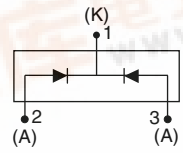
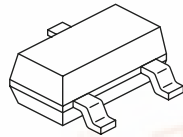




# BAT54CWPbF

Vishay High Power Products

## Schottky Diode, 2 x 0.1 A



SOT-323

### 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
- Lead (Pb)-free
- Designed and qualified for industrial level



RoHS\*  
COMPLIANT

### PRODUCT SUMMARY

$I_{F(AV)}$	2 x 0.1 A
$V_R$	30 V

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	A
$V_{RRM}$		30	V
$I_{FSM}$	$t_p = 10$ ms sine	1.0	A
$V_F$	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	BAT54CWPbF	UNITS
Maximum DC reverse voltage	$V_R$	30	V
Maximum working peak reverse voltage	$V_{RWM}$		

### ABSOLUTE MAXIMUM RATINGS

PARAMETER	SYMBOL	TEST CONDITIONS	VALUES	UNITS
Maximum average forward current per leg per device	$I_{F(AV)}$	DC	0.1	A
			0.2	
Maximum peak one cycle non-repetitive surge current at $T_J = 25$ °C	$I_{FSM}$	5 $\mu$ s sine or 3 $\mu$ s rect. pulse	8.4	
		10 ms sine or 6 ms rect. pulse	1.0	
		Following any rated load condition and with rated $V_{RRM}$ applied		



\*Pb containing terminations are not RoHS compliant, exemptions may apply

# BAT54CWPbF



Vishay High Power Products Schottky Diode, 2 x 0.1 A

ELECTRICAL SPECIFICATIONS					
PARAMETER	SYMBOL	TEST CONDITIONS		VALUES	UNITS
Maximum forward voltage drop	$V_{FM}^{(1)}$	0.1 A	$T_J = 25\text{ }^\circ\text{C}$	0.65	V
		30 mA		0.50	
		10 mA		0.40	
		1 mA		0.32	
		0.1 mA		0.24	
Maximum reverse leakage current	$I_{RM}^{(1)}$	$V_R = 25\text{ V}$		2	$\mu\text{A}$
		$V_R = 30\text{ V}$		3	
Maximum junction capacitance	$C_T$	$V_R = 1\text{ V}_{DC}$ (test signal range 100 kHz to 1 MHz), $T_J = 25\text{ }^\circ\text{C}$		10	pF
Maximum voltage rate of change	$dV/dt$	Rated $V_R$		10 000	V/ $\mu\text{s}$

### Note

(1) Pulse width < 300  $\mu\text{s}$ , 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	$^\circ\text{C}$
Maximum thermal resistance, junction to ambient	$R_{thJA}$	Mounted on PC board FR4 with minimum pad size		625	$^\circ\text{C/W}$
Approximate weight				0.006	g
Marking device		Case style SOT-323		KYWLC	

### Note

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



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Schottky Diode, 2 x 0.1 A Vishay High Power Products

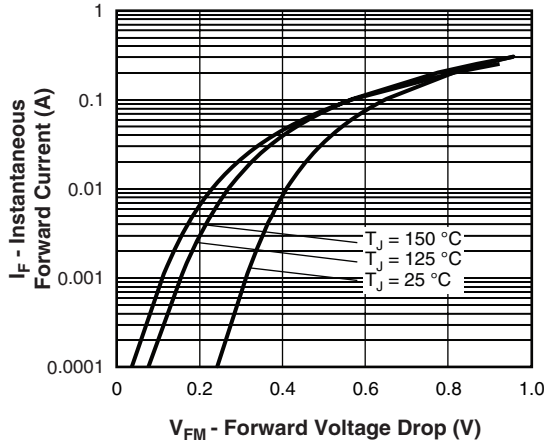


Fig. 1 - Maximum Forward Voltage Drop Characteristics (Per Leg)

