

# STBR, STPS, BAR, BAT, FERD, STTH, 1N, TMM

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Россия +7(495)268-04-70	Киргизия +996(312)-96-26-47	Казахстан +7(7172)727-132	

# Diodes and Rectifiers

## Overview

Power supply and inverter designers must comply with standards and market demands for higher efficiency, smaller form factors, and more durable converters. ST has recently added silicon carbide diodes alongside its consolidated range of Schottky and ultrafast bipolar to ensure that designers find the right devices for their application.



## Applications



### Power Supplies

- Industrial equipment
- Consumer/Computer adaptor
- Lighting
- Medical



### Photovoltaic

- Inverters
- Panel bypass
- Connection boxes



### HVAC

- Compressor drive
- Electronics actuators



### Automotive power

- Drive train
- On-board chargers/inverters
- Actuators
- Lights and light beam
- Station chargers

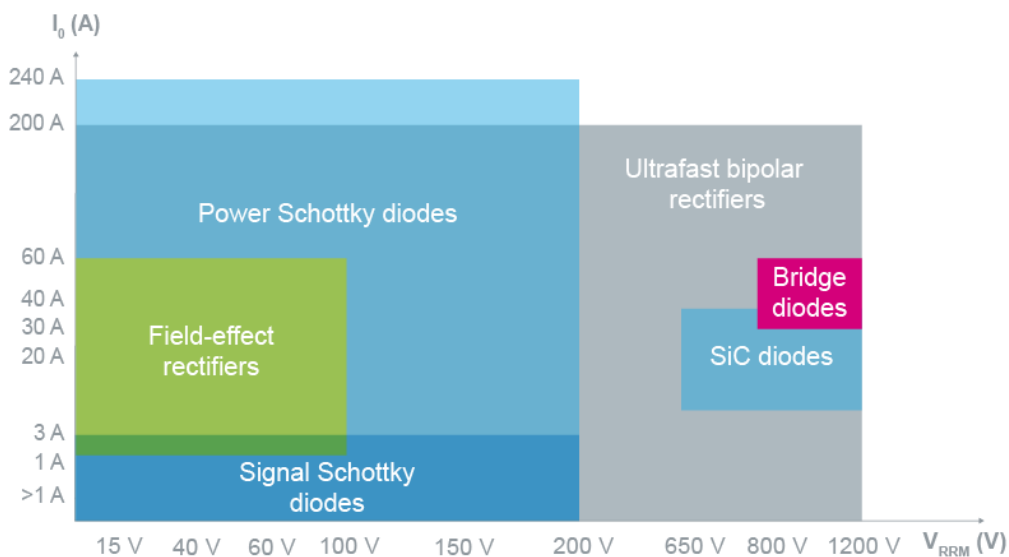


### Motor drive

- Appliances
- Pumps
- Fans
- Conveyors/Forklifts
- Power actuation

## Types of diodes and rectifiers

[AEC-Q101 automotive-grade qualified diodes and rectifiers >](#)



When choosing the right device, there are several criteria to consider apart from current and voltage ratings. For example, power Schottky feature very low voltage drop but do not offer high reverse voltage capability. Field effect rectifiers perform better at certain current densities and voltages. Silicon carbide and

ultrafast bipolar are most suitable for heavy duty, high-voltage converter applications; the former has virtually no recovery losses, while the latter offers increasingly softer recovery iterations with each new release. Bridge diodes ensure rugged operation, while signal Schottky offer very high accuracy in applications ranging from simple signal paths to RF needs.



**SCHOTTKY**

**Power Schottky**

The most practical rectifying solutions for low voltage DC output rails. They offer excellent voltage drop trade-off against relatively low reverse voltage capabilities. Their metal-N junction delivers very little capacitance and allows fast switching.



**SiC**

**Silicon carbide diodes**

650 to 1200 V devices with no limiting recovery losses, low voltage drop, and useful inrush capability. Their heat transfer capability is well above conventional silicon.



**ULTRAFAST**

**Ultrafast rectifiers**

These diodes are in full evolution as converters change from hard to critical modes. The softness of the recovery continues to improve with the AC, RQ series.



**BRIDGE**

**Bridge rectifier diodes**

The ST 800 V and 1200 V devices are ideal for AC mains front-end rectifier bridges in medium power converters. 30 and 60 A versions are available with appropriate ruggedness for operation in robust industrial and automotive applications.



**FERD**

**Field effect rectifiers**

These rectifiers complement Schottky diodes at lower current densities. Their threshold voltage is lower and the power losses are kept low, which benefits light load operation. FERDs are available from 45 V to the 100 V diode commonly used in Flyback converter chargers



**SIGNAL SCHOTTKY**

**Signal Schottky**

Available various packages from CSP to SOT-23. These devices offer ideal static characteristics and package options for signal routing, as well as low capacitance for RF functions. ST offers a wide product range with varying characteristics for different application requirements.

**3 advantages with ST diodes**

The ST range of Schottky, SiC, and ultrafast diodes ensures three strategic advantages for fast and easy design.

**1**

**Across-the-board efficiency**

- Wide coverage for SMPS and inverter applications through a wide range of voltages: 15-200 V for Si Power Schottky (STPS) with 175°C Tj.
- Field effect rectifier diodes (FERD) 40-100 V can replace Schottky diodes in some demanding efficiency designs.
- 650V and 1200V Si Ultrafast Turbo 2 High Temp (STTH) available, as well as new soft subranges.
- 650 V and 1200 V extremely fast and efficient SiC diodes Power Schottky (STPSC) with 175°C Tj.
- Current ratings equally cover the field with a common 1-60 A range and up to 240 A for Ultrafast diodes.
- All devices designed and manufactured by ST.

**2**

**Performance packages**

ST implements optimized processes for attaching high performance and efficiency dice to packages that improve thermal performance. ST offers a very wide range of industry-standard packages, with recent emphasis on power SMD (30A FERD in a DPAK) and high-voltage SMD (STBR3008G2Y bridge rectifier in HV D2PAK). They target demanding applications from fast-charging adaptors to servers SMPS to electric

vehicles chargers.

3

### Proven robustness

Our industrial and automotive grade diodes are manufactured to the same quality standards required for automotive-grade (AEC-Q101) qualification. This proven process robustness across the ST diode range ensures high reliability in electronic circuits based on these devices.

### Simulation and finder apps to speed up designs

#### Rectifier diode simulator in eDesignSuite:

Our Schottky & FERD eTool allows designers to evaluate the field-effect rectifier or Schottky diode that best fits their application using the user waveform-driven inputs. It returns I-V curves according to design conditions and evaluation of the available headroom. It includes a powerful search engine to help SMPS designers and component engineers select the best rectifier or diode for their application.

#### ST Diode Finder:

This online simulator includes a detailed parametric search engine, a fast view of the most important electrical parameters, and more.

### New ultrafast and power Schottky diodes deliver high power in 1.1 mm high, extra-slim package

Housed in an extra-slim PSMC package (TO-277A) able to withstand very high operating junction temperatures, this new ultrafast and Schottky diode series minimizes the PCB footprint while bringing the best of thermal efficiency.

In addition to having a low forward voltage drop and avalanche capability, these ultrafast and Schottky barrier rectifiers, which are rated from 30 to 200 V with a current rating from 5 to 12 A, help ensure greater compactness of equipment, with increased power density and efficiency, in a large range of applications including car modules, industrial equipment, telecom power systems and personal electronics.

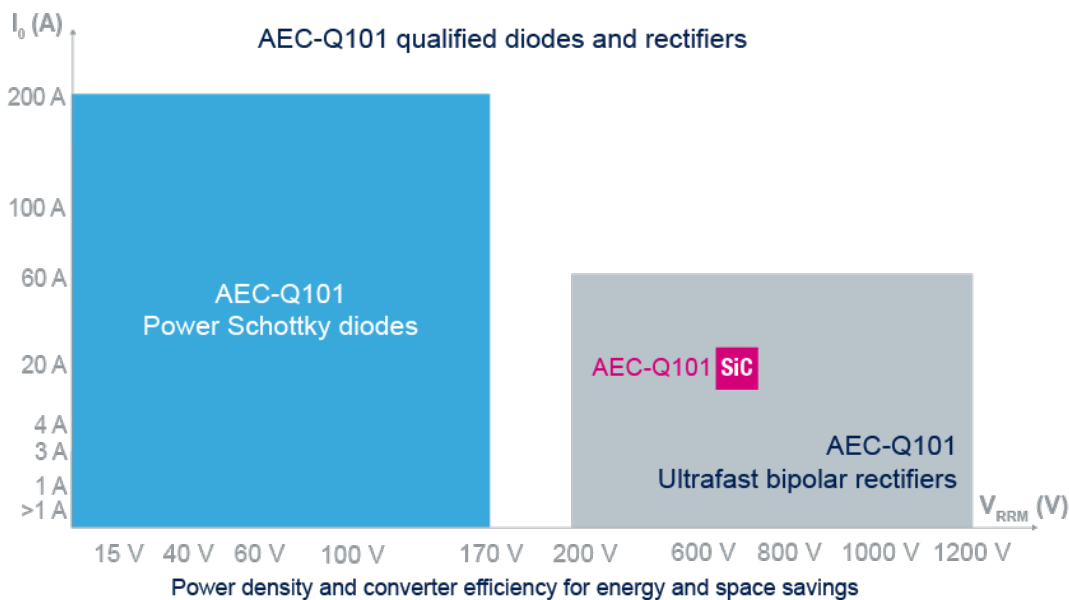
## Automotive-grade diodes

### Overview

ST's portfolio of automotive diodes is qualified to the AEC-Q101 standard and is intended for DC/DC converters used in numerous automotive functions. Most of these dedicated diodes are guaranteed in operation at junction temperatures as low as  $-40\text{ }^{\circ}\text{C}$  and as high as  $+175\text{ }^{\circ}\text{C}$ . The automotive-grade diodes belong to our **STPOWER** family.

The extension Y is used in the part number to identify the automotive version for a given rectifier.

The new **Dual diodes in PSMC package** provide ideal solution for high-performance DC/DC converters and auxiliary power supplies. Available in **low forward voltage drop Schottky** and **Ultrafast diodes** they offer a fine-tuned portfolio to address space constrained environment.



A special screening matrix is implemented on these automotive-grade products at die and finished product levels, in order to comply with the most stringent international automotive quality requirements.

### Browse by types of automotive-grade diodes

- Automotive bridge rectifier diodes
- Automotive Schottky diodes
- Automotive silicon carbide diodes
- Automotive ultrafast diodes

### On-board chargers (OBC) now enjoy improved creepage distance with our new high-voltage D<sup>2</sup>PAK for bridge rectifier diodes

ST now offers a new series of 1200 V bridge rectifier diodes for on-board battery chargers (OBC) for all types of vehicles. Thanks to the high-voltage D<sup>2</sup>PAK package, the creepage distance between the anode and cathode is improved from 1.38 mm for standard D<sup>2</sup>PAK devices to a minimum of 3.48 mm. These diodes feature a specific  $V_{RRM}$  guaranteed from  $-40$  to  $+175\text{ }^{\circ}\text{C}$ , and ultra-low conduction losses match bridge rectification requirements. These new 1200 V bridge rectifier diodes are available in surface-mount, high voltage D<sup>2</sup>PAK packages in both AEC-Q101-qualified automotive-grade (STBR3012G2Y-TR) and industrial-grade (STBR3012G2-TR) versions.

**Diodes and Rectifiers / Automotive-grade diodes/Automotive-grade Bridge Rectifier diodes**

Part Number	General Description	Package	Number of Diodes spec	Repetitive Peak Reverse Voltage (V) max	Average Rectified Current (A) max	V <sub>F</sub> (V) max	Reverse Current (mA) max	Non-Repet Peak Forward Surge Current (A) max	Junction Temperature (°C) max
STBR1508-Y	Automotive 800 V, 15 A bridge rectifier diode	DPAK HV 2L	1	800	15	1.09	0.001	200	175
STBR3008-Y	Automotive 800 V, 30 A Bridge Rectifier Diode	DO-247,H2PAK-2	1	800	30	1.1	0.002	350	175
STBR3012-Y	Automotive 1200 V, 30 A Bridge Rectifier Diode	DO-247,H2PAK-2	1	1200	30	1.3	0.002	300	175
STBR6008-Y	Automotive 800 V, 60 A Bridge Rectifier diode	DO-247	1	800	60	1.1	0.005	500	175
STBR6012-Y	Automotive 1200 V, 60 A Bridge Rectifier diode	DO-247	1	1200	60	1.3	0.005	500	175

