1200V Silicon Carbide diodes

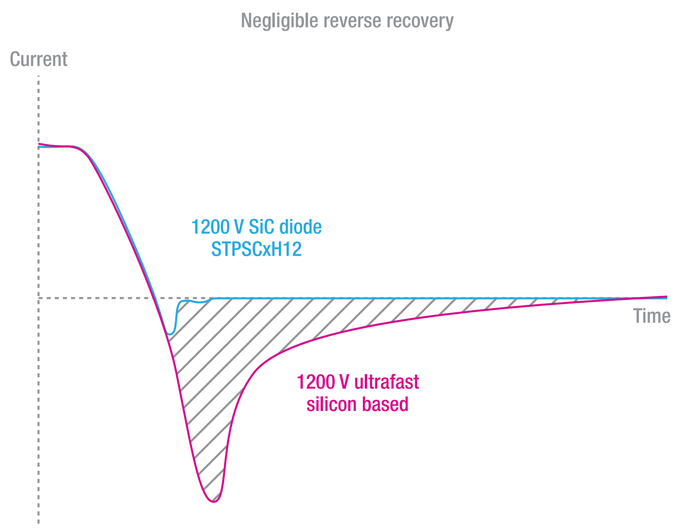
From 2A to 40A, in through hole and surface mount packages

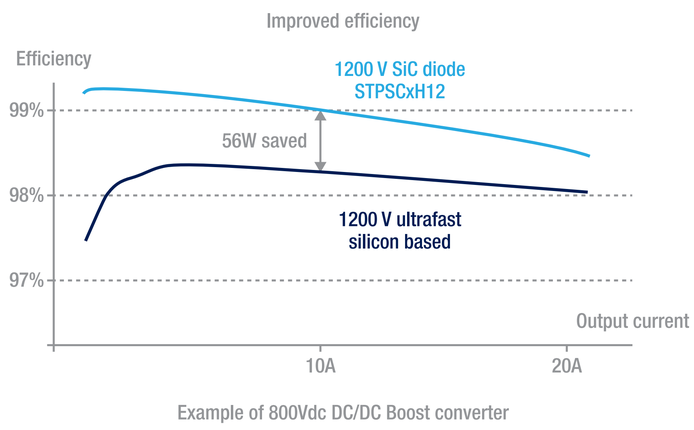
life.augmented

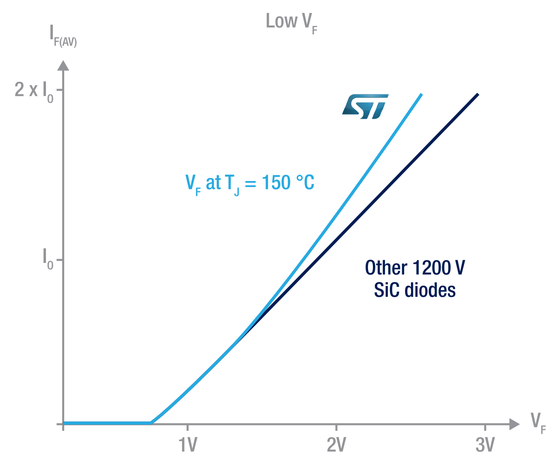
ABSTRACT

ST is introducing new 1200V SiC diodes, in 4 different packages options (DPAK HV, D²PAK, TO-220AC, and TO-247LL):

- Ideal for use in high-power applications such as solar converters and renewable energies, charging stations, on-board battery chargers (OBCs), telecom power, servers, motor drives, and switched mode power supply (SMPS) solutions
- Negligible switching losses to increase efficiency
- Best forward voltage (V_F) to achieve unbeatable efficiency levels, associated with a high forward surge capability (I_{FSM}) to ensure state-of-the-art robustness







FEATURES AND BENEFITS

Features:

