
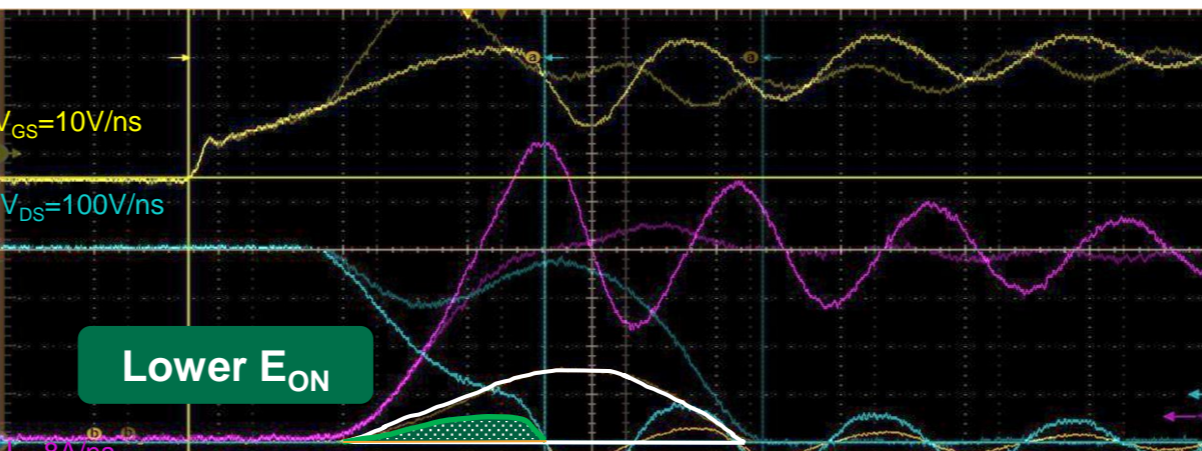
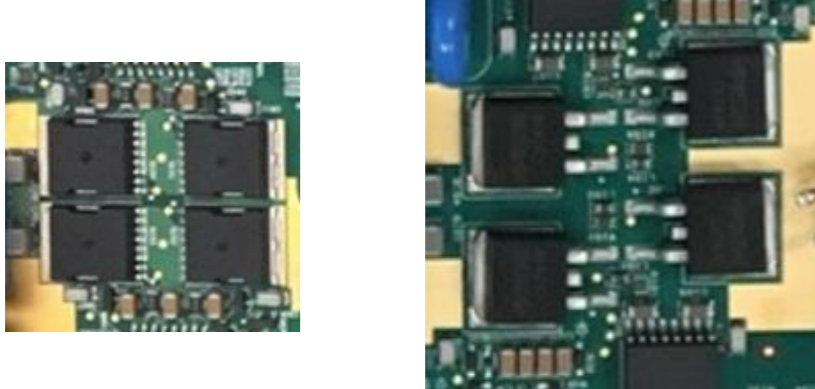
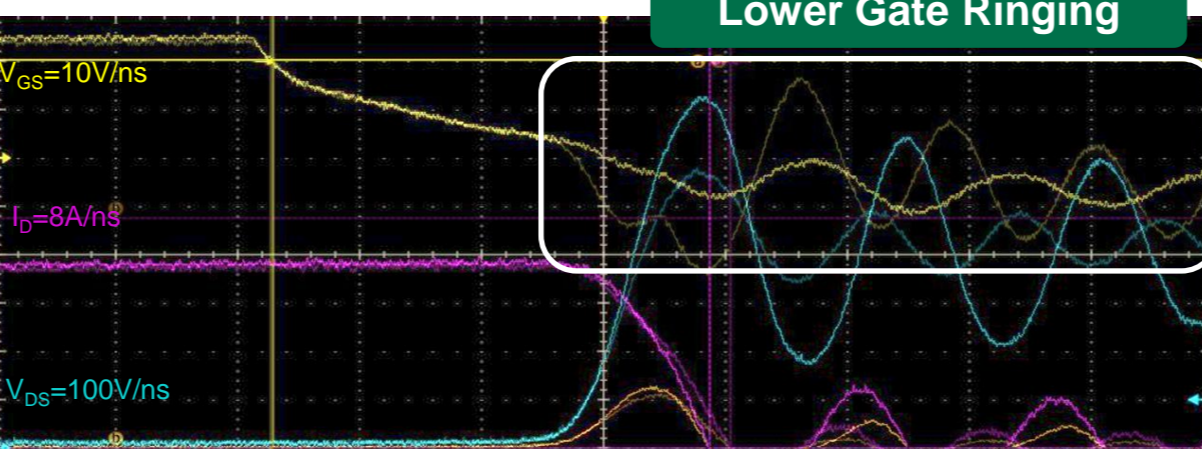
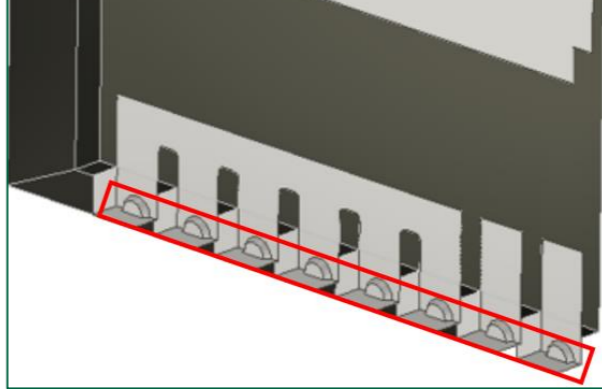