## Diodes and Rectifiers / Automotive-grade diodes/Automotive-grade Schottky diodes

Part Number	General Description	Package	Number of Diodes spec	Repetitive Peak Reverse Voltage (V) max	Average Rectified Current (A) max	V <sub>F</sub> (V) max	VF measure condition (A) (@ I <sub>F</sub> ) spec	Reverse Current (mA) max	Non-Repet Peak Forward Surge Current (A) max	Junction Temperature (°C) max
BAT54-Y	Automotive 40 V, 300 mA General purpose Small Signal Schottky Diode	SOT-323,SOT23,SOT323	2	40	0.3	0.24	1.0E-4	0.001	1	150
FERD60H100C-Y	Automotive, 100 V - 2 x 30 A Field Effect Rectifier	D2PAK	2	100	30	0.85	30	0.06	290	175
STPS0540-Y	Automotive 40 V, 0.5 A Power Schottky Rectifier	SOD-123	1	40	0.5	0.5	0.5	0.04	5.5	150
STPS1045B-Y	Automotive 45 V, 10 A DPAK Power Schottky Rectifier	DPAK	1	45	10	0.63	10	0.1	75	175
STPS1045SFY	Automotive 45 V, 10 A PSMC Power Schottky Rectifier	PSMC-3L-EP	1	45	10	0.62	10	0.05	210	175
STPS10H100SFY	Automotive 100 V, 10 A High TJ Power Schottky Rectifier	PSMC-3L-EP	1	100	10	0.69	10	0.008	230	175
STPS10H60SFY	Automotive 60 V, 10 A High TJ Power Schottky Rectifier	PSMC-3L-EP	1	60	10	0.79	10	0.02	210	175
STPS10M60SFY	Automotive 60 V, 10 A Low Drop Low Leakage Power Schottky Rectifier	PSMC-3L-EP	1	60	10	0.6	10	0.05	230	175
STPS1150-Y	Automotive 150 V, 1 A Power Schottky Rectifier	SMA	1	150	1	0.67	1	0.001	50	175
STPS140-Y	Automotive 40 V, 1 A SOD-123 Power Schottky Rectifier	SMA,SMB	1	40	1	0.55	1	0.012	60	150
STPS140Z-Y	Automotive 40 V, 1 A SOD-123 Power Schottky Rectifier	SOD-123	1	40	1	0.55	1	0.04	5.5	150
STPS1545C-Y	Automotive 45 V, 15 A dual Power Schottky Rectifier	D2PAK	2	45	15	0.84	15	0.1	150	175
STPS15H100C-Y	Automotive 100 V, 15 A dual Power Schottky Rectifier	DPAK	2	100	15	0.71	15	0.003	75	175
STPS15L45C-Y	Automotive 45 V, 15 A dual Low Drop Power Schottky Rectifier	DPAK	2	45	15	0.64	15	1	75	150
STPS160-Y	Automotive 60 V, 1 A Power Schottky Rectifier	SMA,SMB	1	60	1	0.57	1	4	75	150
STPS1H100-Y	Automotive 100 V, 1 A Power Schottky Rectifier	SMA,SMB	1	100	1	0.77	1	0.004	50	175
STPS1L40-Y	Automotive 40 V, 1 A Low Drop Power Schottky Rectifier	SMA,SMB,SOD123Flat	1	40	1	0.42	1	0.035	60	150
STPS1L60-Y	Automotive 60V, 1 A Low Drop Power Schottky Rectifier	SOD123Flat	1	60	1	0.54	1	0.05	50	175
STPS200170TV1Y	Automotive 170 V, 200 A dual Power Schottky Rectifier	ISOTOP	2	170	200	0.85	100	0.2	700	150
STPS2045C-Y	Automotive 45 V, 20 A dual Power Schottky Rectifier	D2PAK	2	45	20	0.84	20	0.1	180	175
STPS20H100C-Y	Automotive 100 V, 20 A dual Power Schottky Rectifier	D2PAK	2	100	20	0.77	10	0.0045	3	175
STPS20L60C-Y	Automotive 60 V, 20 A dual Low Drop Power Schottky Rectifier	D2PAK	2	60	20	0.7	20	0.35	220	150
STPS240H100TV1Y	Automotive 100 V, 2x120A, power Schottky rectifier	ISOTOP	2	100	120	0.825	120	0.09	1150	175
STPS2545C-Y	Automotive 45 V, 25 A dual D <sup>2</sup> PAK Power Schottky Rectifier	D2PAK	2	45	25	0.84	25	0.125	200	175
STPS2H100-Y	Automotive 100 V, 2 A SMA SMB Power Schottky Rectifier	SMA,SMB,SOD128 Flat	1	100	2	0.79	2	0.001	75	175
STPS2H100ZFY	Automotive 100 V, 2 A SOD123Flat Power Schottky Rectifier	SOD123Flat	1	100	2	0.7	2	0.5	50	175
STPS2L40ZFY	Automotive 40 V, 2 A Low Drop Power Schottky Rectifier	SOD123Flat	1	40	2	0.61	2	0.01	50	175
STPS2L60-Y	Automotive 60 V, 2A SMA Low Drop Power Schottky Rectifier	SMA	1	60	2	0.55	2	0.1	75	150
STPS2L60ZFY	Automotive 60 V, 2 A SOD123Flat Low Drop Power Schottky Rectifier	SOD123Flat	1	60	2	0.66	2	5.0E-5	50	175
STPS3045C-Y	Automotive 45 V, 30 A dual Power Schottky Rectifier	D2PAK	2	45	30	0.84	30	0.2	220	175
STPS3045DJF-Y	Automotive 45 V, 30 A Power Schottky Rectifier	PowerFLAT 5x6 WF	1	45	30	0.56	30	0.3	380	175
STPS30H60-Y	Automotive 60 V, 30 A Power Schottky Rectifier	D2PAK	2	60	30	0.57	15	0.06	230	175
STPS3150-Y	Automotive 150 V, 3 A Power Schottky Rectifier	SMB	1	150	3	0.67	3	0.002	100	175
STPS340-Y	Automotive 40 V, 3 A Power Schottky Rectifier	SMB,SMC	1	40	3	0.63	3	0.02	75	150
STPS360-Y	Automotive 60 V, 3 A Power Schottky Rectifier	SOD128 Flat	1	60	3	0.58	3	0.0015	60	175
STPS3H100-Y	Automotive 100 V, 3A Schottky Rectifier	SMB Flat	1	100	3	0.61	3	0.0015	79	175
STPS3H100AFY	Automotive 100 V, 3 A SOD128Flat Power Schottky Rectifier	SOD128 Flat	1	100	3	0.61	3	0.0015	79	175
STPS3L40-Y	Automotive 40 V, 3 A Low Drop Power Schottky Rectifier	SMC	1	40	3	0.5	3	0.1	75	150
STPS3L60-Y	Automotive 60 V, 3 A SMC Low Drop Power Schottky Rectifier	SMC	1	60	3	0.65	3	0.055	75	150
STPS3L60U-Y	Automotive 60 V, 3 A SMB Low Drop Power Schottky Rectifier	SMB	1	60	3	0.62	3	0.15	100	150
STPS40150C-Y	Automotive 150 V, 50 A power Schottky rectifier	D2PAK	2	150	40	0.92	20	0.015	250	175
STPS40170C-Y	Automotive 170 V, 40 A dual Power Schottky Rectifier	D2PAK	2	170	40	0.92	20	0.03	250	175
STPS4045C-Y	Automotive 45 V, 40 A dual Power Schottky Rectifier	TO-247	2	45	40	0.76	20	0.2	220	175
STPS40L45C-Y	Automotive 46 V, 40 A dual Low Drop Power Schottky Rectifier	D2PAK	2	45	40	0.49	20	0.6	230	150
STPS41H100C-Y	Automotive 100 V, 40 A dual Power Schottky Rectifier	D2PAK,TO-220AB	2	100	40	0.8	20	0.01	220	175
STPS5605FY	Automotive 60 V, 5 A Low Drop Low Leakage Power Schottky Rectifier	PSMC-3L-EP	1	60	5	0.56	5	0.05	230	175
STPS5H100-Y	Automotive 100 V, 5 A DPAK Power Schottky Rectifier	DPAK	1	100	5	0.79	5	0.035	75	175
STPS5H100AFY	Automotive 100 V, 5 A SOD128Flat Power Schottky Rectifier	SOD128 Flat	1	100	5	0.61	5	0.0035	130	175
STPS5H100SFY	Automotive 100 V, 5 A PSMC Power Schottky Rectifier	PSMC-3L-EP	1	100	5	0.61	5	5	230	175
STPS5L60-Y	Automotive 60 V, 5 A SMC Low Drop Power Schottky Rectifier	SMC	1	60	5	0.48	5	0.22	150	150
STPS5L60SFY	Automotive 60 V, 5 A PSMC Low Drop Power Schottky Rectifier	PSMC-3L-EP	1	60	5	0.51	5	0.51	220	150
STPS5S100SFY	Automotive 100 V, 5 A power Schottky rectifier	PSMC-3L-EP	1	100	5	0.82	5	0.0025	210	175
STPS60L30C-Y	Automotive 30 V, 60 A dual Low Drop Power Schottky Rectifier	PowerSO-20	2	30	60	0.49	30	2	250	150
STPS61170C-Y	Automotive 170 V, 60 A dual Power Schottky	TO-247 long leads	2	170	30	0.84	30	0.06	500	175
STPS61H100-Y	Automotive 100 V, 60A, low drop power Schottky rectifier	TO 247,TO-247	2	100	30	0.81	30	0.016	450	175

STPS630CSFY	Automotive 30V, dual 3A Power Schottky Rectifier	PSMC-3L-EP	2	30	3	0.45	3	0.095	120	150
STPS640C-Y	Automotive 40 V, 6 A dual Power Schottky Rectifier	DPAK	2	40	6	0.57	3	0.1	75	150
STPS640CSFY	Automotive 40V, dual 3A Power Shottky Rectifier	PSMC-3L-EP	2	40	3	0.49	3	0.075	120	150
STPS660CSFY	Automotive 60V, dual 3A Power Schottky Rectifier	PSMC-3L-EP	2	60	3	0.61	3	0.019	120	150
STPS80170C-Y	Automotive 170 V, 80A, low drop power Schottky rectifier	TO-247 long leads	2	170	40	0.84	40	0.08	500	175
STPS80H100C-Y	Automotive 100V, dual 40A low voltage drop power Schottky rectifier	TO-247 long leads	2	100	40	0.82	40	0.02	550	175
STPS8L30-Y	Automotive 30 V, 8 A Low Drop Power Schottky Rectifier	DPAK	1	30	8	0.4	0.4	1	75	150
STPST10H100-Y	Automotive 100 V, 10 A Power Schottky Trench Rectifier	PSMC-3L-EP	1	100	10	0.7	10	0.02	210	175
STPST10H100SB-Y	Automotive 100 V, 10 A, DPAK Power Schottky Trench Rectifier	DPAK	1	100	10	0.7	10	0.02	235	175
STPST15H100SB-Y	Automotive 100 V, 15 A, DPAK Power Schottky Trench Rectifier	DPAK	1	100	15	0.7	15	0.03	230	-
STPST1H100-Y	Automotive 100 V, 1 A Power Schottky Trench Rectifier	SOD123Flat,SOD128 Flat	1	100	1	0.725	1	0.002	25	175
STPST2H100-Y	Automotive 100 V, 2 A Power Schottky Trench Rectifier	SOD123Flat,SOD128 Flat	1	100	2	0.8	2	0.003	35	175
STPST3H100-Y	Automotive 100 V, 3 A Power Schottky Trench Rectifier	SOD128 Flat	1	100	3	0.755	3	0.0057	50	175
STPST5H100-Y	Automotive 100 V, 5 A Power Schottky Trench Rectifier	PSMC-3L-EP,SOD128 Flat	1	100	5	0.7	5	0.012	150	175
STPST5H100SB-Y	Automotive 100 V, 5 A, DPAK Power Schottky Trench Rectifier	DPAK	1	100	5	0.7	5	0.012	150	175
STPST8H100-Y	Automotive 100 V, 8 A Power Schottky Trench Rectifier	PSMC-3L-EP	1	100	8	0.7	8	0.017	200	175
STPS1545-Y	Automotive 45 V, 15 A Power Schottky Rectifier	TO-220AC	1	45	15	0.57	15	0.2	220	175



Diodes and Rectifiers / Automotive-grade diodes/Automotive-grade Silicon Carbide diodes

Part Number	General Description	Package	Number of Diodes spec	Repetitive Peak Reverse Voltage (V) max	Average Rectified Current (A) max	V <sub>f</sub> (V) max	VF measure condition (A) (@ I <sub>f</sub> ) spec	Reverse Current (mA) max	Total capacitive charge (nC)	Non-Repeat Peak Forward Surge Current (A) max	Junction Temperature (°C) max
STPSC10065-Y	Automotive 650 V, 10 A SiC Power Schottky Diode	D2PAK,TO-220AC	1	650	10	1.45	10	0.13	34	48	175
STPSC10H065-Y	Automotive 650V, 10 A Silicon Carbide diode	D2PAK,TO-220AC	1	650	10	1.75	10	0.1	28.5	90	175
STPSC10H065BY-TR	Automotive 650 V, 10 A DPAK Silicon Carbide Power Schottky Diode	DPAK	1	650	10	1.65	10	0.1	28.5	90	175
STPSC10H12-Y	Automotive 1200 V, 10 A Silicon Carbide Power Schottky Diode	D2PAK,TO-220AC	1	1200	10	1.5	10	0.06	57	71	175
STPSC10H12G2Y-TR	Automotive Grade 1200V, 10A, silicon carbide power Schottky Diode	H2PAK-2	1	1200	10	1.5	10	0.06	57	71	175
STPSC12065-Y	Automotive 650 V, TO-220 D2PAK SiC Power Schottky Diode	D2PAK,D2PAK HV,TO-220AC	1	650	12	1.45	12	0.15	36	50	175
STPSC12C065-Y	Automotive 650 V, 12 A SiC Power Schottky Diode	TO-220AC	1	650	12	1.75	12	0.12	29.3	470	175
STPSC15H12G2Y-TR	Automotive Grade 1200V, 15A, silicon carbide power Schottky Diode	H2PAK-2	1	1200	15	1.5	15	0.09	94	105	175
STPSC20065-Y	Automotive 650 V, 20 A SiC Power Schottky Diode	D2PAK,DO-247,TO-220AC	1	650	20	1.45	20	0.3	62	90	175
STPSC20G12-Y	Automotive 1200 V, 20A power Schottky High Surge silicon carbide diode	DO247 LONG LEADS	1	1200	20	1.5	20	0.15	103	180	175
STPSC20H065C-Y	Automotive 650 V, 20 A High Surge Silicon Carbide Power Schottky Diode	TO-220AB,TO-247	2	650	20	1.75	10	0.1	28.5	90	175
STPSC20H12-Y	Automotive 1200 V, 20 A Silicon Carbide Diode	D2PAK,D2PAK HV,TO-220AC	1	1200	20	1.5	20	0.12	129	140	175
STPSC20H12CWY	20 A 1200 V power Schottky silicon carbide diode	HIP247	2	1200	20	1.5	10	0.06	57	71	175
STPSC2H065-Y	Automotive 650V, 2 A Silicon Carbide Power Schottky Diode	DPAK	1	650	10	1.55	2	0.02	28.5	20	175
STPSC2H12-Y	Automotive 1200 V, 2 A High surge Silicon Carbide Diode	DPAK HV 2L	1	1200	2	1.5	2	0.012	15.6	15	175
STPSC30G12-Y	Automotive 1200 V, 30 A Silicon Carbide Diode	DO247 LONG LEADS	1	1200	30	1.5	30	0.225	149	250	175
STPSC31H12C-Y	2x15A 1200V Power Schottky Silicon Carbide Diode Automotive	HIP247	2	1200	30	1.5	15	0.09	94	630	175
STPSC40065C-Y	Automotive 650 V, 40 A dual SiC Power Schottky Diode	TO-247	2	650	40	1.45	20	0.3	62	90	175
STPSC40H12C-Y	2x20A 1200V Power Schottky Silicon Carbide Diode Automotive	HIP247	2	1200	20	1.5	20	0.12	129	700	175
STPSC6C065-Y	Automotive 650 V, 6 A SiC Power Schottky Diode	TO-220AC	1	650	6	1.75	6	0.06	15.2	375	175
STPSC6H065BY-TR	Automotive 650 V, 6 A High Surge Silicon Carbide Power Schottky Diode	DPAK	1	650	6	1.65	8	0.06	18	60	175
STPSC8H065-Y	Automotive 650 V, 8 A Silicon Carbide Diode	D2PAK HV,DPAK	1	650	8	1.65	8	0.08	23.5	75	175
STPSC10C065-Y	Automotive 650 V, 10 A Silicon Carbide Power Schottky Diode	I2PAK	1	650	10	1.75	10	0.1	26.4	85	175
STPSC12H065-Y	Automotive 650 V, 12 A High Surge Silicon Carbide Power Schottky Diode	TO-220AC	1	650	12	1.75	12	0.12	36	100	175
STPSC15H12-Y	Automotive 1200 V, 15 A Silicon Carbide Diode	TO-220AC	1	1200	15	1.5	15	0.09	94	105	175
STPSC8065-Y	Automotive 650 V, 8 A SiC Power schottky Diode	TO-220AC	1	650	8	1.45	8	0.105	28	46	175

Diodes and Rectifiers / Automotive-grade diodes/Automotive-grade ultrafast diodes