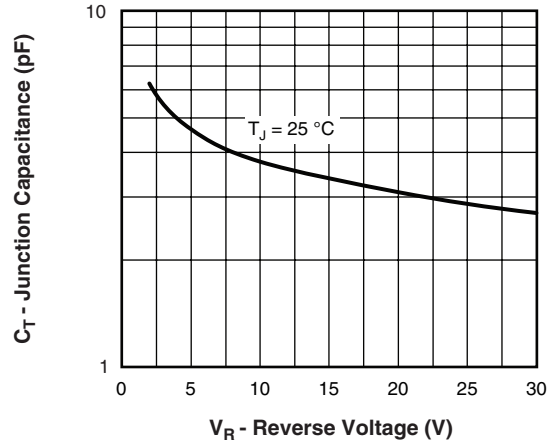


Fig. 3 - Typical Junction Capacitance vs. Reverse Voltage (Per Leg)

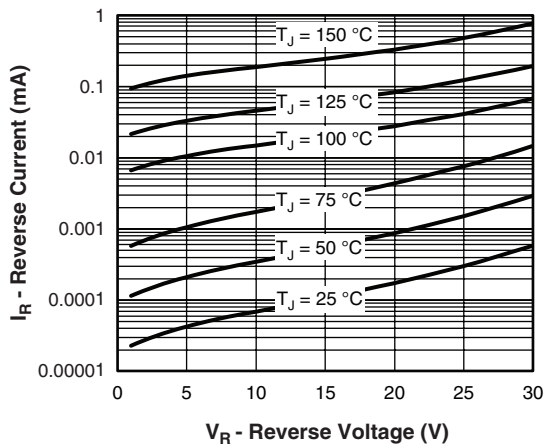


Fig. 2 - Typical Values of Reverse Current vs. Reverse Voltage (Per Leg)

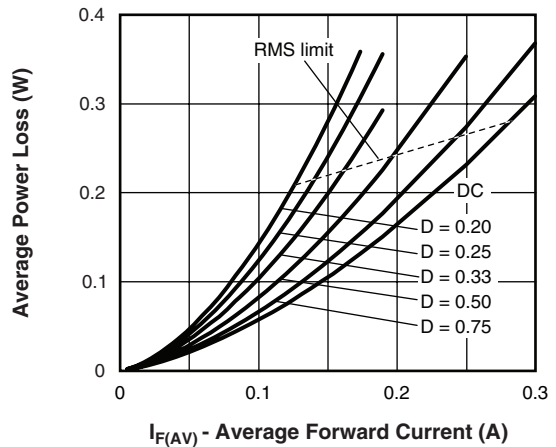


Fig. 4 - Forward Power Loss Characteristics

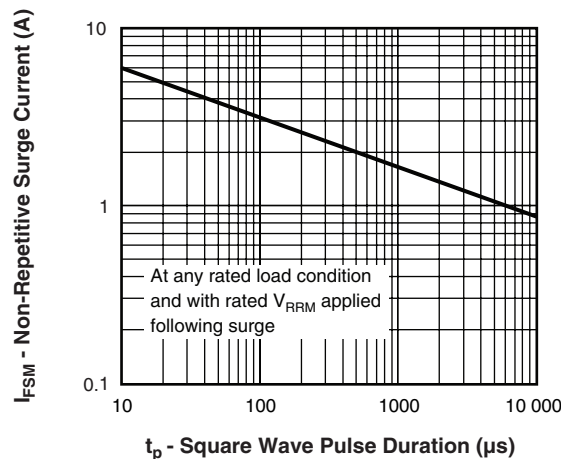


Fig. 5 - Maximum Non-Repetitive Surge Current

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Vishay High Power Products Schottky Diode, 2 x 0.1 A



## ORDERING INFORMATION TABLE

DEVICE	PACKAGE	MARKING	CONFIGURATION	BASE QUANTITY	DELIVERY MODE
BAT54CW	SOT-323	KY $\overline{W}$ LC	Dual common cathode	3000	Tape and reel

## LINKS TO RELATED DOCUMENTS

Dimensions	<a href="http://www.vishay.com/doc?95050">http://www.vishay.com/doc?95050</a>
Part marking information	<a href="http://www.vishay.com/doc?95338">http://www.vishay.com/doc?95338</a>
Packaging information	<a href="http://www.vishay.com/doc?95061">http://www.vishay.com/doc?95061</a>



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