TOLL Package for 650V Gen1 eSiC MOSFET

650V SiC MOSFETs in TO leadless (TOLL) package offer enhanced high power density, efficiency and reliability with improved thermal performance in compact footprint in various power conversion applications such as AI data center, cloud servers, 5G telecom power supplies, energy storage system (ESS) applications.

<p>Smaller & Thinner</p> <p>9.9mm x 11.7mm x 2.3mm vs 10mm x 15mm x 4.4mm</p> 	<p>Less Switching Losses</p> <p>62% less turn-on loss Kelvin Source & Low package inductance (2nH)</p> 	<p>Robust Package</p> <p>Moisture Sensitivity Level 1 (MSL 1)</p> <p>Superior Thermal Performance Low Thermal Resistance</p>
<p>Compact design</p> <p>30% less board space and 60% less height than the D2PAK 7-lead package</p> 	<p>Less Switching Noise</p> <p>Less gate ringing Improved EMI, simplifies board-design</p> 	<p>Special grooves In gate and source pins</p> <p>Enhance the performance of the solder joint</p> 

The TOLL package has a footprint of 9.9mm x 11.7mm, reducing the PCB area by 30% compared to the D2PAK 7-lead package. Moreover, with a thickness of 2.3mm, it has 60% less height than the D2PAK 7-lead package. The TOLL offers superior thermal performance and low package inductance (2nH) compared to D2PAK 7-lead package. Kelvin source configuration lowers gate noise and reduces turn-on loss by 60% compared to same device without Kelvin source configuration, enabling higher frequency operation and improved power density. The new PCT65N27M1 has a V_{DSS} rating of 650 V with a typical $R_{DS(ON)}$ of 27m Ω and a maximum drain current (I_D) of 84 A. Power Master Semiconductor's products in TOLL package has special grooves in the gate and source pins to enhance the performance of the solder joint and offers Moisture Sensitivity Level 1 (MSL 1)

650V Gen1 eSiC MOSFET in TOLL Package

Part Name	V_{BR}	$R_{DS(ON)}$	Package
PCT65N15M1	650V	15m Ω	
PCT65N22M1	650V	22m Ω	
PCT65N27M1	650V	27m Ω	
PCT65N39M1	650V	39m Ω	
PCT65N45M1	650V	45m Ω	

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