#) [STEVAL-ILH006V1](#) [STEVAL-IPE008V2](#) [STEVAL-IPP001V2](#) [STEVAL-ISA013V1](#) [STEVAL-ISA067V1](#) [STEVAL-](#)
[ISQ002V1](#) [TPS2306EVM-001](#) [TPS2330EVM-185](#) [TPS40001EVM-001](#) [SECO-HVDCDC1362-15W-GEVB](#) [BTS7030-2EPA](#)
[LT8638SJV#WPBF](#) [LTC3308AIV#WTRPBF](#) [TLT807B0EPV](#) [BTS71033-6ESA](#) [EV13N91A](#) [EASYPIC V8 OVER USB-C](#) [EV55W64A](#)
[CLICKER 4 FOR STM32F4](#) [EASYMX PRO V7A FOR STM32](#) [CLICKER 4 FOR PIC18F](#) [Si8285_86v2-KIT](#) [PAC52700EVK1](#) [NCP-](#)
[NCV51752D2PAK3LGEVB](#) [ISL81807EVAL1Z](#) [AP33772S-EVB](#) [EVALM7HVIGBTFCINV4TOBO1](#) [903-0300-000](#) [902-0173-000](#) [903-](#)
[0301-000](#) [ROA1286023/1](#)