Part Number	General Description	Package	Number of Diodes spec	Repetitive Peak Reverse Voltage (V) max	Average Rectified Current (A) max	V <sub>r</sub> (V) max	Reverse Current (mA) max	Reverse Recovery Time (ns) max	Non-Repet Peak Forward Surge Current (A) max	Junction Temperature (°C) max
STTH1002C-Y	Automotive 200 V, 10 A dual Ultrafast Diode	D2PAK, DPAK	2	200	10	1.1	0.005	25	50	175
STTH1002CSFY	Automotive 200V, dual 5A ultrafast diode	PSMC-3L-EP	2	200	5	1.05	0.04	35	85	175
STTH1003S-Y	Automotive 300 V, 10 A Ultrafast Diode	DPAK	1	300	10	1.3	0.1	35	100	175
STTH102-Y	Automotive 200 V, 1 A Ultrafast Diode	SMA	1	200	1	0.97	0.001	20	40	175
STTH110-Y	Automotive 1000 V, 1 A Ultrafast Diode	SMB Flat	1	1000	1	1.7	0.005	75	20	175
STTH112-Y	Automotive 1200 V, 1 A Ultrafast Diode	SMB Flat	1	1200	1	1.9	0.005	75	18	175
STTH1210-Y	Automotive 1000 V, 12 A Ultrafast Diode	TO-220AC	1	1000	12	1.7	0.01	65	80	175
STTH1512-Y	Automotive 1200 V, 15 A Ultrafast Diode	D2PAK	1	1200	15	2.1	0.015	75	200	175
STTH15RQ06-Y	Automotive 600 V, 15 A Turbo 2 Soft Ultrafast Recovery Diode	D2PAK, D2PAK HV, DO-247, TO-220AC	1	600	15	1.85	0.02	25	120	175
STTH1602C-Y	Automotive 200 V, 16 A dual Ultrafast Diode	D2PAK	2	200	16	1.25	0.006	26	100	175
STTH16L06C-Y	Automotive 600 V, 16 A dual Low Drop Ultrafast Diode	D2PAK, TO-220AB	2	600	16	1.35	0.008	35	120	175
STTH1L06-Y	Automotive 600 V, 1 A Low Drop Ultrafast Diode	SMB Flat	1	600	1	1.4	0.001	60	20	175
STTH1R02-Y	Automotive 200 V, 1 A SOD123Flat Ultrafast Diode	SOD123Flat	1	200	1	0.85	5.0E-4	32	25	175
STTH1R04-Y	Automotive 400 V, 1 A Ultrafast Diode	SMA, SMB	1	400	1	0.9	0.05	20	30	175
STTH1R06-Y	Automotive 600 V, 1 A Turbo 2 Ultrafast Diode	SMB Flat	1	600	1	1.9	0.001	45	17	175
STTH1R06AFY	Automotive 600 V, 1 A SOD128Flat Turbo 2 ultrafast high voltage rectifiers	SOD128 Flat	1	600	1	1.4	0.001	45	20	175
STTH2003C-Y	Automotive 300 V, 20 A dual Ultrafast Diode	D2PAK	2	300	20	1	0.02	230	110	175
STTH208-Y	Automotive 800 V, 2 A Ultrafast Diode	SMB Flat	1	800	2	1.55	0.005	75	30	175
STTH2L06-Y	Automotive 600 V, 2 A Low Drop Ultrafast Diode	SMB Flat	1	600	2	1.4	0.002	70	30	175
STTH2R02-Y	Automotive 200 V, 2 A Ultrafast Diode	SMB	1	200	2	1	0.003	30	75	175
STTH2R02AF-Y	Automotive 200 V, 2 A SOD128Flat Ultrafast Diode	SOD128 Flat	1	200	2	0.83	8.0E-4	20	50	175
STTH2R02AY	Automotive Ultrafast diode 200V, 2A	SMA	1	200	2	1.04	0.0025	30	62	175
STTH2R06-Y	Automotive 600 V, 2 A Turbo 2 Ultrafast Diode	SMB Flat	1	600	2	1.9	0.002	50	28	175
STTH3010-Y	Automotive 1000 V, 30 A Ultrafast Diode	D2PAK, DO-247	1	1000	30	1.8	0.015	55	50	175
STTH30L06-Y	Automotive 600 V, 30 A Low Drop Ultrafast Diode	D2PAK, DO-247	1	600	30	1.25	0.025	65	160	175
STTH30R04-Y	Automotive 400 V, 30 A Ultrafast Diode	TO-220AC	1	400	30	1	0.03	45	280	175
STTH30RQ06-Y	Automotive 600 V, 30 A Soft Ultrafast Diode	D2PAK, D2PAK HV, DO-247, TO-220AC	1	600	30	1.85	0.04	50	180	175
STTH30RQ06L2Y	Automotive 600V, 30A ultrafast high voltage rectifier in HU3PAK package	HU3PAK	1	600	30	2.95	0.04	30	215	175
STTH30ST06-Y	Automotive 600 V, 30 A Ultrafast Diode	DO-247	1	600	30	2.2	0.5	30	180	175
STTH310-Y	Automotive 1000 V, 3 A Ultrafast Diode*	SMB Flat	1	1000	3	1.7	0.01	75	30	175
STTH3L06-Y	Automotive 600 V, 3A Low Drop Ultrafast Diode	SMB Flat	1	600	3	1.4	0.003	70	30	175
STTH3R02-Y	Automotive 200 V, 3 A Ultrafast Diode	SOD128 Flat	1	200	3	0.83	0.0016	21	80	175
STTH3R06-Y	Automotive 600 V, 3 A Turbo 2 Ultrafast Diode	SMB Flat	1	600	3	1.9	0.003	50	30	175
STTH4R02-Y	200 V, 4 A Ultrafast Diode	DPAK, SMB, SMC C2	1	200	4	0.83, 1.05	0.003	20, 30	70	175
STTH5R06-Y	Automotive 600 V, 5 A Turbo 2 Ultrafast Diode	D2PAK, DPAK	1	600	5	1.8	0.02	25	50	175
STTH6010-Y	Automotive 1000 V, 60 A Ultrafast Diode	DO-247	1	1000	60	1.7	0.02	65	400	175
STTH602C-Y	Automotive 200 V, 6 A dual Ultrafast Diode	DPAK	2	200	6	0.95	0.003	20	60	175
STTH602CSF	Ultrafast rectifier 200V, dual 3A	PSMC-3L-EP	2	200	3	1.06	0.03	31	55	175
STTH602CSFY	Automotive ultrafast rectifier 200V, dual 3A	PSMC-3L-EP	2	200	3	1.06	0.03	31	55	175
STTH60RQ06-M2Y	Automotive 600 V, 60 A Ultrafast Bridge Module	ACEPACK SMIT	4	600	60	2.95	0.04	30	180	175
STTH60RQ06-Y	Automotive 600 V, 60 A Soft Ultrafast Diode	DO-247	1	600	60	2.95	0.08	35	400	175
STTH802-Y	Automotive Ultrafast recovery diode	DPAK	1	200	8	1.05	0.006	30	100	175
STTH802SFY	Automotive 200 V, 8 A PSMC Ultrafast Diode	PSMC-3L-EP	1	200	8	1.08	0.006	22	150	175
STTH810-Y	Automotive 1000 V, 8 A Ultrafast Diode	D2PAK	1	1000	8	1.7	0.005	65	60	175
STTH8R06-Y	Automotive 600 V, 8 A Turbo 2 Ultrafast Diode	D2PAK	1	600	8	3.2	0.05	40	80	175

# Bridge Rectifier Diodes

## Overview

The automotive-qualified 800 V and industrial-grade 1200 V 30 A and 60 A bridge rectification diodes are designed for low-frequency 50/60 Hz mains supply rectification.

Bridge rectifier diodes are commonly implemented in the front-end of many power conversion systems, and our high 1200 V reverse voltage diode with 1500 V peak specification for nonrepetitive transients helps ensure that power converters can work with most mains supplies.

When addressing efficiency targets, the STBR bridge diodes with less than 1 V forward voltage drop help designers build solutions that can satisfy the stringent requirements of standards and authorities.

The 175°C maximum junction temperature ensures reliable performance in industrial operating conditions.



### Applications:



**Power Supplies  
and Converters**



**EV Charging -  
DC Fast Charging  
Stations**



**PFC Converter -  
Single Phase  
Input**



**Uninterruptible  
Power Supplies  
(UPS)**

### Product types:

Both 800 V AEC-Q101 series and 1200 V industrial series are available in 30 A and 60 A.

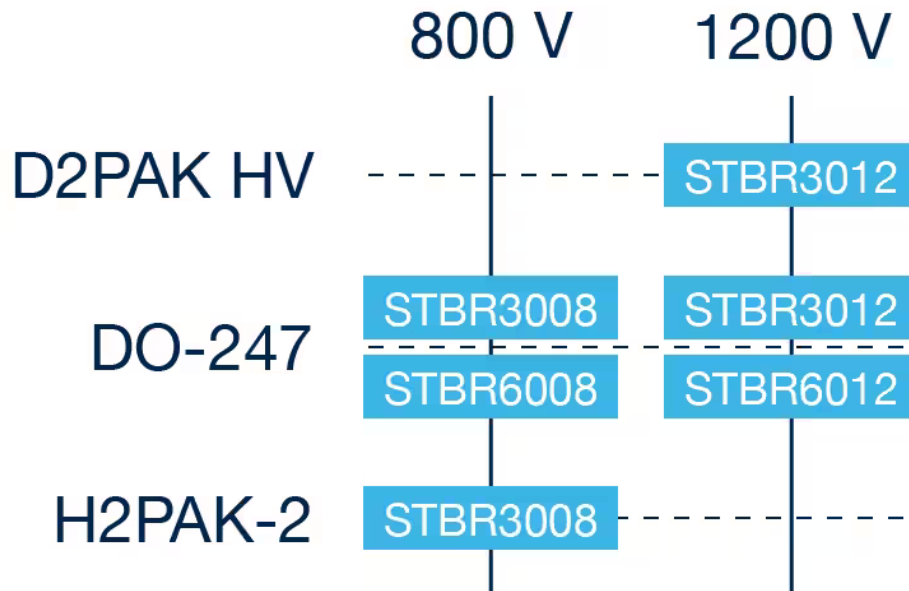
#### 1200 V industrial series:

- 30 A (STBR3012) devices available in D2PAK HV and DO-247.
- 60 A (STBR6012) device in DO-247.

#### 800 V AEC-Q101 series:

- The 30 A (STBR3008-Y) devices are available in H2PAK-2 and DO-247.
- The 60 A (STBR6008-Y) device in DO-247.

## Discover our portfolio



## Benefits

ST diodes enable excellent performance in new ultrafast electric vehicle battery charging applications requiring parallel unit feeds and supply redundancy (ORing circuits).

- High voltage capability: up to 1200 V reverse voltage and 1500 V peak ensure greater operating margin and design freedom
- Less than 1 V forward voltage drop for higher overall system efficiency
- 175°C maximum junction temperature for compliance with industrial operating conditions

## New HV D2PAK package for more robust rectifiers in bridge applications

ST's new high-voltage capable D2PAK package (TO-262) helps designers solve PCB routing issues and pass the IEC 60664-1 standard for creepage distance requirements.

Our STBR3012 (30 A) STBR6012 (60 A) high-voltage rectifiers are designed to comply with international creepage requirements in heavy-duty applications that demand long-term reliability, especially for on board chargers in automotive applications and for all SMPS and UPS solutions in industrial applications.

In addition to their ultra-low conduction and reverse losses, these high-quality diodes ensure a better design margin with a guaranteed  $V_{RRM}$  up to -40 °C.

**Diodes and Rectifiers/Bridge Rectifier Diodes**

Part Number	General Description	Package	Number of Diodes spec	Repetitive Peak Reverse Voltage (V) max	Average Rectified Current (A) max	V <sub>F</sub> (V) max	Reverse Current (mA) max	Non-Repet Peak Forward Surge Current (A) max	Junction Temperature (°C) max
STBR1508-Y	Automotive 800 V, 15 A bridge rectifier diode	DPAK HV 2L	1	800	15	1.09	0.001	200	175
STBR3008-Y	Automotive 800 V, 30 A Bridge Rectifier Diode	DO-247,H2PAK-2	1	800	30	1.1	0.002	350	175
STBR3012	High voltage rectifier for bridge applications	D2PAK HV,DO-247	1	1200	30	1.3	0.002	300	175
STBR3012-Y	Automotive 1200 V, 30 A Bridge Rectifier Diode	DO-247,H2PAK-2	1	1200	30	1.3	0.002	300	175
STBR6008-Y	Automotive 800 V, 60 A Bridge Rectifier diode	DO-247	1	800	60	1.1	0.005	500	175
STBR6012	High voltage rectifier for bridge applications	DO-247	1	1200	60	1.3	0.005	500	175
STBR6012-Y	Automotive 1200 V, 60 A Bridge Rectifier diode	DO-247	1	1200	60	1.3	0.005	500	175

# Field Effect Rectifiers

## Overview

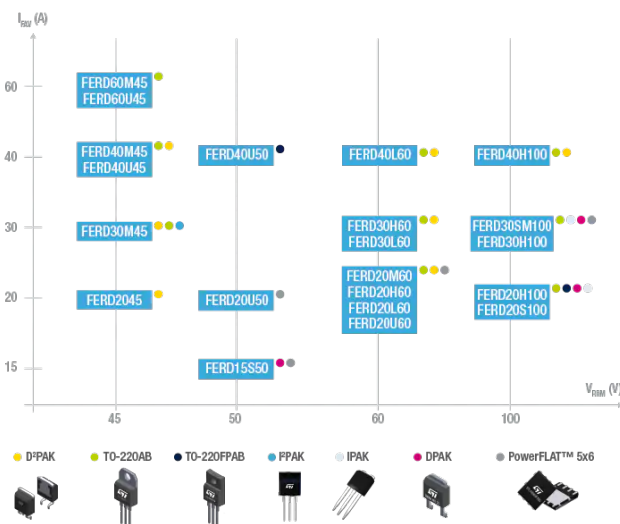
### Lower leakage temperature coefficient makes it easy

ST field-effect rectifier diodes (FERD) help improve designs with new versions focusing on trade-off upgrades. Field-effect rectifier diodes belong to our **STPOWER** family.

The design of the FERDs has allowed both a decrease in the voltage drop and a decrease in the leakage current temperature coefficient. As a result, the runaway safety margin is improved and maybe beyond the typical safety margin of Schottky barrier diodes.

Depending on the targeted application and its voltage, developers can now choose the best compromise in terms of forward voltage drop ( $V_F$ ) and leakage current ( $I_R$ ):

- 'U' very low forward voltage drop ( $V_F$ )
- 'L' low forward voltage drop ( $V_F$ )
- 'M' & 'SM' medium forward voltage drop with optimized leakage current ( $I_R$ )
- 'H' & 'S' low leakage current at high temperatures (low  $I_R$ )



Tools allow designers to quickly find evaluate the field-effect rectifier or Schottky diode that best fits their application using our waveform-driven .

For a given package size, our advanced FERD technology allows better density and more efficiency than Schottky barrier devices. The most recent 60 and 100V devices are available in through-hole as well as PowerFLAT™, D<sup>2</sup>PAK and DPAK versions. Smaller and more optimized packages allow the design of more compact chargers, adapters and SMPS with less power losses, therefore less heat-sinking.

Check our package options.

## 15 W 5 V output USB adapter board with STCH03 CC-mode primary sensing switching controller

The STEVAL-SMACH15V1 USB adapter evaluation board features high efficiency, extreme low quiescent current, OVP, UVP, OTP, and hiccup-mode protection.

Based on the STCH03 offline PWM controller for low standby adapters, it provides constant output current (CC) regulation using primary sensing feedback.

To help developers choose the best compromise in terms of forward voltage drop ( $V_F$ ) and leakage current ( $I_R$ ), the design includes our FERD20U50 field-effect rectifier diode (FERD) in a PowerFLAT™ package.

**Diodes and Rectifiers/Field Effect Rectifiers**

Part Number	General Description	Package	Number of Diodes spec	Repetitive Peak Reverse Voltage (V) max	Average Rectified Current (A) max	V <sub>F</sub> (V) max	VF measure condition (A) (@ I <sub>F</sub> ) spec	Reverse Current (mA) max	Non-Repet Peak Forward Surge Current (A) max	Junction Temperature (°C) max
FERD15S50	50 V, 15 A Field-Effect Rectifier Diode (FERD)	SMB Flat	1	50	15	0.48	10	0.65	80	150
FERD15S50SB	50V field-effect rectifier diode	DPAK	1	50	15	0.48	10	0.65	100	150
FERD2045S	45 V, 20 A Field-Effect Rectifier Diode (FERD)	DPAK	1	45	20	0.55	20	0.6	180	150
FERD20H100S	100 V, 20 A Field-Effect Rectifier Diode (FERD)	DPAK,TO-220AB,TO-220FPAB	1	100	20	0.51	5	0.14	150	175
FERD20H60C	60 V, 20 A dual Field-Effect Rectifier Diode (FERD)	D2PAK,TO-220AB	2	60	20	0.435	5	20	130	175
FERD20L60C	60 V, 20 A dual Field-Effect Rectifier Diode (FERD)	D2PAK,TO-220AB	2	60	20	0.415	5	60	140	150
FERD20S100S	100 V, 20 A Field-Effect Rectifier Diode (FERD)	DPAK,TO-220AB	1	100	20	0.585	5	0.11	150	175
FERD20U50	50 V, 20 A Power FLAT Ultra-Low Vf Field-Effect Rectifier Diode (FERD)	SMB Flat	1	50	20	0.51	20	0.8	180	150
FERD20U60DJFD	60 V, 20 A PowerFLAT Ultra-Low Vf Field-Effect Rectifier Diode (FERD)	SMB Flat	1	60	20	0.51	20	0.8	180	150
FERD30H100S	100 V, 30 A Field-Effect Rectifier Diode (FERD)	DPAK,TO 252 DPAK,TO-220AB	1	100	30	0.745	30	0.13	150	175
FERD30H60C	60 V, 30 A dual Field-Effect Rectifier Diode (FERD)	D2PAK,TO-220AB	2	60	30	0.46	7.5	20	250	175
FERD30L60C	60 V, 30 A dual Low Vf Field-Effect Rectifier Diode (FERD)	D2PAK,TO-220AB	2	60	30	0.42	7.5	60	250	150
FERD30M45C	45V, 30 A dual Field-Effect Rectifier Diode (FERD)	D2PAK,I2PAK,TO-220AB	2	45	30	0.47	15	0.6	250	175
FERD30SM100DJF	100 V, 30 A PowerFLAT Field-Effect Rectifier Diode (FERD)	SMB Flat	1	100	30	0.595	10	0.15	180	175
FERD30SM100S	100 V, 30 A TO-220 Field-Effect Rectifier Diode (FERD)	TO-220AB	1	100	30	0.585	10	0.15	250	175
FERD40H100S	100 V, 40 A Field-Effect Rectifier Diode (FERD)	D2PAK,TO-220AB,TO-220FPAB	1	100	40	0.6	20	0.19	440	175
FERD40L60C	60 V, 40 A dual Field-Effect Rectifier Diode (FERD)	D2PAK,TO-220AB	2	60	40	0.425	10	80	250	150
FERD40M45C	45 V, 40 A dual Field-Effect Rectifier (FERD)	D2PAK,TO-220AB	2	45	40	0.5	20	0.65	275	175
FERD40U45C	45 V, 40 A dual Ultra-Low Vf Field-Effect Rectifier Diode (FERD)	D2PAK,TO-220AB	2	45	40	0.385	20	1.8	275	175
FERD60M45C	45 V, 60 A dual Field-Effect Rectifier Diode (FERD)	TO-220AB	2	45	60	0.55	30	0.55	275	175
FERD20M60	60 V, 20 A Field Effect Rectifier Diode (FERD)	I2PAK,TO-220AB	1	60	20	0.56	20	0.23	275	175
FERD60U45C	45 V, 60 A dual ultra low Vf Field-Effect Rectifier Diode (FERD)	TO-220AB	2	45	60	0.5	20	1.5	300	175

# Schottky Barrier Diodes

## Overview

Featuring low forward voltage drop and negligible recovery, ST's Schottky diodes ensure higher switching speeds and better system efficiency from 15 up to 200 V. Made of robust avalanche capable technologies, many are available in both industrial and automotive versions.



