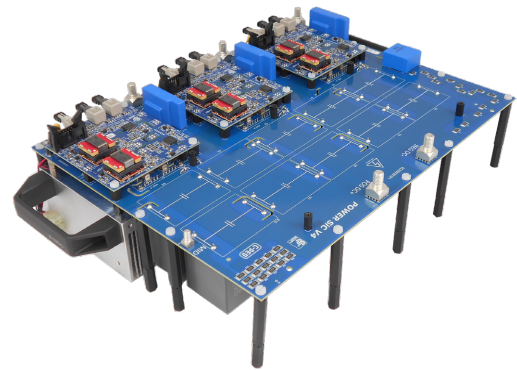


Three Phase G4-1520

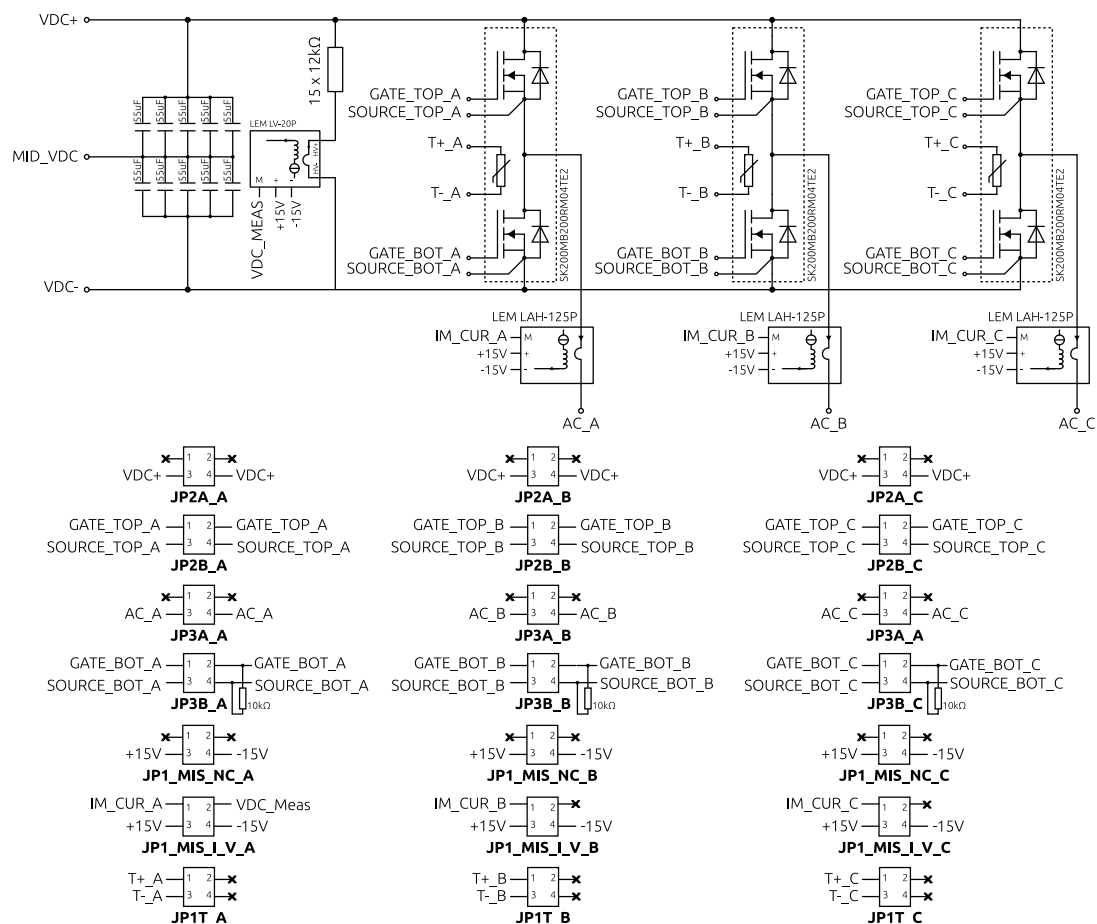
1500V, 100A, Silicon Carbide Module
PN: ED-0164

Key Technical Features:

- SiC MOSFETs power devices (**SK200MB200RM04TE2**) with integrated temperature sensor
- Integrated current sensor
- Integrated DC-link voltage measurement
- Integrated heat-sink with forced air-cooling
- M5 screw terminals for power connections



