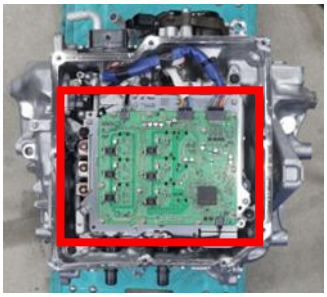
Inverter: DENSO (SUBARU SOLTERRA) PCB Circuit Analysis Report



Subaru Solterra



eAxle





Inverter Core Module

(Source)
https://www.subaru.jp/solterra/

Report Overview

In November 2025, an updated SUBARU SOLTERRA was released.
The vehicle is equipped with a new BluE Nexus eAxle incorporating a new DENSO inverter core module. Compared with the previous Si RC-IGBT inverter, the new design uses double-sided-cooled SiC MOSFET power modules, closely positioned capacitors, and an optimized carrier frequency, reducing power loss by approximately 70% and inverter size by approximately 30%.

This report presents a circuit analysis of the gate-driver board installed in the inverter core module of the front eAxle.
A teardown report of the inverter core module is also available.

Product Specifications

Subaru Solterra (2022)

Trim Level				AWD
Vehicle Price (incl. tax)			JPY	6.71 million
Range			km	567
Battery (Li-ion)		Capacity	kWh	72.8
eAxle	Front	Supplier		BluE Nexus
		Output	kW	80
		Torque	Nm	168
	Rear	Supplier		BluE Nexus
		Output	kW	80
		Torque	Nm	168

Subaru Solterra (2025)

Trim Level				AWD
Vehicle Price (incl. tax)			JPY	5.61 million
Range			km	746
Battery (Li-ion)		Capacity	kWh	74.7
eAxle	Front	Supplier		BluE Nexus
		Output	kW	165
		Torque	Nm	268
	Rear	Supplier		BluE Nexus
		Output	kW	85
		Torque	Nm	88.3

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Report contents

PCB Circuit Analysis Report

You may select the report you need from the three options below.

1. Full circuit analysis:
   Inverter control circuits (common circuits) + all three phases of the drive circuits
2. Partial circuit analysis:
   Inverter control circuits (common circuits) + one phase of the drive circuit only
3. Partial circuit analysis:
   One phase of the drive circuit only

・The circuit analysis report includes teardown section of the unit

Please contact us for report pricing.

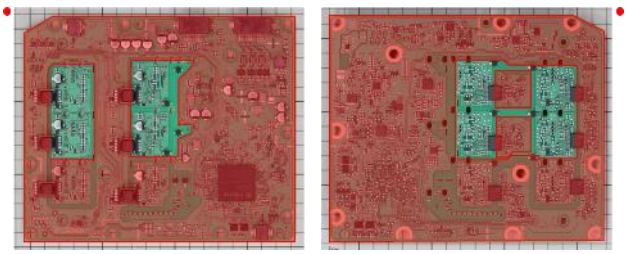
1) Teardown Report

Target Functions	Analysis Scope
Inverter Core Module *Does not include the motor or reduction gear	• Comparison of eAxle and inverter core module dimensions, weight, and appearance with the bZ4X (2022) • Product teardown process; individual components; mounting locations; screw fastening points; labels; and markings (supplier, country of origin, dimensions, weight, material, application, manufacturing method, etc.) • Major-component survey • Components installed in the unit (power modules, smoothing capacitors, etc.) • Gate driver board

2) PCB Circuit Analysis Report

Target Functions	Analysis Scope
Inverter Core Module	Product Teardown Process 1. Full Circuit Analysis: Inverter Control and Other Common Circuits + Three-Phase Gate-Drive Circuits 2. Partial Circuit Analysis: Inverter control circuits (common circuits) + one phase of the drive circuit only 3. Partial Circuit Analysis: One phase of the drive circuit only

*Refer to the figures below for analysis areas 2. and 3.



2. Analysis Area



3. Analysis Area

*The area outlined in red is included in the analysis scope.