With several series with forward voltage drops from 15 to 200 V, our small-signal and power Schottky diodes **ensure the best efficiency** for your applications. Recent packages development are 1mm-thick SMA Flat and SMB Flat packages as well as our latest D<sup>2</sup>PAK and PowerFLAT™ packages for enhanced power density. For other compact designs, many devices are tightly packed surface-mount devices or using through-hole encapsulation. Featuring a robust avalanche performance, ST Schottky diodes are rated for use in switched-mode power supplies (SMPS).

To ensure the most efficient, compact and rugged solutions for power conversion applications, ST provides a **useful set of tools to help engineers get the most from their designs**.

The is a user-friendly product selector ensuring a smooth and simple navigation experience and includes a parametric search engine that lets you rapidly identify the right product that best fits your application.

Our is a simple, straightforward way to calculate power losses when selecting Schottky or field-effect rectifier diodes (FERD) and further optimize your designs.

### Applications:

ST's Schottky diodes are suitable for semi-slim or slim-type notebook adapters, solar panel junction boxes, power converters, low voltage OR-ing and 48 V converters, welding equipment, and LED lighting as well as automotive applications.



Industrial



IoT for Smart Home & City



Personal electronics

### Product types:

ST's Schottky barrier diodes are available in small-signal and power Schottky. They are divided in 3 subfamilies:

#### Power Schottky diodes

The workhorse of power electronics, our range of power Schottky diodes covers reverse voltage capabilities from 15 to 200 V and currents from 1 to 240 A. Featuring low forward voltage drop and zero or negligible recovery charges, these diodes are available in packages suited for a wide range of applications from 3 A SMA flat surface-mount devices for LED supply circuits up to 3 A TO-277A packages for automotive auxiliary converters and isolated 240 A ISOTOP packages for welding systems.

#### Small-signal Schottky diodes

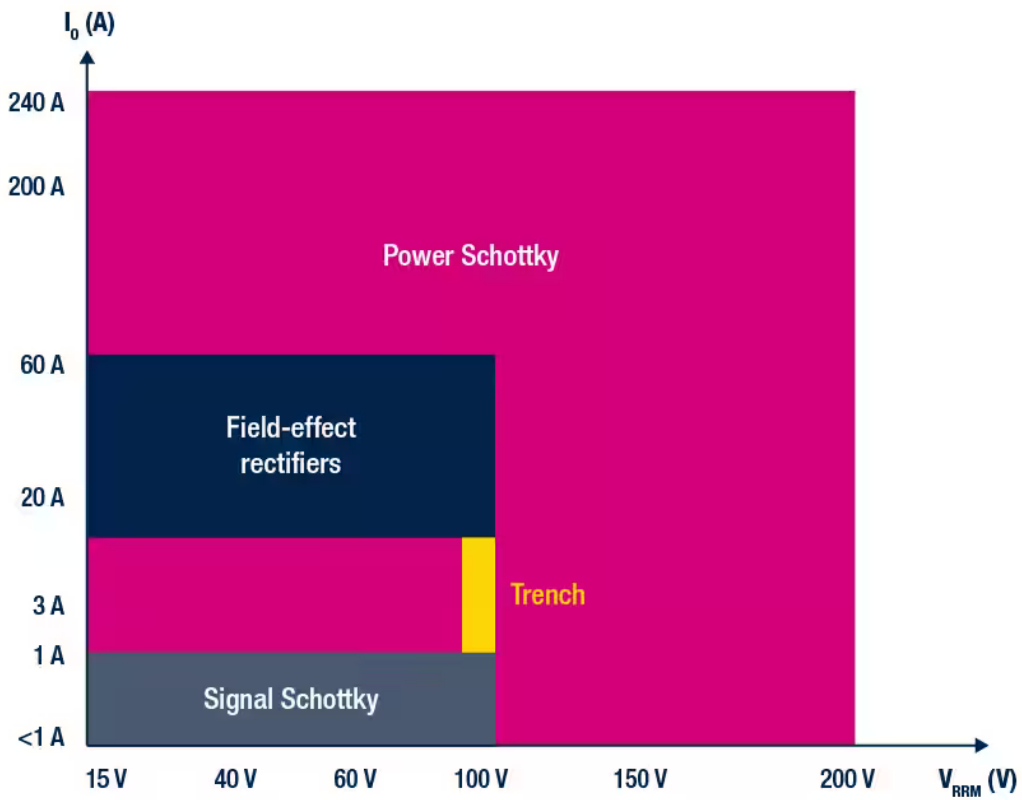
Versatile components used across multiple industry segments, our small-signal Schottky diodes have a durable footprint for signal-routing tasks, rail-to-rail protection and RF applications, such as balanced mixers and demodulators.

Our portfolio of small-signal Schottky barrier diodes offer forward voltages from 200 mV to 1 V with repetitive peak reverse voltages from 10 to 100 V in



packages ranging from axial devices to chip scale package (CSP) perfect for smartphones, handhelds and wearables.

### Discover our Portfolio



Diodes and Rectifiers / Schottky Barrier Diodes/Power Schottky

Part Number	General Description	Package	Number of Diodes spec	Repetitive Peak Reverse Voltage (V) max	Average Rectified Current (A) max	V <sub>f</sub> (V) max	VF measure condition (A) (@ I <sub>f</sub> ) spec	Reverse Current (mA) max	Non-Repet Peak Forward Surge Current (A) max	Junction Temperature (°C) max
1N5817	20 V, 1 A axial Power Schottky Rectifier	DO 41 PLASTIC	1	20	1	0.45	1	0.5	25	150
1N5818	30 V, 1 A axial Power Schottky Rectifier	DO 41 PLASTIC	1	30	1	0.5	1	0.5	25	150
1N5819	40 V, 1 A axial Power Schottky Rectifier	DO 41 PLASTIC	1	40	1	0.5,0.55	1	0.5	25	150
1N5822	40 V, 3 A axial Power Schottky Rectifier	DO-201AD	1	40	3	0.525	3	2	80	150
STPS0520Z	20 V, 0.5 A Power Schottky rectifier	SOD-123	1	20	0.5	0.385	0.5	0.15	5.5	125
STPS0530Z	30 V, 0.5 A Power Schottky Rectifier	SOD-123	1	30	0.5	0.43	0.5	0.012	5.5	150
STPS0540Z	40 V, 0.5 A Power Schottky Rectifier	SOD-123	1	40	0.5	0.5	0.5	0.04	5.5	150
STPS0560Z	60 V, 0.5 A Power Schottky Rectifier	SOD-123	1	60	0.5	0.53	0.5	0.05	5.5	150
STPS10120C	120 V, 10 A dual Power Schottky Rectifier	TO-220AB	2	120	10	0.85	5	0.006	120	175
STPS10150C	150 V, 10 A dual Power Schottky Rectifier	D2PAK,TO-220AB,TO-220FPAB	2	150	10	0.92	5	0.002	120	175
STPS10170C	170 V, 10 A dual Power Schottky Rectifier	D2PAK,DPAK	2	170	10	0.92	5	0.01	120	175
STPS10200SF	200 V, 10A Power Schottky rectifier	PSMC-3L-EP	1	200	10	0.895	10	0.006	210	175
STPS1045B	45 V, 10 A DPAK Power Schottky Rectifier	DPAK	1	45	10	0.63	10	0.1	75	175
STPS1045DEE	45 V, 10 A PowerFLAT Power Schottky Rectifier	PowerFLAT™	1	45	10	0.53	10	0.2	100	175
STPS1045FD	45 V, 10 A TO-220 Power Schottky Rectifier	TO-220AC	1	45	10	0.84	20	0.1	180	175
STPS1045SF	45V, 10 A PSMC Power Schottky Rectifier	PSMC-3L-EP	1	45	10	0.62	10	0.05	210	175
STPS10H100C	100 V, 10 A dual Power Schottky Rectifier	D2PAK,TO-220AB,TO-220FPAB	2	100	10	0.73	5	0.0035	180	175
STPS10H60SF	60 V, 10 A Power Schottky Rectifier	PSMC-3L-EP	1	60	10	0.79	10	0.02	210	175
STPS10L25	25 V, 10 A Low Drop Power Schottky Rectifier	D2PAK,TO-220AC	1	25	10	0.46	10	0.8	200	150
STPS10L40C	40 V, 10 A dual Low Drop Power Schottky Rectifier	D2PAK,TO-220AB	2	40	10	0.53	5	0.2	150	150
STPS10L40CSF	40 V, 10 A dual Low Vf Power Schottky Rectifier	PSMC-3L-EP	2	40	5	0.495	5	0.125	120	150
STPS10L60	60 V, 10 A Low Drop Power Schottky Rectifier	TO-220AC	1	60	10	0.6	10	0.35	220	150
STPS10L60C	60 V, 10 A dual Low Drop Power Schottky Rectifier	TO-220FPAB	2	60	10	0.55	5	0.22	180	150
STPS10M120SF	120 V, 10 A Low Drop Power Schottky rectifier	PSMC-3L-EP	1	120	10	0.82	10	0.025	340	175
STPS10M60SF	60 V, 10 A Low Drop Power Schottky rectifier	PSMC-3L-EP	1	60	10	0.65	10	0.05	230	175
STPS1150	150 V, 1 A Power Schottky Rectifier	DO 41 PLASTIC,SMA	1	150	1	0.82	1	0.001	50,75	175
STPS1170	170 V, 1 A Power Schottky rectifier	SMA Flat	1	170	1	0.82	1	0.0015	45	175
STPS12045	45 V, 120 A dual Power Schottky Rectifier	ISOTOP	2	45	120	0.91	120	1	900	150
STPS120L15	15 V, 120 A Low Drop OR-Ing Power Schottky Rectifier	ISOTOP	2	15	120	0.43	60	22	1200	125
STPS120M	20 V, 1 A STmite Power Schottky Rectifier	STmite	1	20	1	0.49	1	0.0039	50	150
STPS120MF	20 V, 1 A STmite flat Power Schottky Rectifier	STmiteFLAT	1	20	1	0.49	1	0.0039	50	150
STPS1230SF	30 V, 12 A Power Schottky Rectifier	PSMC-3L-EP	1	30	12	0.51	12	0.36	230	150
STPS130	30 V, 1 A Power Schottky Rectifier	SMA,SMB	1	30	1	0.55	1	0.01	45	150
STPS140	40 V, 1 A Power Schottky Rectifier	SMA,SMB	1	40	1	0.55	1	0.012	60	150
STPS140Z	40 V, 1 A SOD-123 Power Schottky Rectifier	SOD-123	1	40	1	0.55	1	0.01	5.5	150
STPS1545	45 V, 15 A Power Schottky Rectifier	D2PAK,TO-220AC,TO-220FPAC	1	45	15	0.84	15	0.2	220	175
STPS1545C	45 V, 15 A dual Power Schottky Rectifier	D2PAK,I2PAK,TO-220AB	2	45	15	0.84	15	0.1	150	175
STPS15H100C	100 V, 15 A dual Power Schottky Rectifier	DPAK	2	100	15	0.8	7.5	0.003	75	175
STPS15L25	25 V, 15 A Low Drop Power Schottky Rectifier	TO-220AC	1	25	15	0.46	15	1.3	250	150
STPS15L30C	30 V, 15 A dual DPAK Low Drop Power Schottky Rectifier	DPAK	2	30	15	0.48	7.5	1	75	150
STPS15L30CJDF	30V, 15 A dual PowerFLAT Low drop power Schottky rectifier	PowerFLAT™	2	30	15	0.39	7.5	1	75	150
STPS15L45C	45 V, 15 A dual Low Drop Power Schottky Rectifier	DPAK	2	45	15	0.52	7.5	0.5	75	150
STPS15L60C	60 V, 15 A dual Low Drop Power Schottky Rectifier	DPAK	2	60	15	0.62	7.5	0.2	75	150
STPS15LCD80C	Power Schottky rectifier	TO-220FPAB	2	80	10	0.855	7.5	0.01	120	175
STPS160	60 V, 1 A Power Schottky Rectifier	SMA,SMB	1	60	1	0.67	1	0.004	75	150
STPS16045	45 V, 160 A dual Power Schottky Rectifier	ISOTOP	2	45	160	0.95	160	1	900	150
STPS160H100TV	100 V, 160 A dual Power Schottky Rectifier	ISOTOP	2	100	160	0.8	80	0.04	1000	150
STPS16150C	150 V, 16 A dual Power Schottky Rectifier	TO-220AB	2	150	16	0.92	8	0.003	150	175
STPS16170C	170 V, 16 A dual Power Schottky Rectifier	D2PAK,DPAK	2	170	16	0.92	8	0.015	150	175
STPS16H100C	100 V, 16 A dual Power Schottky Rectifier	D2PAK	2	100	16	0.77	8	0.0036	200	175
STPS1H100	100 V, 1 A Power Schottky Rectifier	SMA,SMA Flat,SMB	1	100	1	0.77	1	0.004	50	175
STPS1H100MF	100 V, 1 A STmite flat Power Schottky Rectifier	STmiteFLAT	1	100	1	0.77	1	0.004	50	175
STPS1L20M	20 V, 1 A STmite Low Drop Power Schottky Rectifier	STmite	1	20	1	0.43	1	0.075	50	150
STPS1L20MF	20 V, 1A STmite flat Low Drop Power Schottky Rectifier	STmiteFLAT	1	20	1	0.43	1	0.075	50	150
STPS1L30	30 V, 1 A Low Drop Power Schottky Rectifier	SMA,SMB	1	30	1	0.95	1	0.2	75	150

