

## Large Portfolio Of Automotive-Grade SiC MOSFETs For EV Applications

According to [ROHM](#), its addition of 10 new automotive-grade SiC MOSFETs in the SCT3xxxxHR series enables the company to offer the industry's largest lineup of AEC-Q101 qualified SiC MOSFETs that provide the high reliability necessary for automotive on-board chargers and dc-dc converters (see the table).

Demands for high power and efficiency in 11-kW and 22-kW onboard chargers has lead to increased adoption of SiC MOSFETs. In addition, higher voltage batteries (800-V) require power devices featuring low loss and higher withstand voltages. To meet these needs, ROHM added 10 new models to its lineup of AEC-Q101 qualified MOSFETs, which uses a trench gate structure (see the table). According to the company, the result is the industry's largest portfolio, available in both 650-V and 1200-V variants.

Under a corporate objective of "Quality First" established since its founding, ROHM utilizes a vertically integrated production system within the group that infuses superior quality into every process, from development to final testing, while also providing reliability traceability and an optimized supply chain. For SiC power devices as well, an integrated production system that covers everything from wafer fabrication to packaging is used to eliminate "black boxes" during the manufacturing process, ensuring higher reliability and quality (see the figure). For more information, see the SiC MOSFET landing [page](#).

Table. Product lineup. According to the company, it has the industry's largest portfolio of AEC-Q101 qualified SiC MOSFETs that provide the high reliability necessary for automotive on-board chargers and dc-dc converters.

Generation (Gate Structure)	Part No.	V <sub>DS</sub> (V)	ON Resistance (typ.)(mΩ)	I <sub>D</sub> (A)	P <sub>D</sub> (W)	Operating Temperature Range(°C)	Package	Compliant Standard
3rd Gen (Trench Gate Structure)	<b>New</b> SCT3017ALHR	650	17	118	427	-55 to +175	TO-247N	AEC-Q101
	<b>New</b> SCT3022ALHR		22	93	339			
	SCT3030ALHR		30	70	262			
	<b>New</b> SCT3060ALHR		60	39	165			
	<b>New</b> SCT3080ALHR		80	30	134			
	<b>New</b> SCT3120ALHR		120	21	103			
	<b>New</b> SCT3022KLHR	1200	22	95	427			
	<b>New</b> SCT3030KLHR		30	72	339			
	SCT3040KLHR		40	55	262			
	<b>New</b> SCT3080KLHR		80	31	165			
<b>New</b> SCT3105KLHR		105	24	134				
<b>New</b> SCT3160KLHR		160	17	103				
2nd Gen (Planar Gate Structure)	SCT2080KEHR	1200	80	40	262			



Figure. Rohm's automotive-grade SiC MOSFETs are manufactured in a vertically integrated production system, which enables high levels of quality control and device reliability.