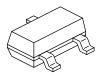


Vishay High Power Products

Schottky Diode, 2 x 0.1 A





SOT-323

PRODUCT SUMMARY				
I _{F(AV)}	2 x 0.1 A			
V _R	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 _F	DC	0.2	А	
V _{RRM}		30	V	
I _{FSM}	t _p = 10 ms sine	1.0	Α	
V _F	30 mA DC, T _J = 25 °C	0.5	V	
P _d	Power dissipation at T _A = 25 °C	200	mW	
T _J	Range	- 65 to 150	°C	

VOLTAGE RATINGS				
PARAMETER	SYMBOL	BAT54CW	UNITS	
Maximum DC reverse voltage	V_{R}	30	V	
Maximum working peak reverse voltage	V_{RWM}	30	V	

ABSOLUE MAXIMUM RATINGS						
PARAMETER		SYMBOL	TEST CONDITIONS		VALUES	UNITS
Maximum average	per leg		DC		0.1	
forward current	per device	IF(AV)	DC .		0.2	
Maximum peak one cycl		l=a	5 μs sine or 3 μs rect. pulse Following any rated load condition and with		8.4	Α
at T _J = 25 °C	i ei ii	IFSM	10 ms sine or 6 ms rect. pulse	rated V _{RRM} applied	1.0	

BAT54CW

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ELECTRICAL SPECIFICATIONS					
PARAMETER	SYMBOL	TEST CONDITIONS		VALUES	UNITS
	V _{FM} ⁽¹⁾	0.1 A	T _J = 25 °C	0.65	V
		30 mA		0.50	
Maximum forward voltage drop		10 mA		0.40	
		1 mA		0.32	
		0.1 mA		0.24	
Maximum varional ackage augment	I _{RM} ⁽¹⁾	V _R = 25 V		2	
Maximum reverse leakage current		V _R = 30 V		3	μΑ
Maximum junction capacitance	C _T	$V_R = 1 \ V_{DC}$ (test signal range 100 kHz to 1 MHz), $T_J = 25 \ ^{\circ}C$		10	pF
Maximum voltage rate of change	dV/dt	Rated V _R		10 000	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 _J ⁽¹⁾ , T _{Stg}		- 65 to 150	°C	
Maximum thermal resistance, junction to ambient	R _{thJA}	Mounted on PC board FR4 with minimum pad size	625	°C/W	
Approximate weight			0.006	g	
Marking device		Case style SOT-323	K <u>Y</u> V	VLC	

Note

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



Schottky Diode, 2 x 0.1 A Vishay High Power Products

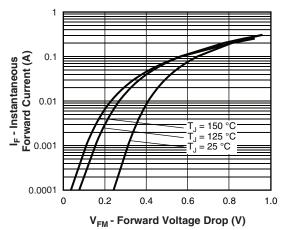


Fig. 1 - Maximum Forward Voltage Drop Characteristics (Per Leg)

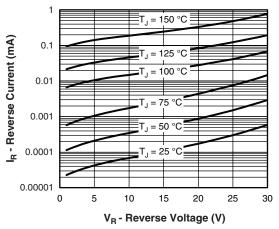


Fig. 2 - Typical Values of Reverse Current vs. Reverse Voltage (Per Leg)

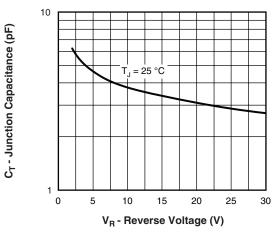


Fig. 3 - Typical Junction Capacitance vs. Reverse Voltage (Per Leg)

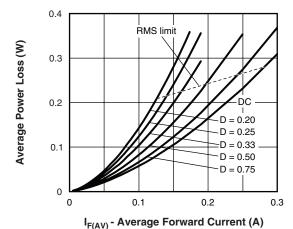


Fig. 4 - Forward Power Loss Characteristics

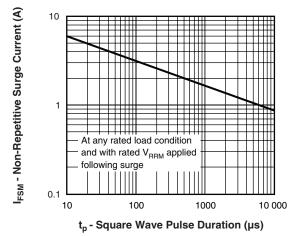


Fig. 5 - Maximum Non-Repetitive Surge Current

BAT54CW

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ORDERING INFORMATION TABLE						
DEVICE	PACKAGE	MARKING	CONFIGURATION	BASE QUANTITY	DELIVERY MODE	
BAT54CW	SOT-323	K <u>Y</u> WLC	Dual common cathode	3000	Tape and reel	

LINKS TO RELATED DOCUMENTS				
Dimensions http://www.vishay.com/doc?95050				
Packaging information http://www.vishay.com/doc?95061				

Document Number: 93424 Revision: 22-Aug-08



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