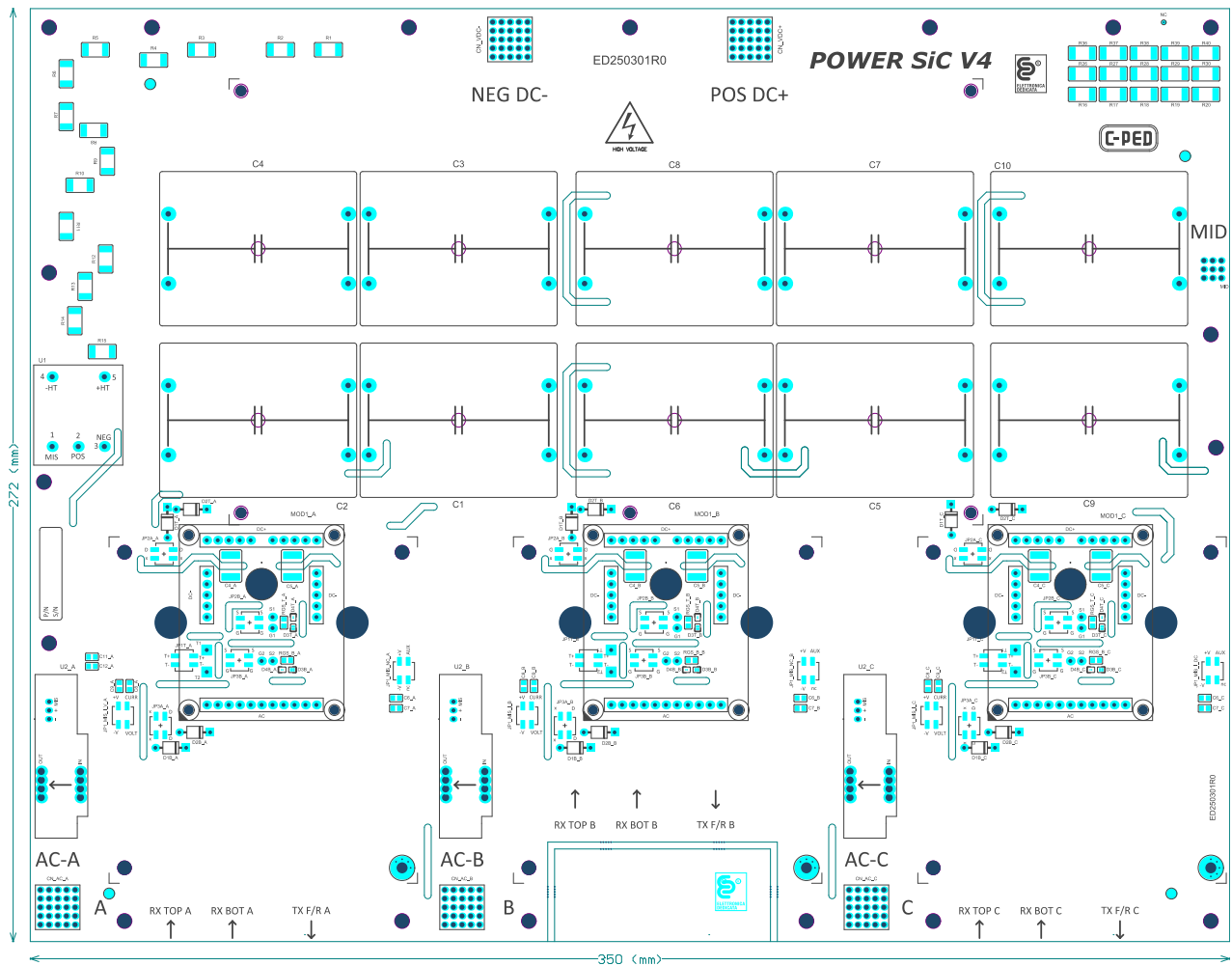
Simplified Schematic



Characteristics per phase

Rated DC voltage	1500V
Rated current	100A
Max. switching frequency	60 kHz
Voltage measurement	LEM LV20-P
Current measurement	LEM LAH 50-P
Temperature sensor	Integrated NTC thermistor

Layout



Connections DC Bus


Connector	Pin	Name	Description
CN_VDC+ M5 screw terminal	-	VDC+	Power connection for positive of DC bus
MID M5 screw terminal	-	MID_VDC	Power connection for mid-point of DC bus
CN_VDC- M5 screw terminal	-	VDC-	Power connection for negative of DC bus

Connections Phases outputs

Connector	Pin	Name	Description
CN_AC_A M5 screw terminal	-	AC-A	Power connection of mid-point of phase A leg
CN_AC_B M5 screw terminal	-	AC-B	Power connection of mid-point of phase B leg
CN_AC_C M5 screw terminal	-	AC-C	Power connection of mid-point of phase C leg








