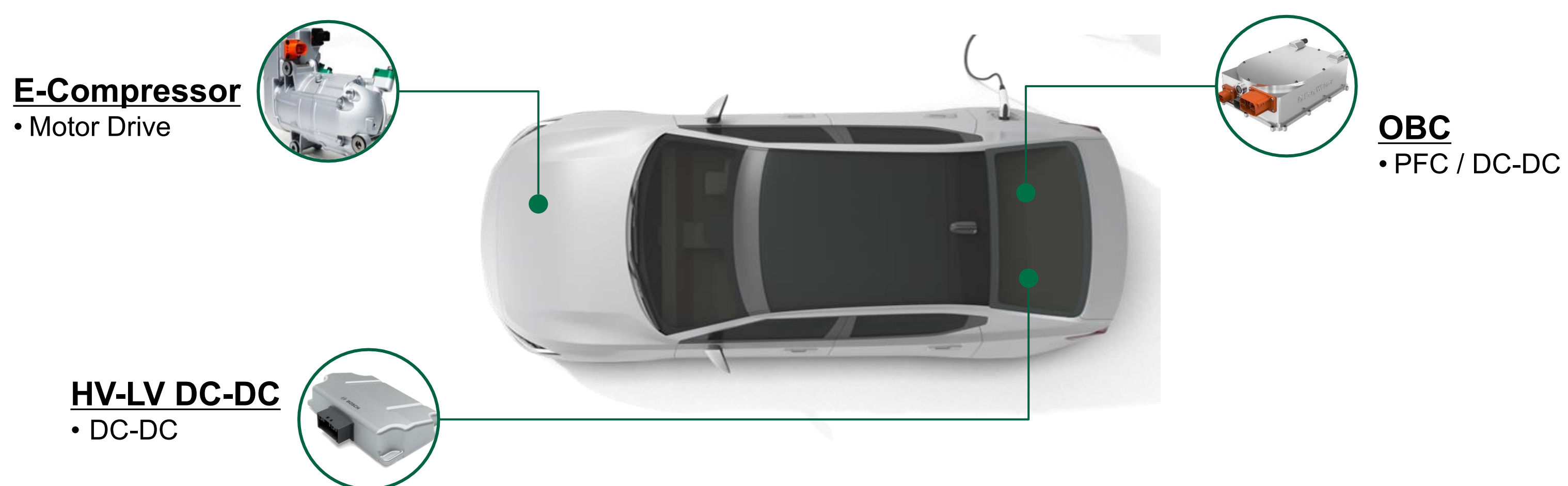


Product Brief

Automotive 1200V *e*SiC MOSFET and Diode

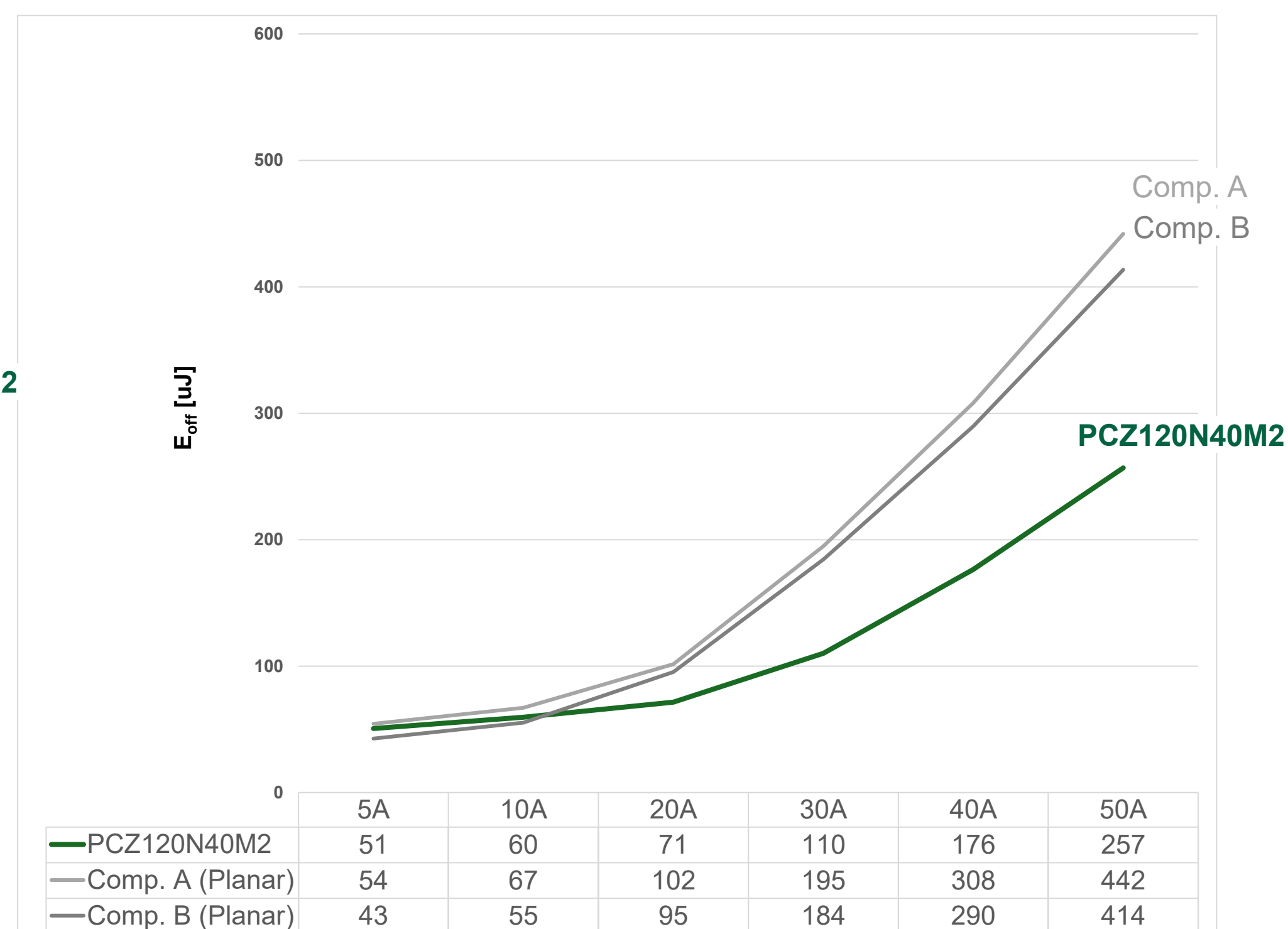
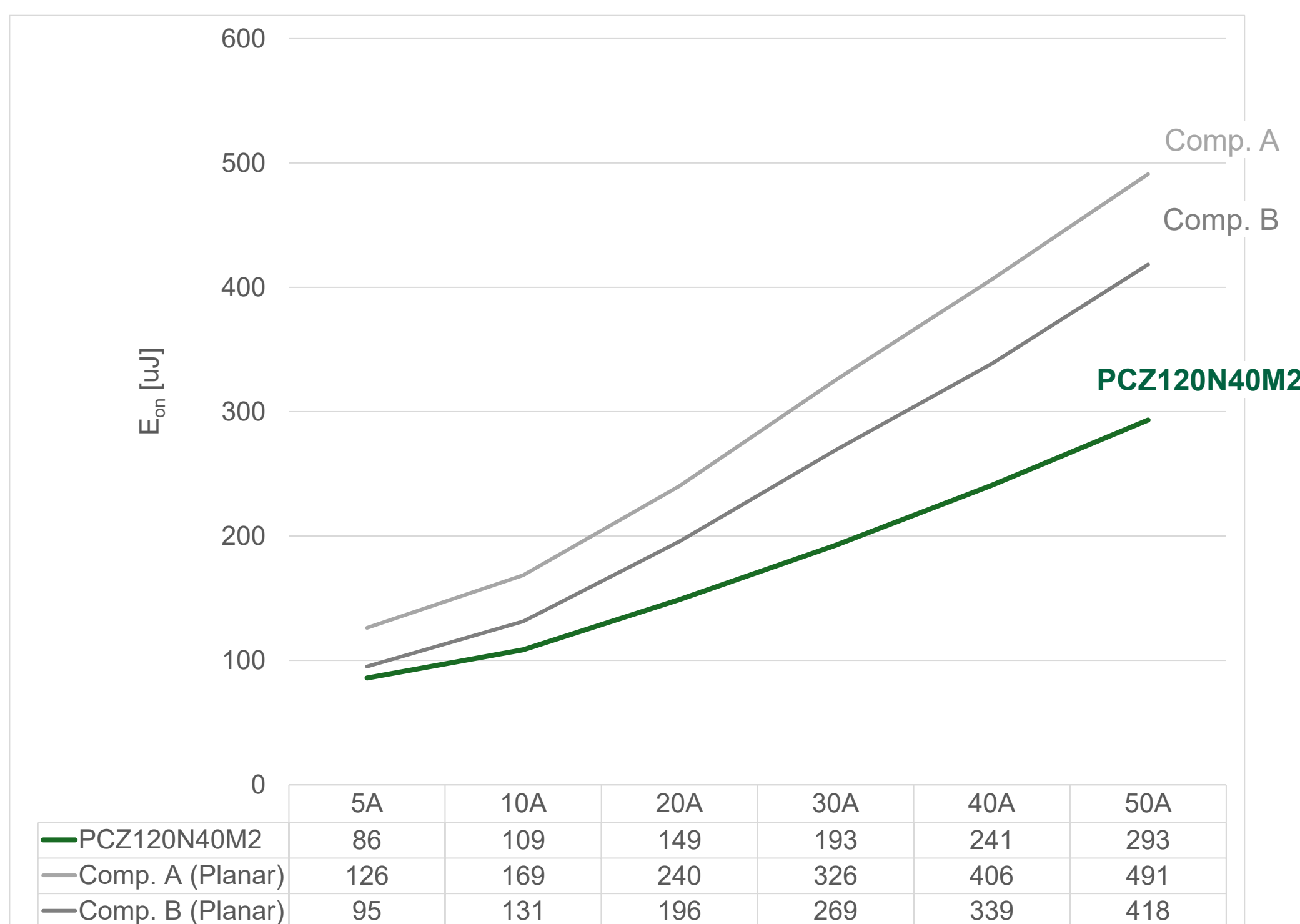
Power Master Semiconductor's Automotive 1200V *e*SiC MOSFET and *e* SiC Diode deliver exceptional power density, enhanced energy efficiency, and superior reliability. The comprehensive product portfolio includes 1200V SiC MOSFETs and Diode in TO-247-2L, TO-247-3L, TO-247-4L, D2PAK-7L, and TSPAK packages, offering $R_{DS(ON)}$ ranging from 16m Ω to 80m Ω , and maximum continuous drain current ratings from 10A to 129A at 25°C. With high power density, outstanding efficiency, support for bi-directional charging, and the ability to significantly reduce overall system cost, Power Master Semiconductor's 1200V automotive *e*SiC MOSFETs and Diode solutions are ideally suited for onboard charger (OBC), high-voltage DC-DC converter and e-compressor applications. Additionally, both through-hole and SMD packages incorporate kelvin-source pins to ensure optimized switching behavior and reduced parasitic inductance.

