



# RECTIFIERS AND TVS

MicroSMP Package from Vishay eSMP™ series



## New MicroSMP Miniature, High-Power-Density Package for Schottky Rectifiers and Transient Voltage Suppressors (TVS)

### KEY BENEFITS

- High-power-density Schottky rectifiers and TVS in space-saving 2.5 mm by 1.3 mm footprint with a 0.65 mm height
- High forward current up to 1 A for Schottky rectifiers and 100 W (10/1000  $\mu$ s waveform) clamping power capability in TVS
- All the devices offer a high 25 A forward surge current capability for an 8.3 ms pulse
- 150 °C maximum operation junction temperature for Schottky rectifiers
- Low junction-to-lead thermal resistance of 30 °C/W
- Provides improved reliability and a longer operational life span

For more information, visit our website at [www.vishay.com/ref/rectifiers](http://www.vishay.com/ref/rectifiers)

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# New MicroSMP Miniature, High-Power-Density Package for Schottky Rectifiers and Transient Voltage Suppressors (TVS)

## FEATURES

- More power in a smaller package
- Schottky rectifiers rated up to 1 A at 110 °C lead temperature
- TVS rated up to 100 W at 10/1000 μs waveform
- Features solder pads that are compatible with other SMD devices
- No modification is needed to the PCB layout when they are used as higher-performing upgrades to existing devices
- Improve on all previous TVS products in similar package types by combining ESD transient protection with a superior surge clamping capability

## Rectifier Specification

Vishay P/N	I <sub>F</sub> (A)	V <sub>RRM</sub> (V)	V <sub>F</sub> at I <sub>F</sub> and T <sub>J</sub>			I <sub>FSM</sub> (A)	T <sub>J</sub> max (°C)
			V <sub>F</sub> (V)	I <sub>F</sub> (A)	T <sub>J</sub> (°C)		
MSS1P2L	1	20	0.40	1	125	25	150
MSS1P3L	1	30	0.40	1	125	25	
MSS1P3	1	30	0.46	1	125	25	
MSS1P4	1	40	0.46	1	125	25	
MSS1P5	1	50	0.60	1	125	25	
MSS1P6	1	60	0.60	1	125	25	

## TVS Specification

Vishay P/N	Stand-off Voltage	Breakdown Voltage	At 10/1000 μs			8/20 μs			P <sub>d</sub> (W)	T <sub>J</sub> max (°C)
	V <sub>WM</sub> (V)	V <sub>BR</sub> (V)	P <sub>PPM</sub> (W)	V <sub>C</sub>	I <sub>PPM</sub> (A)	P <sub>PPM</sub> (W)	V <sub>C</sub>	I <sub>PPM</sub> (A)		
MSP3V3	3.3	4.1 at 1 mA	100	7.3	13.7	825	11	75	1	150
MSP5.0A	5.0	6.7 at 10 mA	100	9.2	10.9	825	14.5	57	1	150

## KEY APPLICATIONS:

- Schottky MicroSMP Rectifiers
- Secondary rectification and freewheeling diode functions for miniature ac-to-dc and dc-to-dc converters
- Flywheel and polarity protection for miniature power converters and portable electronic equipment such as digital cameras, MP3 players, navigation systems, GPS, and cellular phones
- Polarity protection of power lines and signal lines for industrial systems
- MicroSMP TVS
- Power and signal line protection for microprocessors, signal processing ICs, and logic circuits
- High-power voltage regulation for non-sensitive input voltage circuits in automotive and industrial electronics

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