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SiC

ROHM SEMICONDUCTOR

Leverages the high-speed switching performance of SiC

4-Pin 650V/1,200V SiC MOSFETs

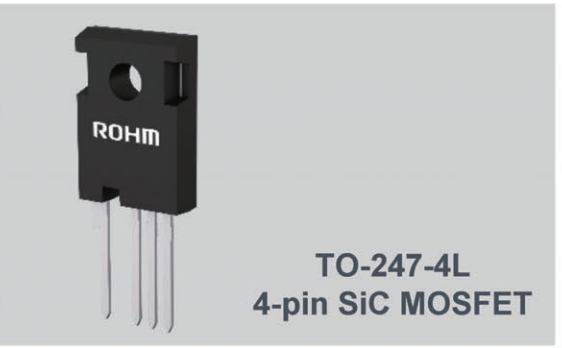
SCT3xxx xR series

4-pin package (TO-247-4L) reduces switching loss by 35%

Separating the driver and power source pins maximizes SiC switching performance by minimizing the effects of the inductance component.

Adopts trench structure proven to decrease power consumption

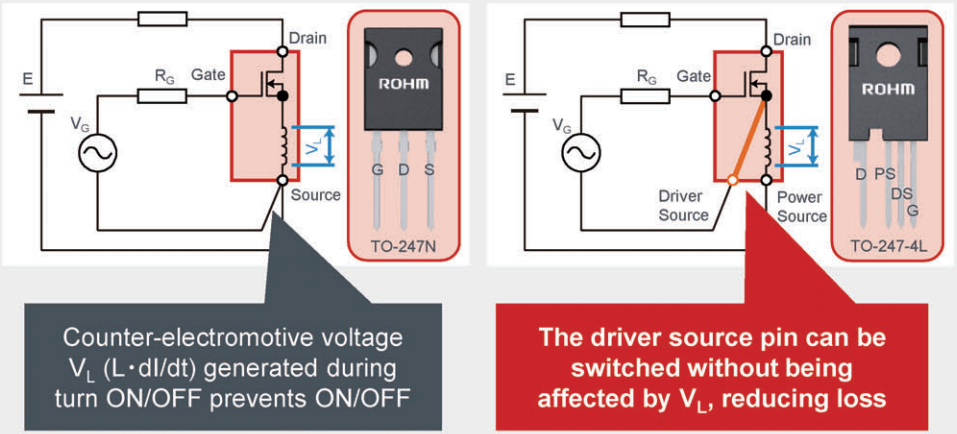
Delivers lower ON resistance and faster switching speeds than planar SiC, resulting in lower power consumption and loss.



Note: Package refers to JEDEC code.

SiC MOSFET Structure Comparison

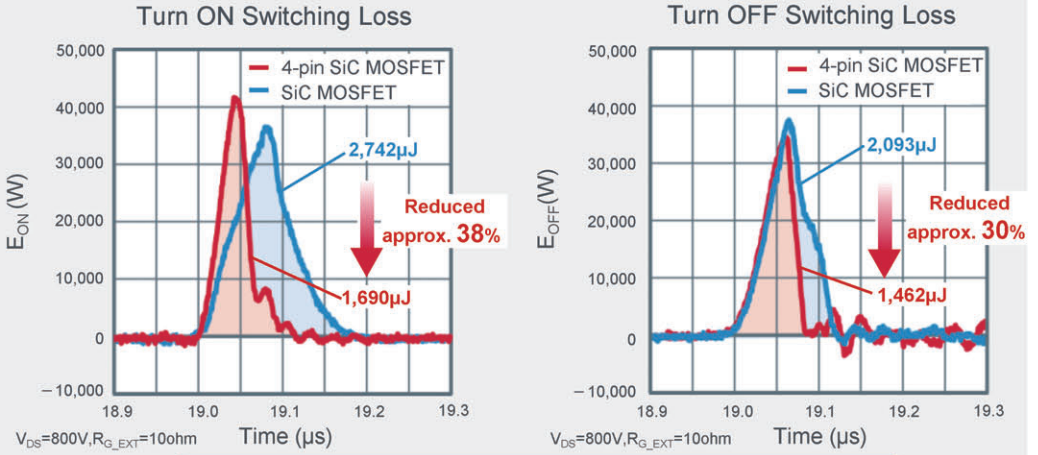
Structural Comparison: Standard MOSFET vs ROHM's new 4-pin SiC MOSFET



Counter-electromotive voltage V_L (L·dI/dt) generated during turn ON/OFF prevents ON/OFF

The driver source pin can be switched without being affected by V_L, reducing loss

High-Speed Switching Reduces Loss



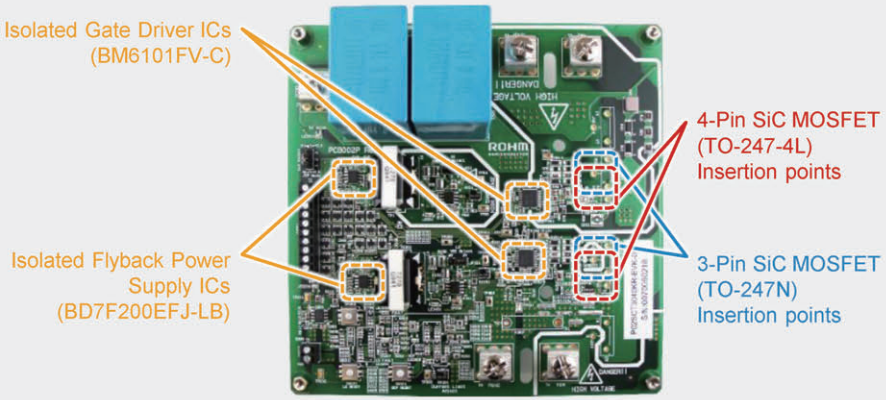
Decreases total switching loss (turn ON and OFF losses) by 35% over conventional products

4-Pin SiC MOSFET series

Part No.	Polarity (ch)	V_{DSS} (V)	I_D (A)	P_D (W) (T_C=25°C)	$R_{DS(on)}$ Typ(mΩ)	Qg Typ(nC)		Package
					V_{GS}=18V	V_{GS}=18V	Drive Voltage (V)	
New SCT3030AR	N	650	70	262	30	104	18	 TO-247-4L
New SCT3060AR			39	165	60	58	18	
New SCT3080AR			30	134	80	48	18	
New SCT3040KR		1,200	55	262	40	107	18	
New SCT3080KR			31	165	80	60	18	
New SCT3105KR			24	134	105	51	18	

Note: Package indicates JEDEC code.

SiC MOSFET Half-Bridge Evaluation Board



P02SCT3040KR-EVK-001

ROHM also offers an evaluation board for half-bridge circuits optimized for SiC MOSFET drive utilizing in-house isolated gate driver and flyback power supply ICs.
The versatile design allows for a variety of uses, including double pulse testing to evaluate the relative loss of the device itself along with buck/boost operation.
In addition, supporting materials such as user manuals and application notes are available online.

SiC Support Page:
https://www.rohm.com/power-device-support

Available for purchase in single units

MOUSER ELECTRONICS

Digi-Key ELECTRONICS

Evaluation Board Part No: P02SCT3040KR-EVK-001

Online Distributors: Mouser, Digi-Key

The content specified in this document is correct as of November 1st, 2019.

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