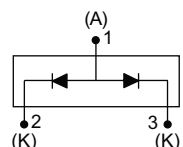
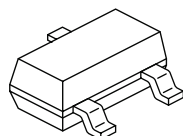


## Schottky Diode, 2 x 0.1 A



SOT-23

### 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

### DESCRIPTION

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

### PRODUCT SUMMARY

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

### 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, $T_J = 25^\circ\text{C}$	0.5	V
$P_d$	Power dissipation at $T_A = 25^\circ\text{C}$	200	mW
$T_J$	Range	- 65 to 150	$^\circ\text{C}$

### VOLTAGE RATINGS

PARAMETER	SYMBOL	BAT54APbF	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 <div>per leg</div> <div>per device</div>	$I_{F(AV)}$	DC		0.1	A
				0.2	
Maximum peak one cycle non-repetitive surge current at $T_J = 25\text{ }^{\circ}\text{C}$	$I_{FSM}$	5 $\mu\text{s}$ sine or 3 $\mu\text{s}$ rect. pulse	Following any rated load condition and with rated $V_{RRM}$ applied	8.4	
		10 ms sine or 6 ms rect. pulse		1.0	

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

ELECTRICAL SPECIFICATIONS					
PARAMETER	SYMBOL	TEST CONDITIONS		VALUES	UNITS
Maximum forward voltage drop	$V_{\text{FM}}^{(1)}$	0.1 A	$T_{\text{J}} = 25\text{ }^{\circ}\text{C}$	0.65	V
		30 mA		0.50	
		10 mA		0.40	
		1 mA		0.32	
		0.1 mA		0.24	
Maximum reverse leakage current	$I_{\text{RM}}^{(1)}$	$V_{\text{R}} = 25\text{ V}$		2	$\mu\text{A}$
		$V_{\text{R}} = 30\text{ V}$		3	
Maximum junction capacitance	$C_{\text{T}}$	$V_{\text{R}} = 1\text{ V}_{\text{DC}}$ (test signal range 100 kHz to 1 MHz) $T_{\text{J}} = 25\text{ }^{\circ}\text{C}$		10	pF
Maximum voltage rate of change	dV/dt	Rated $V_{\text{R}}$		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	500	$^{\circ}\text{C/W}$
Approximate weight			0.008	g
Marking device		Case style SOT-23	FYWLC	

**Note**

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

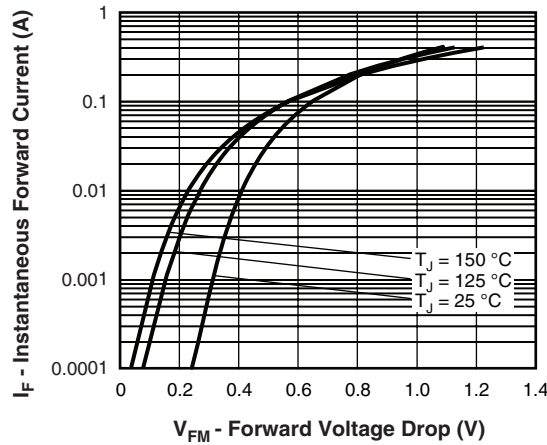


Fig. 1 - Maximum Forward Voltage Drop Characteristics (Per Leg)

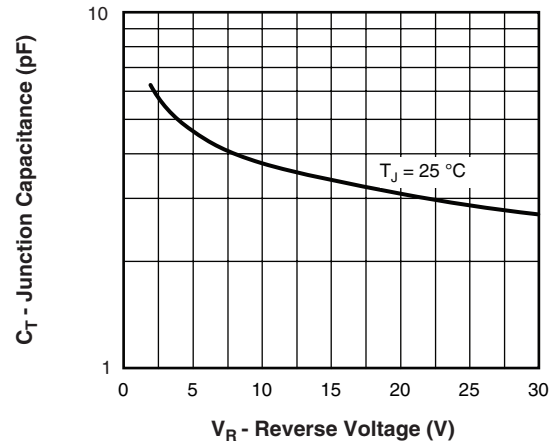


Fig. 3 - Typical Junction Capacitance vs. Reverse Voltage (Per Leg)

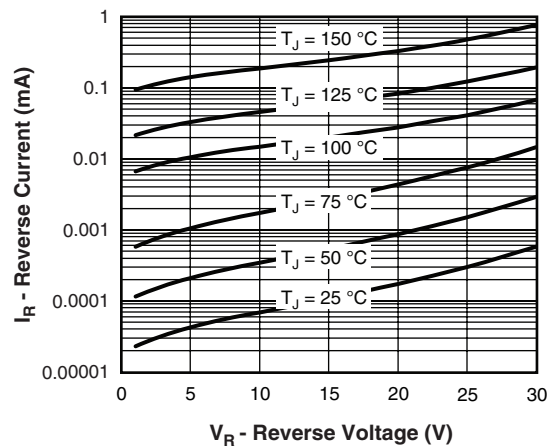


Fig. 2 - Typical Values of Reverse Current vs. Reverse Voltage (Per Leg)

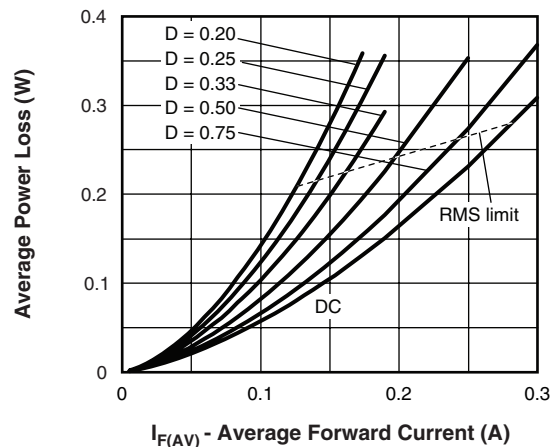


Fig. 4 - Forward Power Loss Characteristics

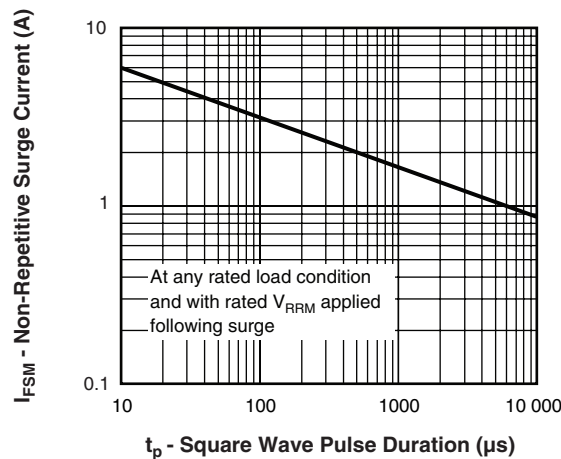


Fig. 5 - Maximum Non-Repetitive Surge Current



## ORDERING INFORMATION TABLE

DEVICE	PACKAGE	MARKING	CONFIGURATION	BASE QUANTITY	DELIVERY MODE
BAT54A	SOT-23	FY $\overline{W}$ LC	Dual C. Anode	3000	Tape and reel

## LINKS TO RELATED DOCUMENTS

Dimensions	<a href="http://www.vishay.com/doc?95048">http://www.vishay.com/doc?95048</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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