

650V Gen1 eSiC MOSFET

650V SiC MOSFETs offer 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 such as AI data center, cloud servers, 5G telecom power supplies, motor control, energy storage system (ESS), Solar and electric vehicle charging system applications that required high frequency operation and higher efficiency



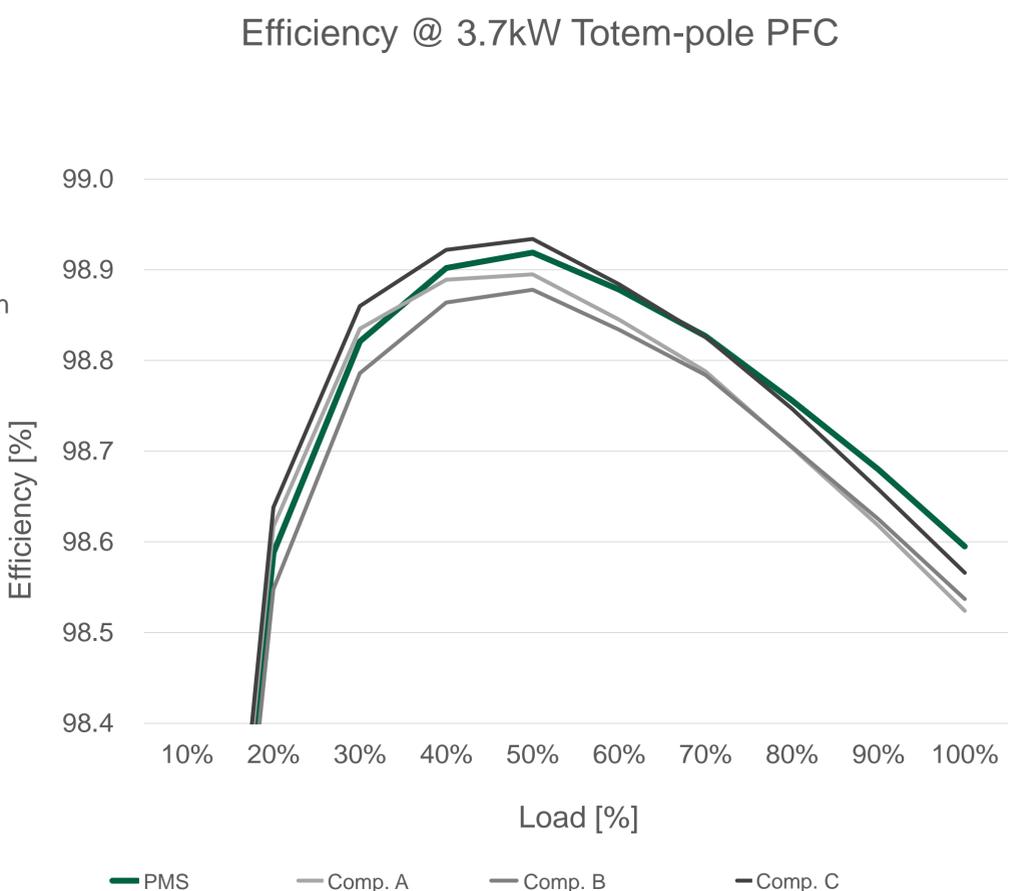
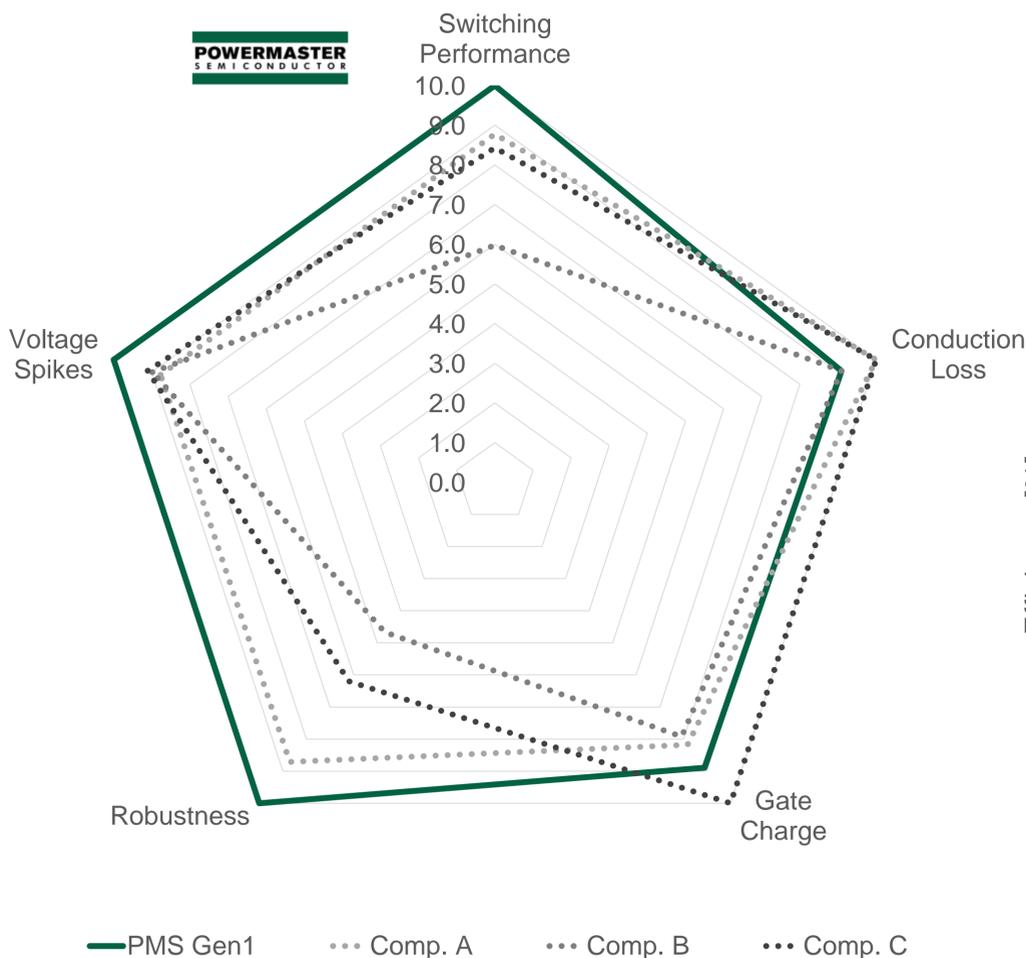
Key Features