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Teardown Report

Table of Contents

			Page
Summary			
Table 1	Product Information	...	3
	bz4X Inverter (2022) vs SOLTERA Inverter (2025)	...	4
Product Disassembly			
	Product Appearance (e-Axle)	...	7
	Assembly State【Upper Cover】	...	8
	Assembly State【Wire Harness1】	...	9
	Assembly State【Coolant Inlet/Outlet Connector】	...	10
	Assembly State【Inverter unit】	...	11
	Product Appearance (Inverter unit)	...	12
Product Disassembly			
	Assembly State【Thermistor】	...	13
	Assembly State【Wire Harness2】	...	14
	Assembly State【Gate Drive Board】	...	15
	Assembly State【Gate Drive BoardBase】	...	16
	Assembly State【PM Cooling(Upper)Retainer】	...	17
	Assembly State【PM Cooling(Upper)Intermediate Plate】	...	18
	Assembly State【PM Cooling Channel (Upper)】	...	19
	Assembly State【Main Circuit Unit】	...	20
	Assembly State【Current Sensor】	...	21
	Assembly State【Current SensorPCB】	...	22
	Component【Current SensorMagnetic Core】	...	23
	Assembly State【Busbar1】	...	24
	Assembly State【Power Module Unit】	...	25
	Assembly State【Power Module】	...	26
	Component【Power ModuleBase】	...	27
	Component【Film Capacitor】	...	28
	Assembly State【PM Cooling(Lower)Heat Sink】	...	29
	Assembly State【Coolant Inlet/Outlet Adapter】	...	30
	Assembly State【Busbar2】	...	32
	Assembly State【Busbar3】	...	33
	Assembly State【Busbar unit】	...	34
	Assembly State【Busbar Module 1】	...	35
	Assembly State【Busbar4】	...	36
	Assembly State【Busbar5】	...	37
	Component【Ferrite】	...	38
	Assembly State【Busbar Module 2】	...	39
	Assembly State【Cooling Path】	...	41
	Assembly State【Packing】	...	42
	Component 【Inverter Chasis】	...	43
Overview			
Fig.1-1	Gate Drive Board Appearance	...	44
Fig.1-2	Gate Drive Board Conformal Coating Area	...	45
Fig.1-3	Current SensorPCB Appearance	...	46
Fig.1-4	Current SensorPCB Conformal Coating Area	...	46
Fig.2-1	Gate Drive Board(top) Main Mounted Components	...	47
Fig.2-2	Gate Drive Board(bottom) Main Mounted Components(1)	...	48
Fig.2-3	Gate Drive Board(bottom) Main Mounted Components(2)	...	49
Fig.2-4	Current SensorPCB(top) Main Mounted Components	...	50
Circuit			
Fig.3-1	Estimated Main Circuit	...	51
Fig.3-2	Component Mapping	...	52

Report No：25G-0772-1,2,3 Release day：2026.4.6

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Full Circuit Analysis

Table of Contents

			Page
Summary			
Table 1	Product Information	...	3
PCB Overview			
Table 2	PCB Overview	...	4
Overview			
Fig. 1-1	e-Axle Exterior View	...	15
Fig. 1-2	Inverter Unit Exterior View	...	16
Fig. 2-1-1	e-Axle Labels and Markings 1	...	17
Fig. 2-1-2	e-Axle Labels and Markings 2	...	18
Fig. 2-2	Inverter Unit Labels and Markings	...	19
Fig. 3-1	Product Disassembly 1	...	20
Fig. 3-9	Product Disassembly 11	...	30
Fig. 4	PCB Exterior View	...	31
Fig. 5	PCB X-Ray Image	...	32
Fig. 6	PCB Appearance (After Component Removal)	...	33
Fig. 7-1	Layer Image: L1 (Top View)	...	34
Fig. 7-6	Layer Image: L6 (Top View)	...	36
Component Locations			
Fig. 8-1-1	Gate-Driver Board: Component Locations 1 (Top View)	...	37
Fig. 8-1-9	Gate-Driver Board: Component Locations 9 (Top View)	...	45
Fig. 8-2-1	Off-Board Electronic Components: Component Locations 1	...	46
Fig. 8-2-2	Off-Board Electronic Components: Component Locations 2	...	47
Fig. 8-2-3	Off-Board Electronic Components: Component Locations 3	...	48
Components			
Table 3	Component Count	...	49
Fig. 9-1-1	Gate-Driver Board: Components 1	...	50
Fig. 9-1-5	Gate-Driver Board: Components 5	...	54
Fig. 9-2-1	Off-Board Electronic Components 1	...	55
Fig. 9-2-2	Off-Board Electronic Components 2	...	56
Interface			
Fig. 10-1-1	Internal Connections 1	...	57
Fig. 10-1-4	Internal Connections 4	...	60
Fig. 10-2-1	Gate-Driver Board Connector 1	...	61
Fig. 10-2-2	Gate-Driver Board Connector 2	...	62
Sensor			
Fig. 11-1	Gate-Driver Board Sensor Location	...	63
Fig. 11-2	Inverter Unit Sensor Location	...	64
Circuit			
Fig. A-1	Analysis Area	...	A-1
Fig. A-2	Block Diagram	...	A-2
Fig. A-3	Schematic	...	A-3
Component Information			
Table B-1	Gate-Driver Board Parts List	...	B-1
Table B-2	Off-Board Electronic Components List	...	B-26
Transformer Measurement			
Fig. C-1	Transformer (0043) Measurement	...	C-1

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