Connections phase A


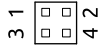
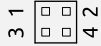
Connector	Pin	Name	Description
JP1_MIS_NC_A  IDC Strip 02x02 P2.54mm Vertical	1	AUX_Meas_A	Auxiliar measurement output path
	2	NC	Not connected
	3	+15V	Positive +15V supply voltage path for sensor
	4	-15V	Negative -15V supply voltage path for sensor
JP1_MIS_I_V_A  IDC Strip 02x02 P2.54mm Vertical	1	IM_CUR_A	Current measurement output path
	2	VDC_Meas	Voltage measurement output path
	3	+15V	Positive +15V supply voltage path for sensors
	4	-15V	Negative -15V supply voltage path for sensors
JP1T_A  IDC Strip 02x02 P2.54mm Vertical	1	T+_A	Connection for the internal SiC module NTC thermistor
	2	NC	Not connected
	3	T-_A	Connection for the internal SiC module NTC thermistor
	4	NC	Not connected
JP2A_A  IDC Strip 02x02 P2.54mm Vertical	1	NC	Not connected
	2		
	3	VDC+	Drain terminal connection of the upper switching device
	4		
JP2B_A  IDC Strip 02x02 P2.54mm Vertical	1	GATE_TOP_A	Gate drive signal for the upper switching device
	2		
	3	SOURCE_TOP_A	Source terminal connection of the upper switching device.
	4		
JP3A_A  IDC Strip 02x02 P2.54mm Vertical	1	NC	Not connected
	2		
	3	AC_A	Drain terminal connection of the lower switching device
	4		
JP3B_A  IDC Strip 02x02 P2.54mm Vertical	1	GATE_BOT_A	Gate drive signal for the lower switching device
	2		
	3	SOURCE_BOT_A	Source terminal connection of the lower switching device.
	4		



Connections phase B

Connector	Pin	Name	Description
JP1_MIS_NC_B  IDC Header 02x02 P2.54mm Vertical	1	AUX_Meas_B	Auxiliar measurement output path
	2	NC	Not connected
	3	+15V	Positive +15V supply voltage path for sensor
	4	-15V	Negative -15V supply voltage path for sensor
JP1_MIS_I_V_B  IDC Header 02x02 P2.54mm Vertical	1	IM_CUR_B	Current measurement output path
	2	NC	Not connected
	3	+15V	Positive +15V supply voltage path for sensors
	4	-15V	Negative -15V supply voltage path for sensors
JP1T_B  IDC Header 02x02 P2.54mm Vertical	1	T+_B	Connection for the internal SiC module NTC thermistor
	2	NC	Not connected
	3	T-_B	Connection for the internal SiC module NTC thermistor
	4	NC	Not connected
JP2A_B  IDC Header 02x02 P2.54mm Vertical	1	NC	Not connected
	2		
	3	VDC+	Drain terminal connection of the upper switching device
	4		
JP2B_B  IDC Header 02x02 P2.54mm Vertical	1	GATE_TOP_B	Gate drive signal for the upper switching device
	2		
	3	SOURCE_TOP_B	Source terminal connection of the upper switching device.
	4		
JP3A_B  IDC Header 02x02 P2.54mm Vertical	1	NC	Not connected
	2		
	3	AC_B	Drain terminal connection of the lower switching device
	4		
JP3B_B  IDC Header 02x02 P2.54mm Vertical	1	GATE_BOT_B	Gate drive signal for the lower switching device
	2		
	3	SOURCE_BOT_B	Source terminal connection of the lower switching device.
	4		



Connector	Pin	Name	Description
JP1_MIS_NC_C  IDC Header 02x02 P2.54mm Vertical	1	AUX_Meas_C	Auxiliar measurement output path
	2	NC	Not connected
	3	+15V	Positive +15V supply voltage path for sensor
	4	-15V	Negative -15V supply voltage path for sensor
JP1_MIS_I_V_C  IDC Header 02x02 P2.54mm Vertical	1	IM_CUR_C	Current measurement output path
	2	NC	Not connected
	3	+15V	Positive +15V supply voltage path for sensors
	4	-15V	Negative -15V supply voltage path for sensors
JP1T_C  IDC Header 02x02 P2.54mm Vertical	1	T+_C	Connection for the internal SiC module NTC thermistor
	2	NC	Not connected
	3	T-_C	Connection for the internal SiC module NTC thermistor
	4	NC	Not connected
JP2A_C  IDC Header 02x02 P2.54mm Vertical	1	NC	Not connected
	2		
	3	DC+	Drain terminal connection of the upper switching device
	4		
JP2B_C  IDC Header 02x02 P2.54mm Vertical	1	GATE_TOP_C	Gate drive signal for the upper switching device
	2		
	3	SOURCE_TOP_C	Source terminal connection of the upper switching device.
	4		
JP3A_C  IDC Header 02x02 P2.54mm Vertical	1	NC	Not connected
	2		
	3	AC_C	Drain terminal connection of the lower switching device
	4		
JP3B_C  IDC Header 02x02 P2.54mm Vertical	1	GATE_BOT_C	Gate drive signal for the lower switching device
	2		
	3	SOURCE_BOT_C	Source terminal connection of the lower switching device.
	4		

