

POWER SCHOTTKY DIODES



100 V trench Schottky diodes



Meet efficiency requirements at high switching frequencies with our 100 V trench-based power Schottky diodes

Offering higher performance and system efficiency than conventional power Schottky diodes, trench power Schottky diodes with trench power Schottky are designed for industrial applications, and wide operating temperature range of the automotive requirements for the devices holding a Y suffix. Are designed for industrial applications and are fully compatible with automotive application requirements.

These high-temperature power Schottky diodes, based on ST's 100 V trench technology, are available in SOD123Flat to DPAK packages, providing greater flexibility and supporting higher power density designs to enhance overall application performance.

The compact packages allow for improved power integration, additional PCB space savings, and more efficient operation at high switching frequencies.

KEY FEATURE & BENEFITS

- Higher performance and system efficiency
- Optimized for high frequency switching applications
- Wide range of space-saving package options

KEY APPLICATIONS

- LED lighting
- Reverse battery protection
- Auxiliary power supplies
- Low-voltage DC/DC converters

Advantages of ST's Trench Schottky diodes

Designed with a unique trench structure that allows for better control of the electric field within the device, these high-temperature diodes result in improved performance and efficiency compared to standard diodes.

One of the key advantages of trench-based diodes is their low forward voltage drop. This means that they can handle high currents with minimal power loss, making them ideal for use in high-power applications such as voltage regulators and inverters. In addition, their fast-switching speed and low reverse recovery time make them well-suited for use in switching circuits.

Another advantage is their high temperature tolerance. They can operate at temperatures up to 175°C, making them suitable for use in automotive and industrial applications where harsh environments are common.

Comparison of trench-based and standard power Schottky diodes

Improved efficiency

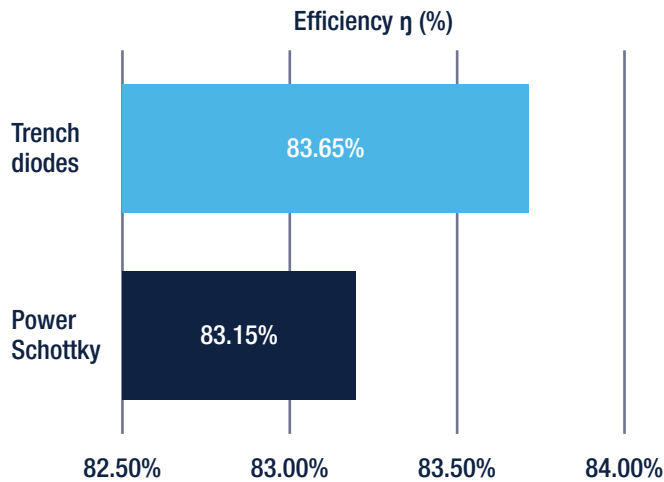
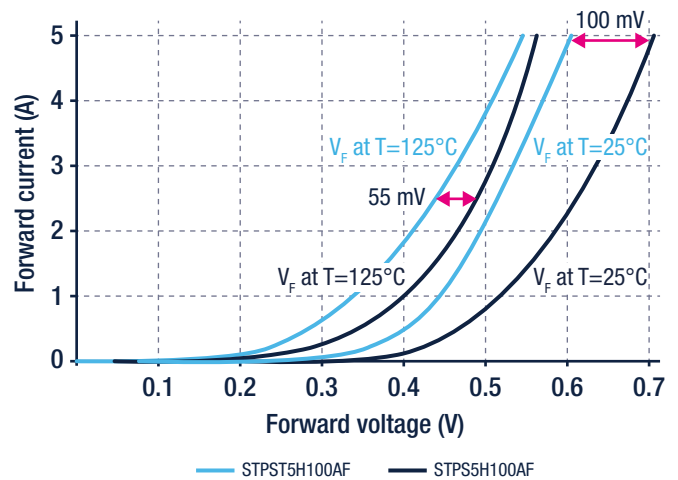


Image 1
Trench-based power Schottky diodes
Standard power Schottky diodes

5 A - 100 V in SOD-128F diodes



— STPST5H100AF — STPS5H100AF

Image 2
5 A, 100 V devices in a
SOD-128Flat package

Product portfolio

Commercial part number	Package	Current (A) max	VF (V) max	VF measure condition (A) @ IF spec	Reverse Current (mA) max	Non-Repet Peak Forward Surge Current (A) max
STPST10H100 ^(Y)	PSMC	10	0.7	10	0.02	235
STPST10H100SB ^(Y)	DPAK	10	0.7	10	0.026	235
STPST12H100 ^(Y)	PSMC	12	0.7	12	0.024	230
STPST15H100SB ^(Y)	DPAK	15	0.7	15	0.03	230
STPST1H100 ^(Y)	SOD123Flat, SOD128 Flat	2	0.725	1	0.002	25
STPST2H100 ^(Y)	SMB Flat, SOD123Flat, SOD128 Flat	2	0.8	2	0.003	35
STPST3H100 ^(Y)	SMB Flat, SOD128 Flat	3	0.755	3	0.0057	50
STPST5H100 ^(Y)	PSMC, SMB Flat, SOD128 Flat	5	0.68	5	0.015	75
STPST5H100SB ^(Y)	DPAK	5	0.68	5	0.015	75
STPST8H100 ^(Y)	PSMC	8	0.7	8	0.017	200

Note: (Y) Automotive-grade version available



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