STPS1L30M	30 V, 1 A STmite Low Drop Power Schottky Rectifier	STmite	1	30	1	0.395	1	0.2	50	150
STPS1L30MF	30 V, 1 A STmite flat Low Drop Power Schottky Rectifier	STmiteFLAT	1	30	1	0.395	1	0.2	50	150
STPS1L40	40 V, 1 A Low Drop Power Schottky Rectifier	SMA,SMB,SOD123Flat	1	40	1	0.5	1	0.035	50	175
STPS1L40M	40 V, 1 A STmite Low Drop Power Schottky Rectifier	STmite	1	40	1	0.5	1	0.035	50	150
STPS1L60	60 V, 1 A Low Drop Power Schottky Rectifier	DO 41 PLASTIC,SMA,SOD123Flat,STmit eFLAT	1	60	1	0.57	1	0.05	40,50	150
STPS200170TV1	170 V, 200 A dual Power Schottky Rectifier	ISOTOP	2	170	200	0.85	100	0.2	700	150
STPS20100	100 V, 20 A dual Power Schottky Rectifier	TO-220AB	2	100	20	0.95	20	0.15	200	175
STPS20120C	120 V, 20 A dual Power Schottky Rectifier	DPAK,I2PAK,TO-220AB	2	120	20	0.92	10	0.01	150	175
STPS20120D	120 V, 20 A Power Schottky Rectifier	TO-220AC	1	120	20	0.93	20	0.02	200	175
STPS20150C	150 V, 20 A dual Power Schottky Rectifier	D2PAK,I2PAK,TO-220AB,TO- 220FPAB	2	150	20	0.92	10	0.005	180	175
STPS20170C	170 V, 20 A dual Power Schottky Rectifier	D2PAK,TO-220AB,TO-220FPAB	2	170	20	0.92	10	0.015	180	175
STPS20200C	200 V, 20 A dual Power Schottky diode	D2PAK,TO-220AB,TO-220FPAB	2	200	20	0.7	10	0.015	180	175
STPS2045C	45 V, 20 A dual TO-220 D2PAK Power Schottky Rectifier	D2PAK,TO-220AB,TO-220FPAB	2	45	20	0.84	20	0.1	180	175
STPS20H100C	100 V, 20 A dual Power Schottky Rectifier	D2PAK,I2PAK,TO-220AB,TO- 220FPAB	2	100	20	0.77	10	0.0045	250	175
STPS20L15	15 V, 20 A Low Drop OR-Ing Power Schottky Rectifier	D2PAK,TO-220AC	1	15	20	0.41	19	6	310	125
STPS20L25C	25 V, 20 A dual Low Drop Power Schottky Rectifier	D2PAK,TO-220AB	2	25	20	0.46	10	0.8	220	150
STPS20L45C	45 V, 20 A dual Low Drop Power Schottky Rectifier	D2PAK,TO-220AB,TO-220FPAB	2	40	20	0.55	10	0.2	180	150
STPS20L60C	60 V, 20 A dual Low Drop Power Schottky Rectifier	D2PAK,TO-220AB	2	60	20	0.6	10	0.35	220	150
STPS20LCD200C	200 V, 20 A dual Power Schottky Rectifier	TO-220AB	2	200	10	0.81	10	0.005	150	175
STPS20LCD80C	80 V, 2 x 10 A power Schottky	D2PAK,I2PAK,TO-220AB	2	80	20	0.88	10	0.015	150	175
STPS20M100S	100 V, 20 A 3-lead single Low Drop Power Schottky Rectifier	D2PAK,TO-220AB	1	100	20	0.85	20	0.04	530	150
STPS20M60	60 V, 20 A Low Drop Power Schottky rectifier	TO-220AC	1	60	20	0.585	20	0.13	400	150
STPS20M60S	60 V, 20 A 3-lead single Low Drop Power Schottky rectifier	D2PAK	1	60	20	0.57	20	0.13	600	150
STPS20S100C	100 V, 2 x 10A Low Leakage Power schottky Rectifier	TO-220AB,TO-220FPAB	2	100	20	0.85	10	0.0035	180	175
STPS20SM100S	100 V, 20 A 3-lead single Low Leakage Power Schottky Rectifier	TO-220AB	1	100	20	0.9	20	0.03	350	150
STPS20SM120S	120 V, 20 A 3-lead single Low Leakage Power Schottky rectifier	TO-220AB	1	120	20	0.89	20	0.21	220	150
STPS2150	150 V, 2 A Power Schottky Rectifier	DO-15,SMA	1	170	2	0.82	2	0.015	70	
STPS2170	170 V, 2 A Power Schottky rectifier	SMA Flat	1	170	2	0.82	2	0.0028	70	175
STPS2200	200 V, 2 A High Voltage Power Schottky diode	SMB,SMB Flat	1	200	2	0.64	2	0.005	180	175
STPS24045	45 V, 240 A dual Power Schottky Rectifier	ISOTOP	2	45	240	0.91	240	2	1500	150
STPS240H100TV1Y	Automotive 100 V, 2x120A, power Schottky rectifier	ISOTOP	2	100	120	0.825	120	0.09	1150	175
STPS2545C	45 V, 25 A dual Power Schottky rectifier	D2PAK,TO-220AB	2	45	25	0.84	25	0.125	200	175
STPS2H100	100 V, 2 A Power Schottky Rectifier	SMA,SMA Flat,SMB,SMB Flat	1	100	2	0.79	2	0.001	75	175
STPS2H100RL	100 V, 2 A axial High Voltage Power Schottky Rectifier	DO 41 PLASTIC	1	100	2	0.86	2	0.001	50	175
STPS2H100ZF	100 V, 2 A SOD-123Flat Power Schottky rectifier	SOD123Flat	1	100	2	0.86	2	0.001	50	175
STPS2L25	25 V, 2 A Low Drop Power Schottky Rectifier	SMB	1	25	2	0.45	2	0.09	75	150
STPS2L30	30 V, 2 A Low Drop Power Schottky Rectifier	SMA	1	30	2	0.45	2	0.2	75	150
STPS2L40	40 V, 2 A Low Drop Power Schottky Rectifier	SMA Flat,SMB,SMB Flat	1	40	2	0.43	2	0.22	75	150
STPS2L60	60 V, 2 A Low Drop Power Schottky Rectifier	DO 41 PLASTIC,SMA,SMB Flat	1	60	2	0.6	2	0.1	75	150
STPS30100ST	100 V, 30 A 3-lead single Low Drop Power Schottky Rectifier	TO-220AB	1	100	30	0.8	30	0.175	300	150
STPS30120C	120 V, 30 A dual TO-220 Power Schottky rectifier	TO-220AB	2	120	30	0.92	15	0.015	180	175
STPS30120DJF	120 V, 30 A PowerFLAT Power Schottky rectifier	PowerFLAT™	1	120	30	0.92	30	0.035	200	150
STPS30150C	150 V, 2 x 15 A power Schottky	D2PAK,TO-220AB,TO- 220FPAB,TO-247	2	150	30	0.92	15	0.0065	220	175
STPS30170C	170 V, 30 A dual TO-220 Power Schottky Rectifier	D2PAK,TO-247	2	150,170	30	0.92	15	0.02	220	175
STPS30170DJF	170 V, 30 A PowerFlat Power Schottky rectifier	PowerFLAT™	1	170	30	0.95	30	0.015	200	150
STPS3030C	30 V, 30 A dual Power Schottky Rectifier	D2PAK,I2PAK	2	30	30	0.49	15	1	250	150
STPS3045C	45 V, 30 A dual Power Schottky Rectifier	D2PAK,TO-220AB,TO-247	2	45	30	0.84	30	0.2	220	175
STPS3045DJF	45 V, 30 A PowerFLAT Power Schottky rectifier	PowerFLAT™	1	45	30	0.64	30	0.3	200	150
STPS3060C	60 V, 30 A dual Power Schottky Rectifier	TO-247	2	60	30	0.85	15	0.15	200	150
STPS30H100C	100 V, 30 A dual TO-220, TO-247 Power Schottky rectifier	TO-220AB,TO-247	2	100	30	0.8	15	0.005	250	175
STPS30H100DJF	100 V, 30 A PowerFLAT Power Schottky rectifier	PowerFLAT™	1	100	30	0.62	15	6.5	250	150
STPS30H60C	60 V, 30 A dual High Tj Power Schottky Rectifier	D2PAK,TO-220AB,TO-220FPAB	2	60	30	0.58	15	0.15	250	150

STPS30L120C	120 V, 30 A Low Drop Power Schottky Rectifier	I2PAK,TO-220AB	2	120	30	0.57,0.88	15,5	0.2	220	125,150
STPS30L30C	30 V, 30 A dual Low Drop Low Drop Power Schottky Rectifier	D2PAK,I2PAK,TO-220AB	2	30	30	0.46	15	1.5	220	150
STPS30L30DJF	30 V, 30 A PowerFLAT Low Drop power Schottky Rectifier	PowerFLAT™	1	30	30	0.51	30	0.75	250	150
STPS30L45C	45 V, 30 A dual Low Drop Power Schottky Rectifier	D2PAK,TO-220AB,TO-220FPAB,TO-247	2	40	30	0.55	15	0.4	220	150
STPS30L60C	60 V, 30 A dual Low Drop Power Schottky Rectifier	D2PAK,TO-220AB,TO-247	2	60	30	0.6	15	0.48	230	150
STPS30M100DJF	100 V, 30 A PowerFLAT Low Drop Power Schottky rectifier	PowerFLAT™	1	100	30	0.96	30	0.1	200	150
STPS30M100S	100 V, 30 A 3-lead single Low Drop Schottky Rectifier	TO-220AB,TO-220FPAB	1	100	30	0.8	30	0.175	300	150
STPS30M60DJF	60 V, 30 A Low Drop Schottky diode	PowerFLAT™	1	60	30	0.52	10	0.165	60	150
STPS30M60S	60 V, 30 A 3-lead single Low Drop Low Leakage Power Schottky rectifier	D2PAK,TO-220AB	1	60	30	0.515	30	0.165	600	150
STPS30M80C	60 V, 30 A dual Low Drop Power Schottky rectifier	TO-220AB	2	80	30	0.79	15	0.04	150	175
STPS30SM100S	100 V, 30 A 3-lead single Low Leakage Power Schottky rectifier	D2PAK,TO-220AB	1	100	30	0.87	30	45	530	150
STPS30SM120S	120 V, 30 A 3-lead single Low Leakage Power Schottky rectifier	TO-220AB,TO-220FPAB	1	120	30	0.95	30	0.275	240	150
STPS30SM60S	60 V, 30 A 3-lead Low Leakage Power Schottky rectifier	D2PAK	1	60	30	0.615	30	0.135	600	150
STPS3150	150 V, 3 A Power Schottky rectifier	DO-201AD,SMB,SMB Flat	1	170	3	0.82	3	0.002	75	175
STPS3170	170 V, 3 A Power Schottky Rectifier	SMA Flat,SMB Flat	1	170	3	0.82	3	0.004	75	175
STPS340	40 V, 3 A SMD Power Schottky rectifier	DPAK,SMB,SMB Flat,SMC	1	40	3	0.63	3	0.02	75	150
STPS360	60 V, 3 A Schottky Barrier, Power Schottky	SOD128 Flat	1	60	3	0.58	3	0.0015	65	175
STPS3H100	100 V, 3 A Schottky rectifier	SMB,SMB Flat	1	100	3	0.84	3	0.001	75	175
STPS3H100AF	100 V, 3 A SOD128Flat Power Schottky rectifier	SOD128 Flat	1	100	3	0.61	3	0.0015	79	175
STPS3L40	40 V, 3 A SMD Low Drop Power Schottky Rectifier	SMB Flat,SMC	1	40	3	0.5	3	0.1	75	150
STPS3L45AF	45 V, 3 A Low Drop Low Drop Power Schottky Rectifier	SMA Flat	1	45	3	0.57	3	0.3	75	150
STPS3L60	60 V, 3 A Low Drop Power Schottky Rectifier	DO-15,SMB,SMB Flat	1	60	3	0.62	3	0.15	100	-
STPS3L60S	60 V, 3 A SMC Low Drop Power Schottky Rectifier	SMC	1	60	3	0.65	3	0.15	75	150
STPS40120C	120 V, 40 A dual Power Schottky Rectifier	TO-220AB	2	120	40	0.9	20	0.025	200	175
STPS40150C	150 V, 40 A dual High Voltage Power Schottky Rectifier	D2PAK,TO-220AB,TO-247	2	150	40	0.91	20	0.008	250	175
STPS40170C	170 V, 40 A dual Power Schottky Rectifier	D2PAK,TO-220AB,TO-247	2	100,170	20,40	0.85,0.92	10,20	0.0035,0.03	200,250	175
STPS4045C	45 V, 40 A dual Power Schottky Rectifier	TO-247	2	45	40	0.76	20	0.2	220	175
STPS40H100CW	100 V, 40 A dual TO-247 OR-Ing Power Schottky Rectifier	TO-247	2	100	40	0.73	20	0.01	300	175
STPS40L15C	15 V, 40 A dual Low Drop Power Schottky Rectifier	TO-220AB,TO-247	2	15	40	0.41	19	6	310	125
STPS40L45C	45 V, 40 A dual Low Drop Power Schottky Rectifier	D2PAK,TO-220AB,TO-247	2	45	40	0.53	20	0.6	230	150
STPS40M100C	100 V, 40 A dual Low drop Power Schottky rectifier	I2PAK,TO-220AB	2	100	40	0.64,0.78	20	0.07	230,530	150
STPS40M60C	60 V, 40 A dual Low Drop Low leakage Power Schottky rectifier	TO-220AB	2	60	40	0.595	20	0.11	220	150
STPS40M80C	80 V, 40 A dual Low Drop Power Schottky Rectifier	D2PAK,TO-220AB	2	80	40	0.735	20	0.065	150	175
STPS40SM100C	100 V, 40 A dual Low Leakage Power Schottky rectifier	TO-220AB	2	100	40	0.81	20	0.045	230	150
STPS41H100C	100 V, 40 A dual Power Schottky Rectifier	D2PAK,I2PAK,TO-220AB	2	100	40	0.8	20	0.01	220	175
STPS41L30C	30 A, 40 A dual Low Drop Power Schottky Rectifier	D2PAK	2	30	40	0.48	20	1.5	220	150
STPS41L45C	45 V, 41 A dual Low Drop Power Schottky Diode	D2PAK	2	45	40	0.53	20	1.2	220	150
STPS41L60C	60 V, 40 A dual Low drop Power Schottky rectifier	D2PAK,TO-220AB	2	60	40	0.6	20	0.6	22	150
STPS45200	200 V, 4 A Schottky rectifier	DPAK,SMB Flat,SMC	1	200	4	0.71	4	0.005	130	175
STPS5045S	45 V, 50 A Power Schottky Rectifier	D2PAK	1	45	50	0.56	50	0.3	600	200
STPS5H100	100V, 5 A Power Schottky Rectifier	DPAK	1	100	5	0.79	5	0.0035	75	175
STPS5H100AF	100 V, 5 A SOD128Flat Power Schottky Rectifier	SOD128 Flat	1	100	5	0.61	5	0.0035	130	175
STPS5H100SF	100 V, 5 A PSMC Power Schottky Rectifier	PSMC-3L-EP	1	100	5	0.64	5	0.008	230	175
STPS5L25	25 V, 5 A Low Drop Power Schottky Rectifier	DPAK	1	25	5	0.47	5	0.35	75	150
STPS5L40	40 V, 5 A Low Drop Power Schottky Rectifier	DO-201AD	1	40	5	0.5	5	0.2	150	150
STPS5L60	60 V, 5 A Low Drop Power Schottky Rectifier	DO-201AD,SMB,SMC	1	60	5	0.52	5	0.22	100	150
STPS5L60SF	60 V, 5 A PSMC Low Drop Power Schottky Rectifier	PSMC-3L-EP	1	60	5	0.51	5	0.47	220	150
STPS60150C	150 V, 60 A dual Power Schottky Rectifier	TO-220AB	2	150	60	0.94	30	0.015	270	175
STPS60170C	170 V, 60 A dual Power Schottky Rectifier	TO-220AB	2	170	60	0.94	30	0.035	270	175
STPS6045C	45 V, 60 A dual Power Schottky Rectifier	TO-247	2	45	60	0.84	60	0.5	400	175
STPS60H100C	100 V, 60 A dual TO-220 Power Schottky Rectifier	TO-220AB	2	100	60	0.84	30	0.01	300	175
STPS60L30C	30 V, 60 A dual Low Drop Power Schottky Rectifier	TO-247	2	30	60	0.46	30	4	600	150
STPS60L45C	45 V, 60 A dual Low Drop Power Schottky rectifier	TO-247	2	45	60	0.55	30	1.5	600	150
STPS60SM200C	200 V, 60 A dual Low Leakage Power Schottky Rectifier	TO-247	2	200	30	0.83	30	0.05	500	175
STPS61150C	150 V, 60 A dual Low Drop Power Schottky Rectifier	TO-247	2	150	60	0.84	30	0.02	500	175
STPS61170C	170 V, 60 A dual Low Drop Power Schottky Rectifier	TO-247	2	170	60	0.84	30	0.06	500	175
STPS61H100C	100 V, 60 A dual TO-247 Power Schottky Rectifier	TO-247	2	100	60	0.79	30	0.016	450	175
STPS61L45C	45 V, 60 A dual High Efficiency Low Drop Power Schottky Rectifier	TO-220AB,TO-247	2	45	60	0.56	30	1.5	400	150
STPS61L60C	60 V, 60 A dual Low Drop Power Schottky	TO-220AB,TO-247	2	60	60	0.66	30	0.8	400	150
STPS640C	40 V, 6 A Power Schottky Rectifier	DPAK	2	40	6	0.63	3	0.1	75	150
STPS6M100DEE	100 V, 6 A PowerFLAT Power Schottky Rectifier	PowerFLAT™	1	100	6	0.64	6	0.03	100	150

