POWERMASTER SEMICONDUCTOR

Masters of Power Solution

Product Brief

1200V Gen2 *e*SiC MOSFET

The 1200V Gen2 *e*SiC MOSFET to meet the requirements of higher efficiency, high power density, robust reliability, and ruggedness in various applications such as DC EV charging stations, solar inverters, energy storage systems (ESS), motor drives and industrial power supplies.

EV Charger | Industrial Motor | Solar | UPS

New

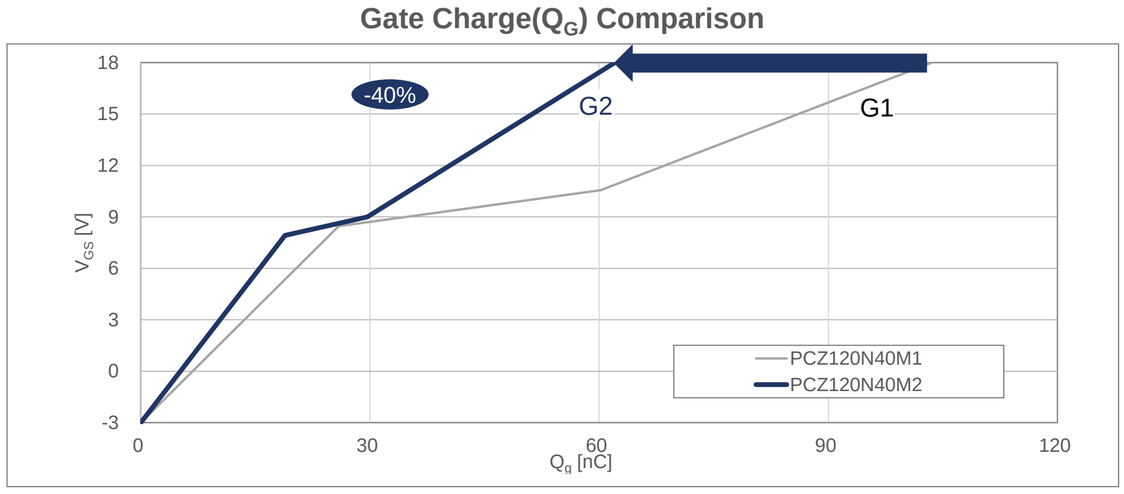
1200V Gen2 *e*SiC MOSFET

Key Features	Key Benefits
Improved Switching Performance	Higher System Efficiency
Improved FOM : Q_G x $R_{DS(ON)}$, E_{OSS} x $R_{DS(ON)}$, Q_{OSS} x $R_{DS(ON)}$	Reduced Cooling Effort
Improved Short Circuit Capability	Better System Reliability
Add Top Side Cooling Package : TSPAK	Increased Power Density

The new generation of 1200V *e*SiC MOSFET, Gen2 improved key FOM characteristics such as gate charge (Q_G), stored energy in output capacitance (E_{OSS}), reverse recovery charger (Q_{RR}) and output charge (Q_{OSS}) by up to 30% compared to previous generation. This new generation SiC MOSFET technology offers significant system advantages such as smaller, lighter, higher efficiency, and less cooling effort thanks to its much lower power losses in various power conversion applications. 1200V *e*SiC MOSFET Gen2 offer excellent switching performance and 100% tested avalanche capability. It achieved 44% lower switching loss compared to the previous generation by extremely low miller capacitance (Q_{GD}).

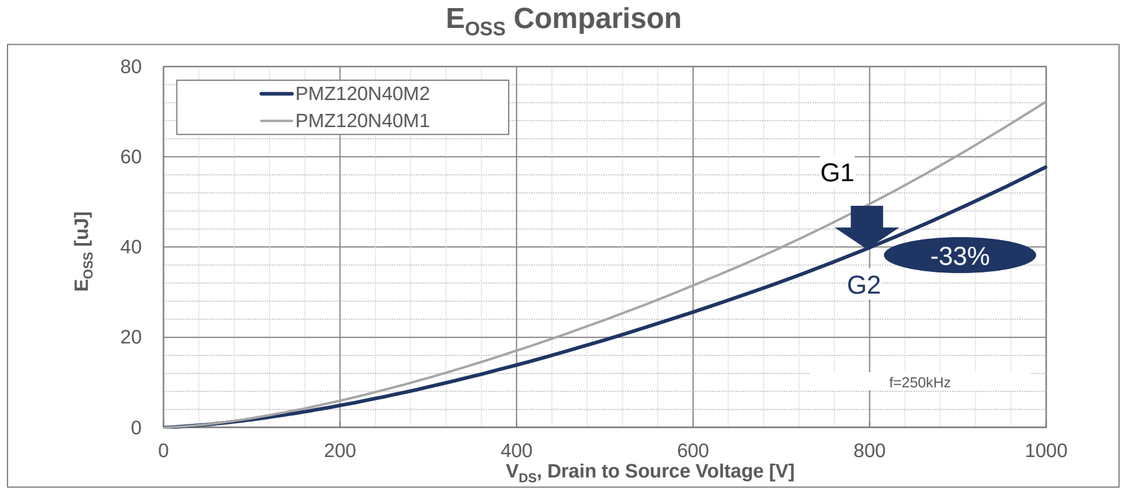
Lower means lower switching loss & gate driving loss