- Extremely low switching losses
- Low FOM : $Q_G \times R_{DS(ON)}$
- Low switching noise
- Robust avalanche capability

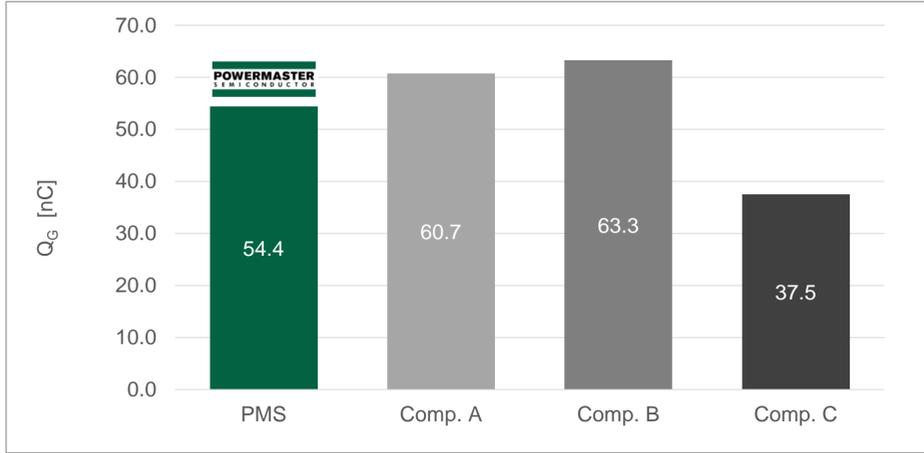
Key Benefits

- Higher system efficiency
- Higher frequency applicability
- Better design flexibility
- Better system reliability

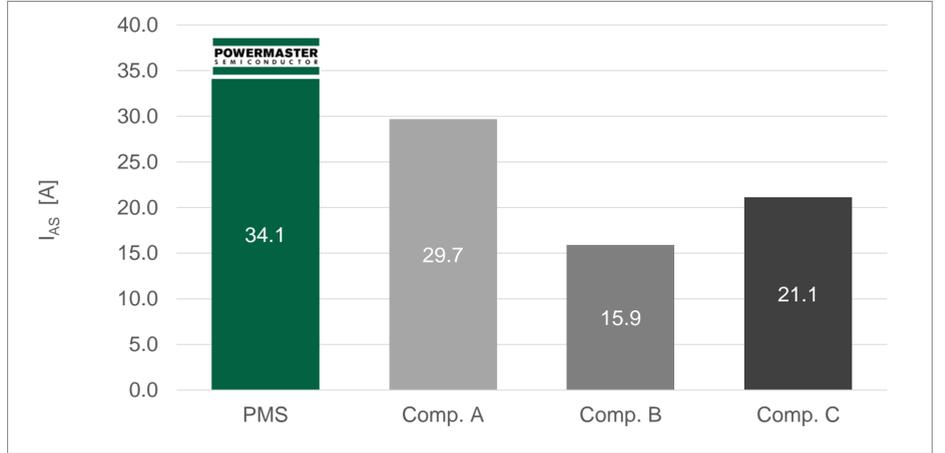
The 650V eSiC MOSFETs enable innovative, high-performance PSU designs that reduce footprints while addressing thermal and electromagnetic interference challenges. These MOSFETs offer excellent switching performance, a stable threshold voltage for parallel operation, and 100% tested avalanche capability. They exhibit dramatically reduced switching losses, minimized voltage spikes, and lower dynamic C_{OSS} loss, improving system efficiency and overall power savings.