STPS6M100SF	100 V power Schottky rectifier	PSMC-3L-EP	1	100	6	0.8	6	0.035	200	175
STPS745	45 V, 7 A Power Schottky Rectifier	D2PAK,TO-220AC,TO-220FPAC	1	45	7	0.57	7.5	0.1	150	175
STPS80150C	150 V, 80 A dual Power Schottky Rectifier	TO-247	2	150	80	0.84	40	0.03	500	175
STPS80170C	170 V, 80 A dual Power Schottky Rectifier	TO-247	2	170	80	0.84	40	0.08	500	175
STPS80H100	100 V, 80 A Power Schottky Rectifier	ISOTOP	2	100	80	0.78	40	0.02	700	150
STPS8170DEE	170 V, 8 A PowerFLAT Power Schottky Rectifier	PowerFLAT™	1	170	8	0.72	8	0.015	100	175
STPS8H100	100 V, 8A TO-220 D2PAK Power Schottky rectifier	D2PAK,TO-220AC,TO-220FPAC	1	100	8	0.71	8	0.0045	250	175
STPS8H100DEE	100 V, 8 A PowerFLAT Power Schottky Rectifier	PowerFLAT™	1	100	8	0.68	8	0.0045	100	175
STPS8L30	30 V, 8 A DPAK Low Drop Power Schottky rectifier	DPAK	1	30	8	0.49	8	1	75	150
STPS8L30DEE	30 V, 8 A PowerFLAT Signal Schottky Diode	PowerFLAT™	1	30	8	0.39	8	1	100	150
STPST10H100	100 V, 10 A Power Schottky Trench Rectifier	PSMC-3L-EP	1	100	10	0.7	10	0.02	235	175
STPST10H100SB	100 V, 10 A, DPAK Power Schottky Trench Rectifier	DPAK	1	100	10	0.7	10	0.026	235	175
STPST12H100	100 V, 12 A Power Schottky Trench Rectifier	PSMC-3L-EP	1	100	12	0.7	12	0.024	230	175
STPST15H100SB	100 V, 15 A, DPAK Power Schottky Trench Rectifier	DPAK	1	100	15	0.7	15	0.03	230	-
STPST1H100	100 V, 1 A Power Schottky Trench Rectifier	SOD123Flat,SOD128 Flat	1	100	2	0.725	1	0.002	25	175
STPST2H100	100 V, 2 A Power Schottky Trench Rectifier	SMB Flat,SOD123Flat,SOD128 Flat	1	100	2	0.8	2	0.003	35	175
STPST3H100	100 V, 3 A Power Schottky Trench rectifier	SMB Flat,SOD128 Flat	1	100	3	0.755	3	0.0057	50	175
STPST5H100	100 V, 5 A Power Schottky Trench Rectifier	PSMC-3L-EP,SMB Flat,SOD128 Flat	1	100	5	0.68	5	0.015	75	175
STPST5H100SB	100 V, 5 A, DPAK Power Schottky Trench Rectifier	DPAK	1	100	5	0.68	5	0.015	75	175
STPST8H100	100 V, 8 A Power Schottky Trench Rectifier	PSMC-3L-EP	1	100	8	0.7	8	0.017	200	175
STPS20SM60	60 V, 20 A Low leakage Power Schottky rectifier	TO-220AC	1	60	20	0.6	20	0.085	400	150
STPS20SM80C	80 V, 20 A dual Low Leakage Power Schottky rectifier	TO-220AB	2	80	20	0.78	10	0.025	220	175
STPS30M60C	60 V, 30 A dual Low Drop Low Leakage Power Schottky rectifier	TO-220AB	2	60	30	0.585	15	0.085	400	150
STPS30SM80C	80 V, 30 A dual Low Leakage Power Schottky Rectifier	TO-220FPAB	2	80	30	0.79	15	0.04	220	175
STPS40M120C	120 V, 40 A dual Low Drop Power Schottky rectifier	TO-220AB	2	120	40	0.79	20	0.37	220	150
STPS40SM120C	120 V, 40 A dual Low Leakage Power Schottky rectifier	I2PAK	2	120	40	0.83	20	0.275	210	150

**Diodes and Rectifiers / Schottky Barrier Diodes/Signal Schottky**

Part Number	General Description	Package	Number of Diodes spec	Repetitive Peak Reverse Voltage (V) max	Average Rectified Current (A) max	V <sub>f</sub> (V) max	Reverse Current (mA) max	Junction Capacitance (pF) max	Reverse Recovery Time (ns) max	Junction Temperature (°C) max
1N5711	70 V, 15 mA RF and Ultrafast Switching Signal Schottky Diode	DO-35	1	70	0.015	1	0.02	2	0.1	200
1N6263	60 V, 15 mA axial RF and Ultrafast Switching Signal Schottky Diode	DO-35	1	60	0.015	1	0.2	2.2	0.1	200
BAR18	70 V, 70 mA RF and Ultrafast Switching Signal Schottky Diode	SOT23	1	70	0.07	0.41	2.0E-4	2	0.1	150
BAR42	30 V, 100 mA Vf 0.4 V @ 10 mA SMD General Purpose Signal Schottky Diode	SOT23	1	30	0.1	1	5.0E-4	10	5	150
BAR43	30 V, 100 mA Vf 0.33 V @ 2 mA SMD General purpose Signal Schottky Diode	SOT23	1,2	30	0.1	1	5.0E-4	10	5	150
BAR46	100 V, 150 mA General purpose Signal Schottky Diode	SOT23	1,2	100	0.15	0.45	0.005	20	0	150
BAS70	70 V, 70 mA RF and Ultrafast Switching Signal Schottky Diode	SOD-523,SOD323,SOT-323,SOT23	1,2	70	0.07	1	0.01	2	0	150
BAT20J	23 V, 1 A General purpose Signal Schottky Diode	SOD323	1	23	1	0.62	0.012	30	0	150
BAT30	30 V, 300 mA SMD General purpose Signal Schottky Diode	SOD-523,SOT-323	1,2	30	0.3	0.58	0.005	35	0	150
BAT30F4	30 V, 300 mA CSP General Purpose Small Signal Schottky Diode	ST0201	1	30	0.3	0.205	0.05	-	-	85
BAT41	100 V, 200 mA Surface Mount General Purpose Signal Schottky Diode	SOD-123,SOD-523	1	100	0.2	1	0.1	10	0	150
BAT41RL	100 V, 200 mA Axial General Purpose Signal Schottky Diode	DO-35	1	100	0.2	1	0.1	10	0	150
BAT42	30 V, 200 mA Axial General purpose Signal Schottky Diode	DO-35	1	30	0.2	0.65	5.0E-4	15	5	125
BAT43	30 V, 200 mA Axial General Purpose narrow Vf Drop Signal Schottky Diode	DO-35	1	30	0.2	0.45	5.0E-4	15	5	125
BAT46	100 V, 150 mA SMD General Purpose Signal Schottky Diode	SOD-123,SOD323,SOT-323,SOT23	1,2	100	0.15	1	20	20	0	150
BAT46RL	100 V, 150 mA Axial General Purpose Signal Schottky Diode	DO-35	1	100	0.15	1	20	20	0	150
BAT48	40 V, 350 mA Axial General purpose Signal Schottky Diode	DO-35,SOD-123,SOD323	1	40	0.35	0.9	0.05	40	10	150
BAT54	40 V, 300 mA General purpose Signal Schottky Diode	SOD-523,SOD323,SOT-323,SOT23	1,2	40	0.3	0.9	0.001	10	5	150
BAT60	10 V General pupose Signal Schottky Diode	SOD323	1	10	3	0.4	0.006	60	0	150
TMBAT49	80 V, 500 mA General Purpose Signal Schottky Diode	MELF	1	80	0.5	1	0.2	200	0	125
TMBYV10-40	40 V, 1 A Minimelf General Purpose Signal Schottky Diode	MELF	1	40	1	0.55	0.5	400	0	125
TMBYV10-60	60 V, 1 A General Purpose Signal Schottky Diode	MELF	1	60	1	0.7	0.5	300	0	125
TMMBAT41	100 V, 200 mA Minimelf General Purpose Signal Schottky Diode	MiniMELF	1	100	0.2	1	0.1	10	0	125
TMMBAT42	30 V, 200 mA Vf 0.4 V @ 10 mA Minimelf General purpose Signal Schottky Diode	MiniMELF	1	30	0.2	1	5.0E-4	15	5	125
TMMBAT43	30 V, 200 mA Vf 0.33 V @ 2 mA Minimelf General Purpose Signal Schottky Diode	MiniMELF	1	30	0.2	0.45	5.0E-4	15	5	125
TMMBAT46	100 V, 150 mA Minimelf General purpose Signal Schottky Diode	MiniMELF	1	100	0.15	1	20	20	0	125
TMMBAT48	40 V, 350 mA Minimelf General purpose Signal Schottky Diode	MiniMELF	1	40	0.35	0.9	0.05	40	10	125

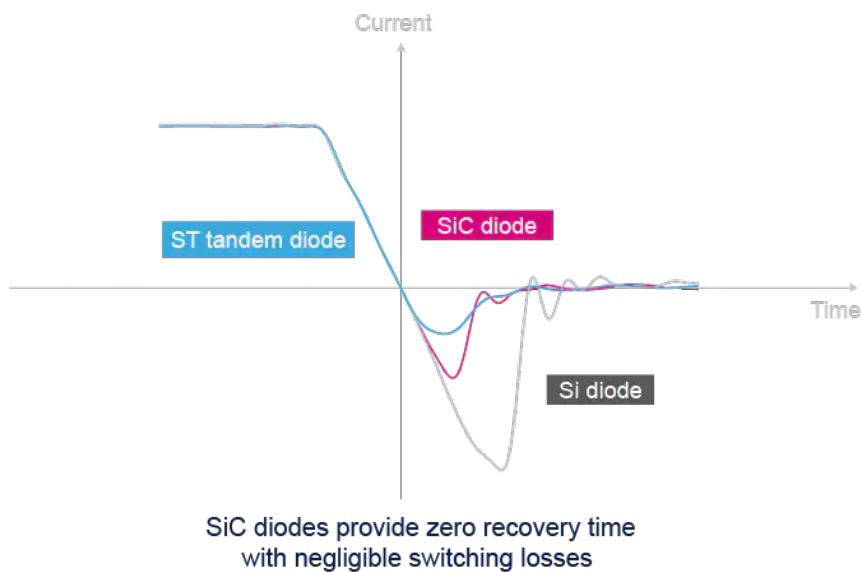
## Silicon Carbide Diodes

### Overview

In addition to ensuring compliance with today's most stringent energy efficiency regulations (Energy Star, 80Plus, and European Efficiency), ST's silicon-carbide diodes show four times better dynamic characteristics with 15% less forward voltage ( $V_F$ ) than standard silicon diodes. Silicon-carbide diodes belong to our **STPOWER** family.

The efficiency and robustness of solar inverters, motor drives, uninterruptible power supplies and circuits in electrical vehicles are therefore greatly improved by the use of silicon-carbide (SiC) diodes.

ST proposes a 600 to 1200 V range with single and dual diodes encapsulated in package sizes from TO-247, including the ceramic insulated TO-220. SiC diodes in 10, 15 and 20A versions are newly encapsulated in the D2PAK which features wider creepage distance for higher electric and pollution standards.



### SiC diodes – compact surface-mount PowerFLAT™ 8x8 HV packages

To help engineers design denser, more efficient power conversion stages, ST's compact surface-mount PowerFLAT™ 8x8 HV devices feature excellent thermal performance. Moreover, ST took a few extra steps to propose a 4 to 10 A range (STPSC4H065DLF, STPSC6H065DLF, STPSC8H065DLF, STPSC10H065DLF and STPSC10065DLF) with super-power density.

- Package less than 1 mm thick
- Forward voltage ( $V_F$ ) improved by 200 mV
- High-voltage creepage: 2.75 mm
- Designed and built for high inrush current ( $I_{FSM}$ )
- $R_{th}$  thermal resistance as low as 1.7°C/W