Gate Charge(Q_G) Comparison



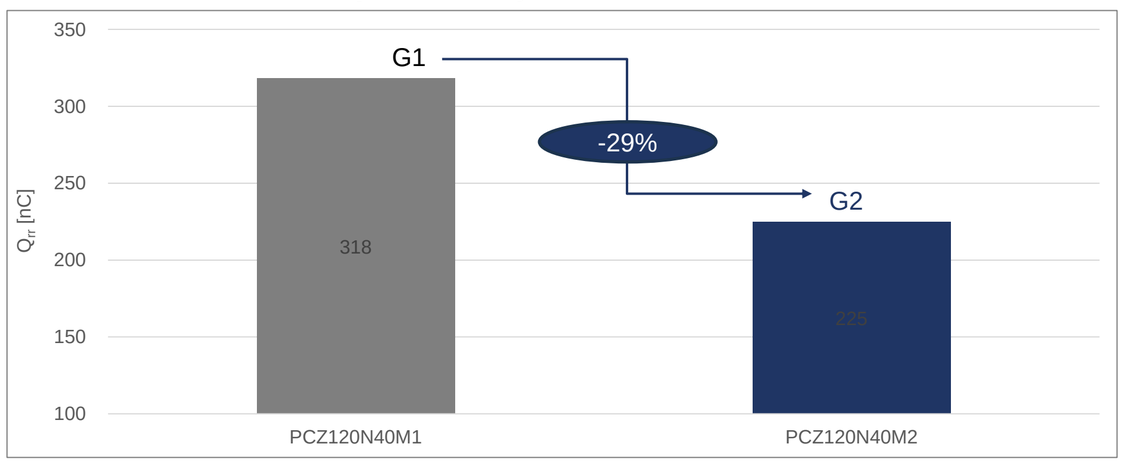
Lower is better for light load efficiency

E_{OSS} Comparison



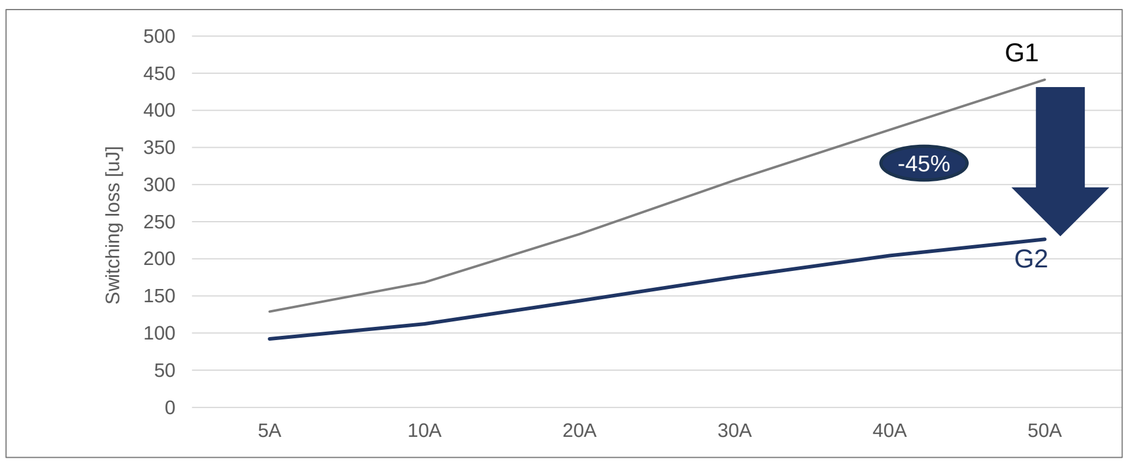
Lower is better for lower turn-on loss in Totem pole PFC & inverter topologies

Improved Body Diode Performance



Lower is better for system efficiency

Excellent Switching Performance



https://www.powermastersemi.com

Power Master Semiconductor Co., Ltd

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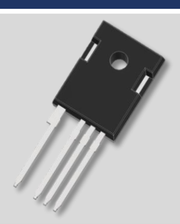
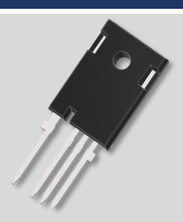
1200V Gen2 *e*SiC MOSFET (Industrial Grade) New

Voltage	Package / $R_{DS(ON)\_typ}$	Bare Die	D2PAK 7L	TO-247 3L	TO-247 4L	TO-247 4L Notch
						
1200V	16mΩ	PCO120N16M2		PCW120N16M2	PCZ120N16M2	PCZN120N16M2
	21mΩ	PCO120N21M2	PCBF120N21M2	PCW120N21M2	PCZ120N21M2	PCZN120N21M2
	31mΩ	PCO120N31M2	PCBF120N31M2	PCW120N31M2	PCZ120N31M2	PCZN120N31M2
	40mΩ	PCO120N40M2	PCBF120N40M2	PCW120N40M2	PCZ120N40M2	PCZN120N40M2
	60mΩ	PCO120N65M2	PCBF120N60M2	PCW120N60M2	PCZ120N60M2	PCZN120N60M2
	80mΩ	PCO120N80M2	PCBF120N80M2	PCW120N80M2	PCZ120N80M2	PCZN120N80M2

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