

STPOWER Gen3 SiC MOSFETs

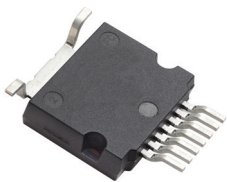


Higher efficiency for next generation electric vehicle applications



SiC Gen3 technology sets new benchmarks for transistor efficiency, power density, and switching performance

ST Gen3 SiC MOSFETs feature very low $R_{DS(ON)}$ and are the optimal choice for automotive applications, allowing extended mileage range, optimized systems size and weight for electric vehicles. Our Gen3 SiC MOSFET portfolio covers a broad BV_{DSS} Voltage range, 650 V, 750 V, 900 V and 1200 V. Devices are offered in state-of-the-art packages designed to meet the highest automotive and industrial standards.



HU3PAK



STPAK

KEY FEATURES & BENEFITS

- Very low $R_{DS(on)}$ over the entire temperature range
- Higher operating temperature (up to 200 °C)
- Very fast robust intrinsic body diode
- Source sensing pin for higher efficiency
- Easy to drive

KEY APPLICATIONS

- Charging stations
- Traction inverters
- OBC
- Power conversion

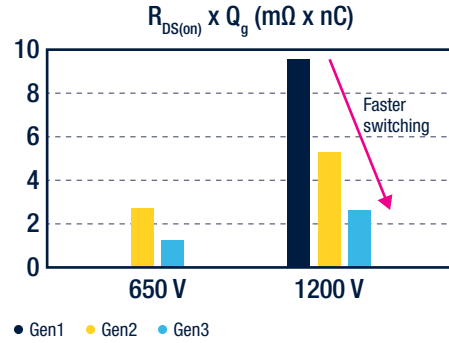
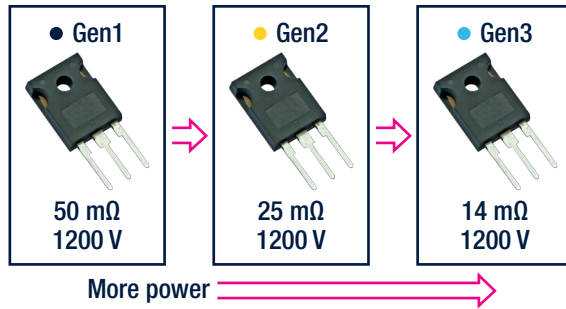
STPOWER SiC Gen3 MOSFETs are also available in the STPAK package, which is tailored for EV traction inverters

STPOWER SiC Gen3 MOSFET benefits vs previous generations:

The lower $R_{DS(on)}$ over the entire temperature range combined with low capacitance and very high switching frequency improves application performance in terms of higher efficiency and lower system size and weight. SiC Gen3 MOSFETs can even be driven at 15 V V_{gs}^* .

SiC MOSFET Advances in Technology

Figure of Merits



STPOWER Gen3 SiC MOSFETs

BV _{DSS(V)}	Part Number	$R_{DS(on)}$ Typ mΩ	ID max	Qg	HiP247	HiP247/LL	STPAK	H2PAK-7	HU3PAK	HiP247-4LL
650 V	SCT018H65G3AG	20	55	79.4				X		
	SCT040H65G3AG	30	55	39.5				X		
	SCT055HU65G3AG	58	30	29					X	
	SCTH100N65G2-7AG	26	95	162				X		
	SCTH35N65G2V-7AG	67	45	73				X		
	SCTW35N65G2VAG	55	45	73	X					
	SCTWA35N65G2V-4	67	45	73						X
	SCTHS250N65G3	6.7	207	208			X			
	SCTH100N120G2-AG	30	75	163				X		
	SCTHS250N65G3	67	207	208			X			
750 V	SCTW35N65G2V4AG	67	45	73						X
	SCT011H75G3AG	11.4	110	44				X		
900 V	SCTHS300N75G3AG	6.5	300	303			X			
	SCT012W90G3AG	12	110	138	X					
1200 V	SCT040W120G3AG	40	40	56		X				
	SCT020H120G3AG	18.5	100	121				X		
	SCT025H120G3AG	27	55	73				X		
	SCT040H120G3AG	40	40	54				X		
	SCTW40N120G2VAG	105	33	63		X				
	SCTH40N120G2V7AG	105	33	63		X		X		
	SCTWA40N120G2AG	105	33	63		X				
	SCTWA40N12G24AG	105	33	63						X
	SCT070H120G3AG	63	30	37				X		
	SCT070HU120G3AG	63	30	37					X	
	SCT10N120AG	520	12	12	X					
	SCT20N120AG	189	20	45	X					
	SCTW100N120G2AG	30	75	163	X					
	SCTH100N120G2-AG	69	75	163				X		
	SCTHS200N120G3AG	9.3	170	253			X			
	SCTW60N120G2AG	45	52	101	X					
	SCTWA60N12G2-4AG	58	52	101						X

* See product datasheet on st.com for details



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