Diodes and Rectifiers/Silicon Carbide Diodes

Part Number	General Description	Package	Number of Diodes spec	Repetitive Peak Reverse Voltage (V) max	Average Rectified Current (A) max	V <sub>f</sub> (V) max	VF measure condition (A) (@ I <sub>s</sub> ) spec	Reverse Current (mA) max	Total capacitive charge (nC)	Non-Repet Peak Forward Surge Current (A) max	Junction Temperature (°C) max
STPSC10065	650 V power Schottky silicon carbide diode	H2PAK-2,TO-220AC	1	650	10	1.45	10	0.13	34	48	175
STPSC10065DLF	650 V 10 A power Schottky silicon carbide diode	POWER FLAT MLPD 8X8 4L MIXPLANT	1	650	10	1.45	10	0.13	-	48	175
STPSC10H065	650 V, 10 A High Surge Silicon Carbide Power Schottky Diode	D2PAK,DPAK,TO-220AC,TO-220AC Ins	1	650	10	1.75	10	0.1	28.5	90	175
STPSC10H065DLF	650 V 10 A power Schottky silicon carbide diode	POWER FLAT MLPD 8X8 4L MIXPLANT	1	650	10	1.75	10	0.1	28.5	90	175
STPSC10H065G2	650 V, 10 A High Surge Silicon Carbide Power Schottky Diode	H2PAK-2	1	650	10	1.75	10	0.1	28.5	90	175
STPSC10H12	1200 V, 10 A High Surge Silicon Carbide Power Schottky Diode	D2PAK,DO247 LONG LEADS,TO-220AC	1	1200	10	1.5	10	0.06	57	71	175
STPSC10H12B2-TR	1200V, 10A, silicon carbide power Schottky Diode	DPAK HV 2L	1	1200	10	1.5	10	0.06	57	71	175
STPSC10H12C	1200 V, 10 A dual High Surge Silicon Carbide Power Schottky Diode	TO-247 long leads	2	1200	10	1.5	5	0.03	57	210	175
STPSC10H12G2-TR	1200V, 10A, silicon carbide power Schottky Diode	H2PAK-2	1	1200	10	1.5	10	0.06	57	71	175
STPSC10H12G2Y-TR	Automotive Grade 1200V, 10A, silicon carbide power Schottky Diode	H2PAK-2	1	1200	10	1.5	10	0.06	57	71	175
STPSC10TH13TI	2 x 650V tandem, 10 A High Surge Silicon Carbide Power Schottky Diode	TO-220AB Ins	2	650	10	1.75	10	0.1	28.5	90	175
STPSC12065	650 V power Schottky silicon carbide diode	D2PAK,H2PAK-2,TO-220AC	1	650	12	1.45	12	0.15	36	50	175
STPSC12H065	650 V, 12 A High Surge Silicon Carbide Power Schottky Diode	TO-220AC	1	650	12	1.75	12	0.12	36	100	175
STPSC15H12	1200 V, 15 A High Surge Silicon Carbide Power Schottky Diode	DO247 LONG LEADS,TO-220AC	1	1200	15	1.5	15	0.09	94	105	175
STPSC15H12G2-TR	1200V, 15A, silicon carbide power Schottky Diode	H2PAK-2	1	1200	15	1.5	15	0.09	94	105	175
STPSC15H12G2Y-TR	Automotive Grade 1200V, 15A, silicon carbide power Schottky Diode	H2PAK-2	1	1200	15	1.5	15	0.09	94	105	175
STPSC16H065A	650 V, 16 A Single High Surge Silicon Carbide Power Schottky Diode	TO-247	1	650	16	-	16	0.14	41	120	175
STPSC20065	650 V power Schottky silicon carbide diode	DO-247,TO-220AC,TO-220AC Ins	1	650	20	1.45	20	0.3	62	90	175
STPSC20065C	650 V, dual 10 A, power Schottky silicon carbide diode	TO-247 long leads	2	650	10	1.45	10	0.13	34	48	175
STPSC20G12	1200 V, 20 A High surge Silicon Carbide Power Schottky Diode	DO247 LONG LEADS	1	1200	20	1.5	20	0.15	103	180	175
STPSC20H065C	650 V, 20 A dual High Surge Silicon Carbide Power Schottky Diode	TO-220AB,TO-247	2	650	20	1.75	10	0.1	28.5	90	175
STPSC20H12	1200 V, 20 A High surge Silicon Carbide Power Schottky Diode	D2PAK,DO247 LONG LEADS,TO-220AC	1	1200	20	1.5	20	0.12	129	140	175
STPSC20H12C	1200 V, 20 A High surge Silicon Carbide Power Schottky Diode	TO-247 long leads	2	1200	20	1.5	10	0.06	57	420	175
STPSC20H12G2-TR	1200V, 20A, silicon carbide power Schottky Diode	H2PAK-2	1	1200	20	1.5	20	0.12	129	140	175
STPSC2H065	650 V, 2 A High Surge Silicon Carbide Power Schottky Diode	DPAK	1	650	2	1.55	2	0.02	7.9	20	175
STPSC2H12	1200 V power Schottky silicon carbide diode	TO-220AC	1	1200	2	1.5	2	0.012	15.6	15	175
STPSC30G12	1200 V, 30 A High surge Silicon Carbide Power Schottky Diode	DO247 LONG LEADS	1	1200	30	1.5	30	0.225	149	250	175
STPSC30H12C	1200 V power Schottky silicon carbide diode	TO-247 long leads	2	1200	30	1.5	15	0.09	94	630	175
STPSC40065C	650 V power Schottky silicon-carbide diode	TO-247	2	650	40	1.45	20	0.3	62	90	175
STPSC40H12C	1200 V, 40 A High Surge Silicon Carbide Power Schottky Diode	TO-247 long leads	2	1200	40	1.5	20	0.12	129	140	175
STPSC4H065	650 V, 4 A High Surge Silicon Carbide Power Schottky Diode	DPAK,TO-220AC,TO-220AC Ins	1	650	4	1.75	4	0.04	12.5	38	175
STPSC4H065DLF	4 A, 650 V SiC Power Schottky Diode	POWER FLAT MLPD 8X8 4L MIXPLANT	1	650	4	1.55	4	0.04	14.3	38	175
STPSC5H12	1200 V, 5 A High Surge Silicon Carbide Power Schottky Diode	TO-220AC	1	1200	5	1.5	5	0.03	36	35	175
STPSC6H065	650 V, 6 A High Surge Silicon Carbide Power Schottky Diode	D2PAK,DPAK,TO-220AC,TO-220AC Ins	1	650	6	1.75	6	0.06	18	60	175
STPSC6H065DLF	6 A, 650 V SiC Power Schottky Diode	POWER FLAT MLPD 8X8 4L MIXPLANT	1	650	6	1.55	6	0.06	19.9	58	175
STPSC6TH13TI	2 x 650V tandem, 6 A High Surge Silicon Carbide Power Schottky Diode	TO-220AB Ins	2	650	6	1.75	6	0.06	18	60	175
STPSC8065	650 V power Schottky silicon carbide diode	TO-220AC	1	650	8	1.45	8	0.105	28	46	175
STPSC8H065	650 V, 8 A High surge Silicon Carbide Power Schottky Diode	D2PAK,DPAK,TO-220AC,TO-220AC Ins	1	650	8	1.75	8	0.08	23.5	75	175
STPSC8H065DLF	8 A 650 V SiC Power Schottky Diode	POWER FLAT MLPD 8X8 4L MIXPLANT	1	650	8	1.55	8	0.08	26	75	175
STPSC8TH13TI	2 x 650V tandem, 8 A High Surge Silicon Carbide Power Schottky Diode	TO-220AB Ins	2	650	8	1.75	8	0.08	23.5	75	175
STPSC12H065C	650 V, 12 A dual High Surge Silicon Carbide Power Schottky Diode	TO-220AB	2	650	12	1.75	6	0.06	18	60	175
STPSC16H065C	650 V power Schottky silicon carbide diode	TO-220AB	2	650	16	1.75	8	0.08	23.5	75	175
STPSC2006CW	600 V power Schottky silicon-carbide diode	TO-247	2	600	20	1.7	10	0.15	12	40	175
STPSC8H065C	650 V, 8 A dual High Surge Silicon Carbide Power Schottky Diode	TO-220AB	2	650	8	1.75	4	0.04	12.5	38	175

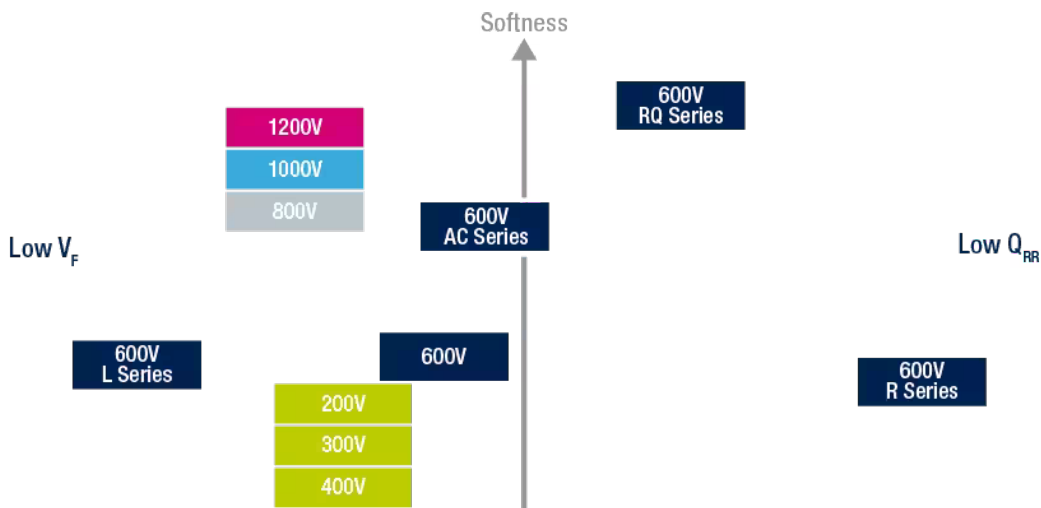


# Ultrafast Rectifiers

## Overview

The ST rectifier diode designs deliver performance for applications with very different  $V_F/Q_{rr}$  trade-offs depending on targeted functions. The minimal power losses of the ST rectifiers range is totally adapted to mains rectification, bypass, boost, bootstrap, freewheel and HF rectification functions. Inside these generic functions, the topology evolution in e.g. resonance or multilevel is followed constantly by suited designs. Ultrafast rectifiers are belonging to the **STPOWER** family.

This is backed-up by the ST diodes manufacturing industry aimed at serving our customers of all segments, automotive, industrial, computer, consumer and appliance included in a past, present and future focus.



Our best bipolar ultrafast rectifier diodes maintain heavy R&D progress illustrated here by the 'RQ' soft diode series for resonant converters.

## New 600V 'RQ' diodes improve creepage distance and reduce EMI

Thanks to the high-voltage D<sup>2</sup>PAK package, our new diode series improves the creepage distance and facilitates compliance with the IEC 60664-1 worldwide standard. ST now offers 600 V 'RQ' diodes (Rapid & Quiet) – providing a minimum of 3.48 mm between the anode and cathode instead of only 1.38 mm for a standard D<sup>2</sup>PAK device. Developed for electric vehicle (EV) charging stations, industrial converters, high-power SMPS, snubber circuits and for free-wheeling, these diodes feature a unique trade-off between a soft reverse recovery to reduce electromagnetic interference (EMI) and a low forward voltage ( $V_F$ ) to gain efficiency in all modes of resonant-based topologies.

These 600 V, 15- to 30-amp diodes are also available in an automotive-grade 'RQ' series, suited for on-board battery chargers (OBC) and 2- or 3-wheeler battery chargers.

Diodes and Rectifiers / Ultrafast Rectifiers/200V to 400V Ultrafast Rectifiers

Part Number	General Description	Package	Number of Diodes spec	Repetitive Peak Reverse Voltage (V) max	Average Rectified Current (A) max	V <sub>F</sub> (V) max	Reverse Current (mA) max	Reverse Recovery Time (ns) max	Non-Repet Peak Forward Surge Current (A) max	Junction Temperature (°C) max
STTH10002	200 V, 100 A Ultrafast Diode	ISOTOP	2	200	100	1	0.05	30	750	150
STTH1002C	200 V, 10 A dual Ultrafast Diode	D2PAK,DPAK,I2PAK,T O-220AB,TO- 220FPAB	2	200	10	1.1	0.005	20	50	175
STTH1002CSF	Ultrafast diode 200V, dual 5A	PSMC-3L-EP	2	200	5	1.05	0.04	35	85	175
STTH1003S	300 V, 10 A Ultrafast Diode	DPAK	1	300	10	1.1	0.01	13	100	175
STTH100W04C	400V, 100 A dual Ultrafast Rectifier Diode	TO-247	2	400	100	1.2	0.025	50	350	175
STTH102	200 V 1 A Ultrafast Recovery Diode	DO 41 PLASTIC,SMA	1	200	1	0.97	0.001	20	40	175
STTH10R04	400 V, 10 A High Efficiency Ultrafast Diode	D2PAK	1	400	10	1.7	0.001	40	100	175
STTH12003	300 V, 120 A Ultrafast Diode	ISOTOP	2	300	120	1	0.12	55	600	150
STTH1202	200 V, 12 A Ultrafast Diode	TO-220AC	1	200	12	1.1	0.01	24	100	175
STTH120R04TV	400 V, 120 A Ultrafast Switching Rectifier Diode	ISOTOP	2	400	120	1.5	0.06	55	700	150
STTH1502	200 V, 15 A Ultrafast Diode	TO-220AC,TO-220AC Ins,TO-220FPAC	1	200	15	1.1	0.001	25	150	175
STTH16003	300 V, 160 A Ultrafast Diode	ISOTOP	2	300	160	0.95	0.2	60	800	150
STTH1602C	200 V, 16 A dual Ultrafast Diode	D2PAK,TO-220AB,TO- 220FPAB	2	200	16	1.1	0.006	26	80	175
STTH16R04C	400 V, 16 A dual Ultrafast Diode	D2PAK,TO-220AB	2	400	16	1.5	0.01	35	120	175
STTH1R02	200 V, 1 A Ultrafast Diode	DO 41 PLASTIC,DO- 15,SMA,SMB	1	200	1.5	1	0.003	20	60	175
STTH1R02ZF	200 V, 1 A SOD123Flat Ultrafast Diode	SOD123Flat	1	200	1	1	5.0E-4	32	25	175
STTH1R04	400 V, 1 A Ultrafast Diode	DO-15,SMA,SMB	1	400	1	1.5	0.005	20	30	175
STTH20002TV	200 V, 200 A Ultrafast Diode	ISOTOP	2	200	200	1.2	0.1	50	1000	150
STTH20003	300 V, 200 A Ultrafast Diode	ISOTOP	2	300	200	0.95	0.2	90	1000	150
STTH20004TV1	400 V, 200 A Ultrafast Diode	ISOTOP	2	400	200	1.2	0.1	100	900	150
STTH2002	200 V, 20 A Ultrafast Diode	D2PAK,TO-220AC,TO- 220AC Ins	1	200	20	1.1	0.01	20	175	175
STTH2002C	200 V, 20 A dual Ultrafast Diode	D2PAK,I2PAK,TO- 220AB,TO-220FPAB	2	200	20	1.1	0.01	27	90	175
STTH2003C	300V, 20 A Ultrafast Diode	D2PAK,I2PAK,TO- 220AB,TO-220FPAB	2	300	20	1	0.02	25	110	175
STTH200F04	400 V, 200 A Ultrafast Rectifier Diode	ISOTOP	2	400	100	1.45	0.075	80	1000	150
STTH200L04TV1	400 V, 200 A Low Drop Ultrafast Rectifier Diode	ISOTOP	2	400	200	1.2	0.1	100	900	150
STTH200R04TV	400 V, 200 A Ultrafast Switching Rectifier Diode	ISOTOP	2	400	200	1.35	0.08	70	1000	150
STTH20L03C	300 V, 20 A dual Ultrafast Diode	TO-220AB	2	300	20	0.95	0.01	35	150	175
STTH20R04	400 V, 20 A Ultrafast Switching Rectifier Diode	D2PAK,TO-220AC	1	400	20	1.7	0.02	45	150	175
STTH2R02	200 V, 2 A Ultrafast Diode	SMA,SMB	1	200	2	1	0.003	20	75	175
STTH3002	200 V, 30 A Ultrafast Diode	D2PAK	1	200	30	1.05	0.02	27	300	175
STTH3002C	200 V, 30 A dual Ultrafast Diode	D2PAK,TO-220AB,TO- 247	2	200	30	1.05	0.02	22	180	175
STTH3003	300 V, 30 A Ultrafast Diode	TO-247	2	300	30	1	0.04	30	140	175

STTH302	200 V, 3 A DO-201AD Ultrafast Diode	DO-201AD	1	200	3	0.95	0.003	35	130	175
STTH302S	200 V, 3 A SMC Ultrafast Diode	SMC	1	200	3	0.95	0.003	35	100	175
STTH30R02DJF	200 V, 30 A High Efficiency Ultrafast Diode	PowerFLAT™	1	200	30	0.95	0.01	35	300	175
STTH30R03	300 V, 30 A Ultrafast Diode	D2PAK,TO-247	2	300	30	1.4	0.02	35	120	175
STTH30R04	400 V, 30 A Ultrafast Diode	D2PAK,DO-247,TO-220AC	1	400	30	1.45	0.015	50	300	175
STTH30W02C	200 V, 30 A dual Ultrafast Rectifier Diode	TO-247	2	200	30	1.4	0.06	25	140	175
STTH3R02	200 V, 3 A High Efficiency Ultrafast Diode	DO-15,DO-201AD,SMC	1	200	3	1	0.003	20	75	175
STTH3R04	400 V, 3 A High Efficiency Ultrafast Diode	DO-15,DO-201AD,SMB,SMC	1	400	3	1.5	0.005	25	60	175
STTH4R02	200 V, 4 A High Efficiency Ultrafast Diode	DPAK,SMB,SMC	1	200	4	1.05	0.003	20	70	175
STTH50W03C	300 V, 50 A dual Ultrafast Rectifier Diode	TO-247	2	300	50	1.2	0.015	27	200	175
STTH6002C	200 V, 2 x 30 A Ultrafast Diode	TO-247,TOP3 Ins	2	200	60	1.05	0.03	27	330	175
STTH6003	300V , 60 A dual Ultrafast Diode	TO-247	2	300	60	1	0.06	40	300	175
STTH6004W	400 V, 60 A Ultrafast Diode	DO-247	1	400	60	1.2	0.05	50	600	175
STTH602C	200 V, 6 A dual Ultrafast Diode	TO-220AB	2	200	6	1.1	0.003	20	60	175
STTH60P03S	300 V, 60 A Ultrafast Diode	TO-247	1	300	60	1.5	0.1	50	250	175
STTH60R04	400 V, 60 A Ultrafast Switching Rectifier Diode	DO-247	1	400	60	1.5	0.06	45	650	175
STTH60W03C	300 V, 60 A dual Ultrafast Rectifier Diode	TO-247	2	300	30	1.15	0.02	35	280	175
STTH61R04TV	400 V, 60 A dual ISOTOP Ultrafast Diode	ISOTOP	2	400	60	1.45	0.015	35	350	150
STTH61W04S	400 V, 60 A single 3-lead TO-247 Ultrafast Rectifier	TO-247	1	400	60	1.15	0.02	55	500	175
STTH802	200 V, 8 A Ultrafast Diode	D2PAK,DPAK,TO-220AC,TO-220FPAC	1	200	8	1.05	0.006	22	100	175
STTH802C	200 V, 8 A dual Ultrafast Diode	DPAK	2	200	8	1.1	0.004	20	50	175
STTH802SF	200 V, 8 A PSMC Ultrafast Diode	PSMC-3L-EP	1	200	8	1.08	0.006	22	150	175
STTH803	300 V, 8 A Ultrafast Diode	D2PAK,TO-220AC	1	300	8	1	0.02	25	100	175
STTH8R03DJF	300 V, 8 A PowerFLAT High Efficiency Ultrafast Diode	PowerFLAT™	1	300	8	1	0.04	35	280	175
STTH8R04	400 V, 8 A Ultrafast Switching Rectifier Diode	D2PAK,TO-220AC,TO-220AC Ins	1	400	8	1.5	0.01	35	120	175
STTH8R03	300 V, 8 A High Efficiency Ultrafast Diode	TO-220AC	1	300	8	1.3	0.01	30	80	175