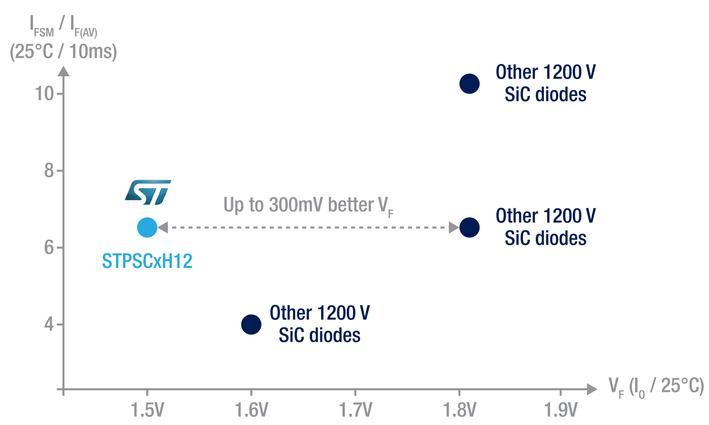
- Best forward voltage (V_F)
- High forward surge capability (I_{FSM})
- Wide range of devices
- All parameters guaranteed from -40°C to 175°C
- Unique DPAK HV version on top of D²PAK, TO-220AC and TO-247LL (long leads)
- Automotive grade versions AEC-Q101 qualified

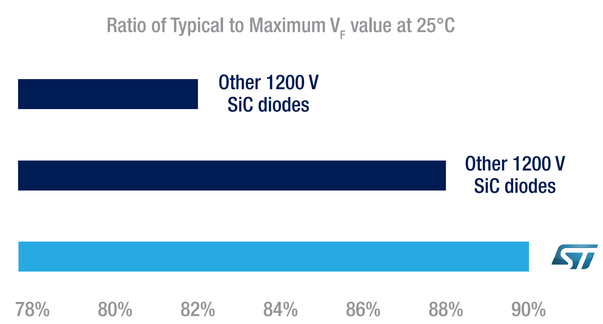
Benefits

- Reduced conduction losses to achieve enhanced efficiency levels
- State of the art robustness for easier design
- Low temperature dependency of V_F

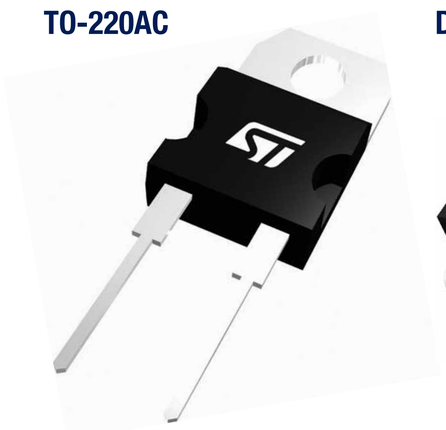
Affordability of high performing systems:

- Easy reproducible high efficiency levels in application, to improve manufacturing yields
- Possibility to select lower current ratings when solution cost matters





TO-220AC



DPAK HV

TO-247

D²PAK

Part Number	Current ratings $I_{F(AV)}$	V_F at I_F & 25°C typ / max	Surge capability I_{FSM} at 10ms	Packages
STPSC2H12	2A	1.35V / 1.50V	15A	TO-220AC, DPAK HV
STPSC5H12	5A	1.35V / 1.50V	35A	TO-220AC, DPAK HV
STPSC6H12	6A	1.55V / 1.90V	36A	DPAK HV
STPSC10H12(*)	10A	1.35V / 1.50V	71A	TO-220AC, DPAK HV, D²PAK
STPSC15H12(*)	15A	1.35V / 1.50V	105A	TO-220AC
STPSC20H12(*)	20A	1.35V / 1.50V	140A	TO-220AC, D²PAK
STPSC10H12C	2 x 5A	1.35V / 1.50V	35A	TO-247LL
STPSC20H12C	2 x 10A	1.35V / 1.50V	71A	TO-247LL
STPSC30H12C	2 x 15A	1.35V / 1.50V	105A	TO-247LL
STPSC40H12C	2 x 20A	1.35V / 1.50V	140A	TO-247LL

(*): Automotive Grade versions also qualified