life.augmented

AUTOMOTIVE-GRADE

SiC diodes with very low forward voltage drop

Automotive-grade SiC diodes boost the performance of power converters

The wide bandgap of our siliconcarbide (SiC) diodes enables the design of high-voltage Schottky diodes offering negligible reverse recovery at turn-off and minimal capacitive turn-off behavior independent of temperature.
Our high-performance power Schottky rectifiers can handle up to 650 V with the lowest forward voltage drop (V_F) on the market for optimal efficiency.
ST is the first supplier worldwide to offer 100% automotive-grade SiC diodes (AEC-Q101qualified and PPAP capable).

KEY FEATURES

- 100% automotive-grade
- AEC-Q101 qualified
- PPAP capable
- Very low forward conduction losses
- Low switching losses
- Soft switching behavior
- High forward surge capability
- High T_J capability $T_{J(MAX)}$ = 175 °C
- 650 V guaranteed @ -40 °C

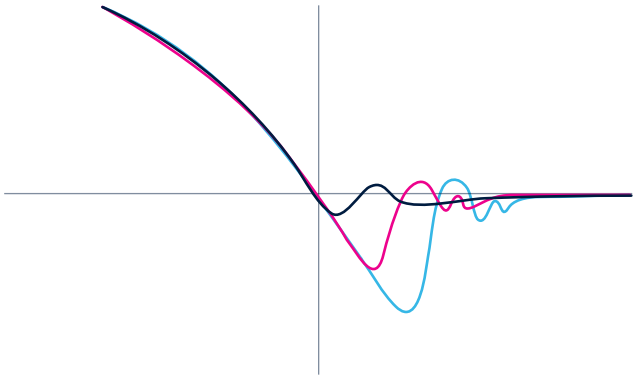
KEY BENEFITS

- High efficiency adds value to the power converter
- Reduces size and cost of the power converter
- Low EMC impact, simplifies certification and reduces time to market
- Natural high robustness ensuring very high reliability

www.st.com/sicdiodes

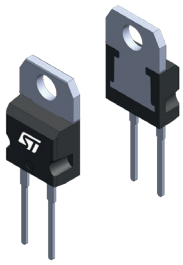
SiC diodes reduce switching power losses

Reverse recovery comparison



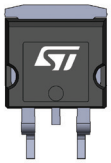
Bipolar diode — Ultrafast tandem diode STTH806DTI — SiC diode

Packages

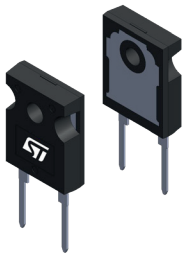


TO-220AC

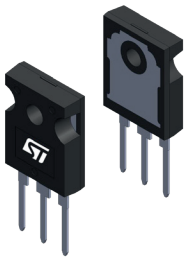
D2PAK



D2PAK HV



DO-247



TO-247

Product portfolio offer

3 New automotive grade SiC diodes in mass production

Part number	Current rating (A)	Voltage rating (V)	Packages
STPSC12065DY	12	650	TO-220AC
STPSC10065DY	10	650	D2PAK, TO-220AC
STPSC8065DY	8	650	TO-220AC, D2PAK, D2PAK HV
STPSC20065DY	20	650	TO-220AC
STPSC20065WY	20	650	DO-247
STPSC40065CWY	40	650	TO-247, D2PAK, TO-220AC