**Diodes and Rectifiers / Ultrafast Rectifiers/600V Ultrafast Rectifiers**

Part Number	General Description	Package	Number of Diodes spec	Repetitive Peak Reverse Voltage (V) max	Average Rectified Current (A) max	V <sub>F</sub> (V) max	Reverse Current (mA) max	Reverse Recovery Time (ns) max	Non-Repet Peak Forward Surge Current (A) max	Junction Temperature (°C) max
PKC-136	PEAK CLAMP	DO-15	2	700	3	12	0.003	45	2.7	150
STTH100W06C	600 V, 100 A dual Ultrafast Rectifier Diode	TO-247	2	600	100	1.65	0.02	75	360	175
STTH10LCD06	600 V, 10 A Interleave Turbo 2 Ultrafast Diode	DPAK,TO-220FPAC	1	600	10	2	0.005	50	80	175
STTH10LCD06C	600 V, 2 x 5 A Turbo 2 Ultrafast Diode	TO-220AB,TO-220FPAB	2	600	10	2	0.001	25	45	175
STTH120L06TV	600 V, 120 A Low Drop Ultrafast Diode	ISOTOP	2	600	120	1.55	0.05	70	500	150
STTH12R06	600 V, 12 A Turbo 2 Ultrafast Diode	D2PAK,TO-220AC,TO-220AC Ins,TO-220FPAC	1	600	12	2.9	0.045	25	100	175
STTH12S06	600 V, 12 A Turbo 2 Ultrafast Boost Diode	TO-220FPAC	1	600	12	1.9	0.03	21	100	175
STTH12T06	600 V, 12 A tandem Extrafast Boost Diode	TO-220AC Ins	1	600	12	2.95	0.02	33	90	175
STTH1506D	600 V, 15 A 2-lead tandem Hyperfast Boost Diode	DOP3 Ins	1	600	15	3.6	0.02	35	130	150
STTH1506TPI	600 V, 15 A 3-lead tandem Hyperfast Boost Diode	TOP3 Ins	1	600	15	3.6	0.02	35	130	150
STTH15AC06	600 V, 15 A Interleave Boost Ultrafast Diode	TO-220FPAC	1	600	15	1.5	0.002	30	120	175
STTH15AC06C	600 V, 15 A dual Interleave Boost Ultrafast Diode	TO-220AB,TO-220FPAB	2	600	15	1.8	0.001	25	80	175
STTH15L06	600 V, 15 A Low Drop Ultrafast Diode	D2PAK,TO-220AC,TO-220FPAC	1	600	15	1.55	0.015	55	200	175
STTH15R06	600 V, 15 A Turbo 2 Ultrafast Diode	TO-220AC,TO-220FPAC	1	600	15	2.9	0.06	30	150	175
STTH15RQ06	600 V, 15 A Turbo 2 Soft Ultrafast Recovery Diode	D2PAK,D2PAK HV,DO-247,TO-220AC	1	600	15	1.85	0.02	25	120	175
STTH16L06C	600 V, 16 A dual Low Drop Ultrafast Diode	D2PAK,TO-220AB,TO-220FPAB	2	600	16	1.64	0.008	35	120	175
STTH1L06	600 V, 1 A Low Drop Ultrafast Diode	DO 41 PLASTIC,SMA,SMB	1	600	1	1.3	0.001	80	20	175
STTH1R06	600 V, 1 A Turbo 2 Ultrafast Diode	DO 41 PLASTIC,SMA,SMB	1	600	1	1.7	0.001	25	20	175
STTH1R06AF	600 V, 1 A SOD128Flat Turbo 2 ultrafast high voltage rectifier	SOD128 Flat	1	600	1	1.4	0.001	45	20	175
STTH200L06TV	600 V, 200 A Low Drop Ultrafast Diode	ISOTOP	2	600	200	1.55	0.08	80	800	150
STTH20LCD06C	600 V, dual Interleave Turbo 2 Ultrafast Diode	TO-220FPAB	2	600	20	2	0.001	50	80	175
STTH25M06	600V, 25A, Ultrafast diode	DPAK,TO-220FPAC	1	600	25	3.4	0.06	35	170	175
STTH2L06	600 V, 2 A Low Drop Ultrafast Diode	DO 41 PLASTIC,SMA,SMB	1	600	2	1.3	0.002	85	35	175
STTH2R06	600 V, 2 A, Turbo 2 Ultrafast Diode	DO 41 PLASTIC,SMA,SMB,SMC	1	600	2	1.7	0.002	30	30	175
STTH3006	600 V, 30 A Ultrafast diode	DO-247,DOP3 Ins	1	600	30	1.4	0.025	50	300	175
STTH3006D	600 V, 30 A tandem Hyperfast Boost Diode	DOP3 Ins	1	600	30	3.6	0.04	45	180	150
STTH30AC06	Turbo 2 ultrafast high voltage rectifier	TO-220FPAC	1	600	30	1.45	0.02	35	270	175
STTH30AC06C	600 V, 30 A dual Interleave Boost Ultrafast Diode	TO-247 long leads,TO-3PF	2	600	30	1.45	0.01	30	140	175
STTH30ACS06W	600 V, 30 A Interleave Boost Ultrafast Diode	DO-247	1	600	30	1.9	0.005	30	190	175
STTH30L06	30A 600V TURBO 2 Ultrafast High Voltage Rectifier	D2PAK,DO-247	1	600	30	1.25	0.025	65	300	175
STTH30L06C	600V, 30 A dual Low Drop Ultrafast Diode	D2PAK,TO-247	2	600	30	1.45	0.015	55	130	175
STTH30M06S	600V, 30A, Ultrafast diode	TO-3PF	1	600	30	3.8	0.06	35	170	175
STTH30R06	600 V, 30 A Turbo 2 Ultrafast Diode	DO-247,DOP3 Ins	1	600	30	1.85	0.025	50	300	175
STTH30R06C	600 V, 30 A dual Turbo 2 Ultrafast Diode	TO-247	2	600	30	1.8	0.06	30	120	175
STTH30RQ06	600 V, 30 A Soft Ultrafast Recovery Diode	D2PAK,D2PAK HV,DO-247,DO247 LONG LEADS,TO-220AC	1	600	30	2.95	0.04	30	180	175
STTH30RQ06L2	600V, 30A ultrafast high voltage rectifier in HU3PAK package	HU3PAK	1	600	30	2.95	0.04	30	215	175

STTH31AC06S	600 V, 30 A Interleave Boost Ultrafast Diode	TO-247 long leads,TO-3PF	1	600	30	1.75	0.01	65	150	175
STTH3L06	600 V, 3 A Low Drop Ultrafast Diode	DO-201AD,SMB,SMC	1	600	3	1.3	0.003	85	60	175
STTH3R06	600 V, 3 A Turbo 2 Ultrafast Diode	DO-201AD,SMB,SMC	1	600	3	1.25	0.003	30	45	175
STTH4L06	600 V, 4 A Low Drop Ultrafast Diode	DO-201AD	1	600	4	1.05	0.003	55	80	175
STTH506	600 V, 5 A Ultrafast Diode	DPAK,TO-220AC	1	600	5	1.4,1.85	0.005	30	55	175
STTH506D	600 V, 5 A, tandem Hyperfast Boost Diode	TO-220AC Ins	1	600	5	3.6	0.006	25	60	150
STTH5L06	600 V, 5 A Low Drop Ultrafast Diode	DO-201AD,DPAK,TO-220AC,TO-220FPAC	1	600	5	1.3	0.005	95	60	175
STTH5R06	600 V, 5 A TO-220 D2PAK DPAK Turbo 2 Ultrafast Diode	DPAK,TO-220AC,TO-220FPAC	1	600	5	1.8	0.02	25	50	175
STTH5R06DJF	600 V, 5 A PowerFLAT Turbo 2 Ultrafast Diode	PowerFLAT™	1	600	5	1.2	0.06	40	190	175
STTH6006TV	600 V, 60 A dual Ultrafast Diode	ISOTOP	2	600	60	1.4	0.025	50	210	150
STTH6006W	600 V, 60 A Ultrafast Diode	DO-247	1	600	60	1.4	0.05	60	400	175
STTH60AC06C	600 V, 60 A dual Interleave Boost Ultrafast Diode	TO-247,TO-247 long leads,TO-3PF	2	600	60	1.4	0.01	40	280	175
STTH60L06	600 V, 60 A Low Drop Ultrafast Diode	DO-247	1	600	60	1.55	0.05	70	600	175
STTH60L06C	600 V, 60 A dual TO-247 Low Drop Ultrafast Diode	TO-247	2	600	60	1.55	0.025	65	210	175
STTH60L06TV	600 V, 60 A dual ISOTOP Low Drop Ultrafast diode	ISOTOP	2	600	60	1.55	0.025	65	210	150
STTH60RQ06	600 V, 60 A Turbo 2 Soft Ultrafast Recovery Diode	DO-247,DO247 LONG LEADS	1	600	60	2.95	0.08	35	425	175
STTH60RQ06C	600 V, 2x30 A Turbo 2 Soft Ultrafast Recovery Diode	TO-247 long leads	2	600	30	2.95	0.04	30	200	175
STTH806	600 V, 8 A Ultrafast Diode	D2PAK,TO-220AC,TO-220AC Ins	1	600	8	1.4	0.008	35	90	175
STTH806DTI	600 V, 8 A 2-lead tandem Hyperfast Boost Diode	TO-220AC Ins	1	600	8	3.6	0.01	30	180	150
STTH806TTI	600 V, 8 A 3-lead tandem Hyperfast Boost Diode	TO-220AB Ins	1	600	8	3.6	0.01	30	80	150
STTH8L06	600 V, 8 A Low Drop Ultrafast Diode	D2PAK,TO-220AC,TO-220FPAC	1	600	8	1.3	0.008	105	120	175
STTH8R06	600 V, 8 A Turbo 2 Ultrafast Diode	D2PAK,TO-220AC,TO-220AC Ins,TO-220FPAC	1	600	8	2.9	0.03	25	80	175
STTH8S06	600 V, 8 A Ultrafast Boost Diode	DPAK,TO-220AC,TO-220FPAC	1	600	8	1.9	0.02	18	60	175
STTH8ST06	600 V tandem High Density Extrafast Boost Diode	TO-220AC Ins	1	600	8	3.1	0.006	26	55	175
STTH8T06	600 V tandem Extrafast Boost Diode	TO-220AC Ins	1	600	8	2.95	0.01	30	80	175

**Diodes and Rectifiers / Ultrafast Rectifiers/800V to 1200V Ultrafast Rectifiers**

Part Number	General Description	Package	Number of Diodes spec	Repetitive Peak Reverse Voltage (V) max	Average Rectified Current (A) max	V <sub>F</sub> (V) max	Reverse Current (mA) max	Reverse Recovery Time (ns) max	Non-Repet Peak Forward Surge Current (A) max	Junction Temperature (°C) max
STTH108	800 V, 1 A Ultrafast Diode	SMA	1	800	1	1.65	0.005	75	20	175
STTH110	1000 V, 1 A Ultrafast Diode	DO 41 PLASTIC,SMA	1	1000	1	1.7	0.01	75	18	175
STTH112	1200 V, 1A Ultrafast Diode	DO 41 PLASTIC,SMA,SMB	1	1200	1	1.9	0.005	75	18	175
STTH12010TV	1200 V, 120 A dual Ultrafast Diode	ISOTOP	2	1000	120	2	0.02	80	400	150
STTH12012TV	Ultrafast recovery - 1200 V diode	ISOTOP	2	1200	120	2.25	0.03	125	420	150
STTH1210	1000 V, 12 A Ultrafast Diode	TO-220AC,TO-220AC Ins	1	1000	12	2	0.01	65	80	175
STTH1212	1200 V, 12 A Ultrafast Diode	TO-220AC	1	1200	12	2.2	0.01	70	100	175
STTH1512	1200 V, 15 A Ultrafast Diode	D2PAK,DO-247,DOP3 Ins	1	1200	15	2.1	0.015	75	200	175
STTH15S12	1200 V, 15 A Ultrafast Boost Diode	TO-220AC	1	1200	15	2.7	0.01	40	130	175
STTH208	800 V, 2 A Ultrafast Diode	DO-15,SMB	1	800	2	1.65	0.005	75	35	175
STTH212	1200 V, 2 A Ultrafast Diode	SMB,SMC	1	1200	2	1.75	0.01	75	40	175
STTH3010	1000 V, 30 A Ultrafast Diode	DO-247,DOP3 Ins,TO-220AC	1	1000	30	2	0.015	70	180	175
STTH3012	1200 V, 30 A Ultrafast high voltage Diode	DO-247,DO247 LONG LEADS,TO-220AC	1	1200	30	2.25	0.02	80	210	175
STTH30S12	1200 V, 30 A Ultrafast Boost Diode	DO-247	1	1200	30	2.7	0.015	50	180	175
STTH310	1000 V, 3 A Ultrafast Diode	DO-201AD,SMC	1	1000	3	1.7	0.01	75	45	175
STTH512	1200 V, 5 A Ultrafast Diode	DPAK,TO-220AC,TO-220FPAC	1	1200	5	2.2	0.005	70	55	175
STTH6010	1000 V, 60 A TO-247 Ultrafast Diode	DO-247	1	1000	60	2	0.025	80	400	175
STTH6012	1200 V, 60 A Ultrafast High Voltage Diode	DO-247,DO247 LONG LEADS	1	1200	60	2.25	0.03	85	400	175
STTH6110TV	1000 V, 60 A dual ISOTOP Ultrafast Diode	ISOTOP	2	1000	60	2	0.015	70	240	150
STTH75S12	1200 V, 75 A Ultrafast Boost Diode	DO-247	1	1200	75	2.7	0.05	55	370	175
STTH810	1000 V, 8 A Ultrafast Diode	D2PAK,TO-220AC,TO-220AC Ins,TO-220FPAC	1	1000	8	2	0.005	85	60	175
STTH812	1200 V, 8 A Ultrafast Diode	D2PAK,TO-220AC,TO-220AC Ins,TO-220FPAC	1	1200	8	2.2	0.008	70	80	175
STTH8S12	1200 V, 8 A Ultrafast Boost Diode	TO-220AC	1	1200	8	2.5	0.005	45	70	175
STTH9012TV	1200 V, 90 A dual Ultrafast diode	ISOTOP	2	1200	90	2.1	0.03	85	420	150

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