Target Applications



Power Master Semiconductor's Automotive 1200V *e*SiC MOSFET leverages cutting-edge technology to overcome the conventional trade-off between specific on-resistance (R_{sp}) and short-circuit withstand time (SCWT).

Performance Benchmark

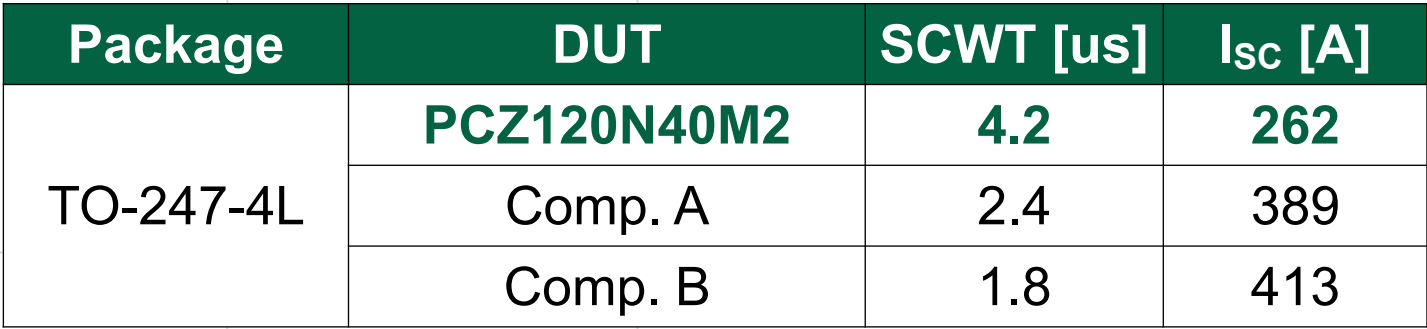


Switching Performance



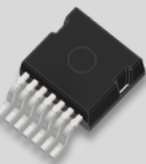
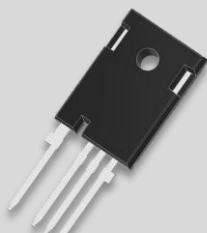
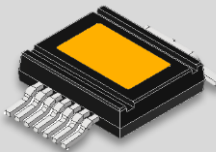
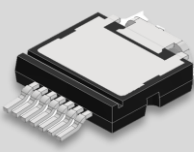
POWERMASTER
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Masters of Power Solution



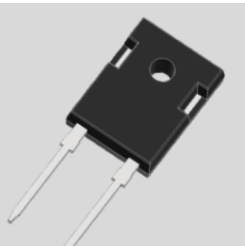
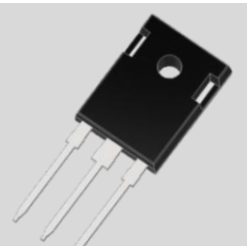
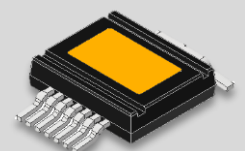
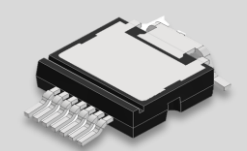
Automotive 1200V *e*SiC Gen2 MOSFET



Package R _{DS(ON)_typ}	Bare Die	D2PAK-7L	TO-247-4L Notch	TSPAK-DBC	TSPAK-LF
					
16mΩ	PCO120N16M2A	PCZN120N16M2A			
21mΩ	PCO120N21M2A	PCBF120N21M2A	PCZN120N21M2A	PCRZ120N21M2A	PCR120N21M2A
31mΩ	PCO120N31M2A	PCBF120N31M2A	PCZN120N31M2A		
40mΩ	PCO120N40M2A	PCBF120N40M2A	PCZN120N40M2A	PCRZ120N40M2A	PCR120N40M2A
60mΩ	PCO120N60M2A	PCBF120N60M2A		PCRZ120N60M2A	PCR120N60M2A
80mΩ	PCO120N80M2A	PCBF120N80M2A		PCRZ120N80M2A	PCR120N80M2A

Automotive 1200V *e*SiC Diode



I _F	Package	Bare Die	TO-24724L	TO-247-3L	TSPAK-DBC	TSPAK-LF
						
50A		PCO120S50D1QA			PCRZ120S50D1QA	PCR120S50D1QA
40A		PCO120S40D1A	PCA120S40D1A	PCW120D40D1A PCW120D40D1QA	PCRZ120S40D1A	PCR120S40D1A
30A		PCO120S30D1A PCO120S30D1QA	PCA120S30D1A PCA120S30D1QA	PCW120D30D1A		
20A		PCO120S20D1A	PCA120S20D1A	PCW120D20D1A		
15A		PCO120S15D1A	PCA120S15D1A	PCW120D15D1A		
10A		PCO120S10D1A	PCA120S10D1A	PCW120D10D1A		

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