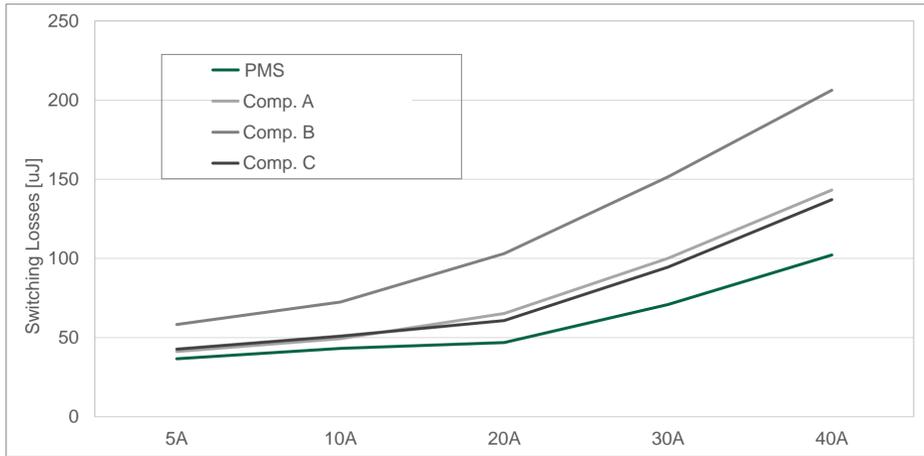
Lower Q_G for lower switching loss & gate driving loss



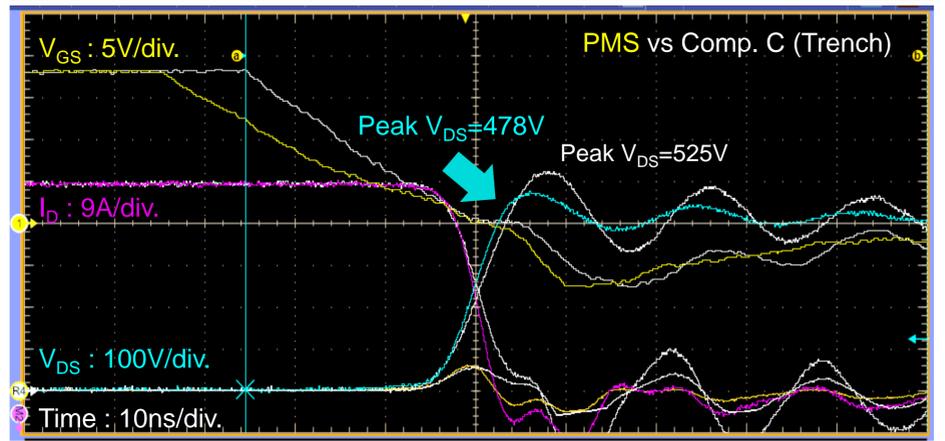
Higher avalanche capability for better system reliability



Lower switching losses for higher system efficiency



Lower voltage spikes for better EMI and design flexibility



650V Gen1 eSiC MOSFET (Industrial Grade)

New

Voltage	Package	Bare Die	TOLL	D2PAK-7L	TO-247-4L	TO-247-4L
650V	$R_{DS(ON)}_{typ}$ 15m Ω	PCO65N15M1	PCT65N15M1	PCBF65N15M1	PCW65N15M1	PCZ65N15M1
	22m Ω	PCO65N22M1	PCT65N22M1			
	27m Ω	PCO65N27M1	PCT65N27M1	PCBF65N27M1	PCW65N27M1	PCZ65N27M1
	39m Ω	PCO65N39M1	PCT65N39M1			
	45m Ω	PCO65N45M1	PCT65N45M1	PCBF65N45M1	PCW65N45M1	PCZ65N45M1

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