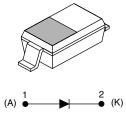


### Vishay High Power Products

# Schottky Diode, 0.2 A



SOD-323

PRODUCT SUMMARY		
I <sub>F(AV)</sub>	0.2 A	
V <sub>R</sub>	30 V	

#### FEATURES

- Small foot print, surface mountable
- Very low forward voltage drop
- Extremely fast switching speed for high frequency operation
- Guard ring for enhanced ruggedness and long term reliability
- Designed and qualified for industrial level

#### DESCRIPTION

This Schottky barrier diode is designed for high speed switching applications, voltage clamping and circuit protection. Miniature surface mount packages with reduced foot print are excellent for portable applications where space is limited.

MAJOR RATINGS AND CHARACTERISTICS				
SYMBOL	CHARACTERISTICS	VALUES	UNITS	
I <sub>F</sub>	DC	0.2	A	
V <sub>RRM</sub>		30	V	
I <sub>FSM</sub>	t <sub>p</sub> = 10 ms sine	1.0	A	
VF	30 mA DC, T <sub>J</sub> = 25 °C	0.5	V	
P <sub>d</sub>	Power dissipation at $T_A = 25 \text{ °C}$	200	mW	
TJ	Range	- 65 to 150	°C	

VOLTAGE RATINGS					
PARAMETER	SYMBOL	BAT54WS	UNITS		
Maximum DC reverse voltage	V <sub>R</sub>	30	V		
Maximum working peak reverse voltage	V <sub>RWM</sub>	30	v		

ABSOLUTE MAXIMUM RATINGS					
PARAMETER	SYMBOL	SYMBOL TEST CONDITIONS VALUES UN		UNITS	
Forward current	١ <sub>F</sub>	DC		0.2	
Maximum peak one cycle non-repetitive surge current	1	5 μs sine or 3 μs rect. pulse	Following any rated load condition and with rated	8.4	А
at $T_J = 25 \text{ °C}$	IFSM	10 ms sine or 6 ms rect. pulse	$V_{\text{RRM}}$ applied	1.0	





ELECTRICAL SPECIFICATIONS					
PARAMETER	SYMBOL	TEST CONDITIONS V		VALUES	UNITS
		0.1 A		0.65	v
	V <sub>FM</sub> <sup>(1)</sup>	30 mA	T <sub>J</sub> = 25 °C	0.50	
Maximum forward voltage drop		10 mA		0.40	
		1 mA		0.32	
		0.1 mA		0.24	
	I <sub>RM</sub> <sup>(1)</sup>	V <sub>R</sub> = 25 V		2	μA
Maximum reverse leakage current		V <sub>R</sub> = 30 V		3	
Maximum junction capacitance	CT	$V_{\rm R}$ = 1 $V_{\rm DC}$ (test signal range 100 kHz to 1 MHz), $T_{\rm J}$ = 25 °C		10	pF
Maximum voltage rate of change	dV/dt	Rated V <sub>R</sub> 10 000 V/		V/µs	

Note

 $^{(1)}$  Pulse width < 300  $\mu s,$  duty cycle < 2 %

THERMAL - MECHANICAL SPECIFICATIONS				
PARAMETER	SYMBOL	TEST CONDITIONS	VALUES	UNITS
Maximum junction and storage temperature range	T <sub>J</sub> <sup>(1)</sup> , T <sub>Stg</sub>		- 65 to 150	°C
Maximum thermal resistance, junction to ambient	R <sub>thJA</sub>	Mounted on PC board FR4 with minimum pad size	635	°C/W
Approximate weight			0.004	g
Marking device		Case style SOD-323	DY	WL

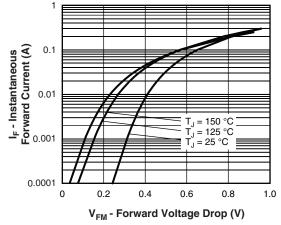
Note

<sup>(1)</sup>  $\frac{dP_{tot}}{dT_J} < \frac{1}{R_{thJA}}$  thermal runaway condition for a diode on its own heatsink



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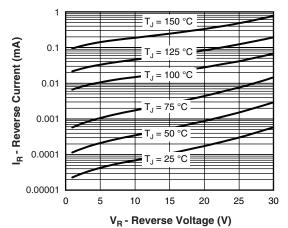


Fig. 2 - Typical Values of Reverse Current vs. Reverse Voltage (Per Leg)

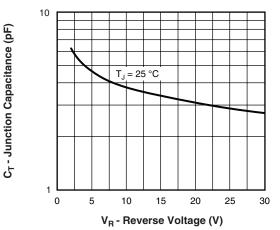
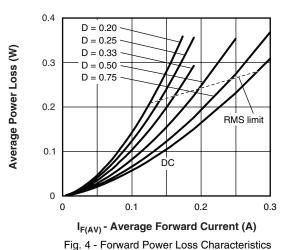
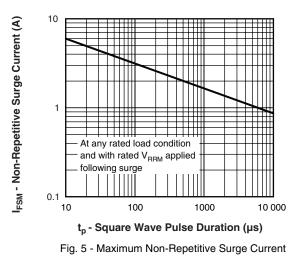


Fig. 3 - Typical Junction Capacitance vs. Reverse Voltage (Per Leg)





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# **BAT54WS**

# Vishay High Power Products Schottky Diode, 0.2 A



ORDERING INFORMATION TABLE					
DEVICE	PACKAGE	MARKING	BASE QUANTITY	DELIVERY MODE	
BAT54WS	SOD-323	D <u>Y</u> WL	3000	Tape and reel	

LINKS TO RELATED DOCUMENTS			
Dimensions http://www.vishay.com/doc?95051			
Packaging information	http://www.vishay.com/doc?95061		



Vishay

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