

# BAT54WT

## Schottky Barrier Diode

### Features

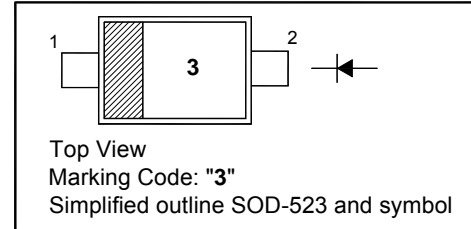
- Low forward voltage

### Applications

- Ultrahigh-speed switching
- Voltage clamping
- Protection circuits

### PINNING

PIN	DESCRIPTION
1	Cathode
2	Anode



### Absolute Maximum Ratings ( $T_a = 25^\circ\text{C}$ )

Parameter	Symbol	Value	Unit
Reverse Voltage	$V_R$	30	V
Forward Current	$I_F$	200	mA
Repetitive Peak Forward Current	$I_{FRM}$	300	mA
Peak Forward Surge Current ( $t_p = 10$ ms)	$I_{FSM}$	600	mA
Power Dissipation	$P_D$	200	mW
Junction Temperature	$T_J$	125	$^\circ\text{C}$
Storage Temperature Range	$T_{stg}$	- 65 to + 150	$^\circ\text{C}$

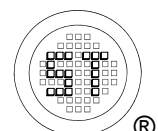
### Thermal Characteristics

Parameter	Symbol	Max.	Unit
Thermal Resistance from Junction to Ambient <sup>1)</sup>	$R_{\theta JA}$	500	$^\circ\text{C}/\text{W}$

<sup>1)</sup> Device mounted on FR-4 substrate PC board, 2oz copper, with minimum recommended pad layout.

### Characteristics at $T_a = 25^\circ\text{C}$

Parameter	Symbol	Min.	Max.	Unit
Reverse Breakdown Voltage at $I_R = 10 \mu\text{A}$	$V_{(BR)R}$	30	-	V
Forward Voltage at $I_F = 0.1$ mA at $I_F = 1$ mA at $I_F = 10$ mA at $I_F = 30$ mA at $I_F = 100$ mA	$V_F$	- - - - -	240 320 400 500 800	mV
Reverse Current at $V_R = 25$ V	$I_R$	-	2	$\mu\text{A}$
Total Capacitance at $V_R = 1$ V, $f = 1$ MHz	$C_T$	-	10	pF
Reverse Recovery Time at $I_F = I_R = 10$ mA, $I_{rr} = 0.1 \times I_R$ , $R_L = 100 \Omega$	$t_{rr}$	-	6	ns



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## Electrical Characteristic Curves

Fig 1. Reverse Characteristic Curve

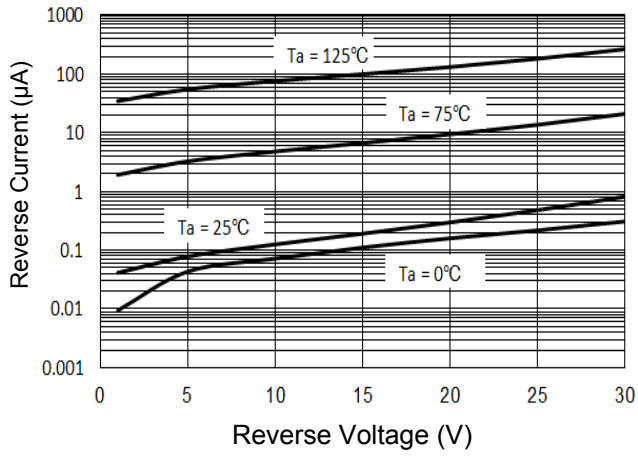


Fig 2. Forward Characteristic Curve

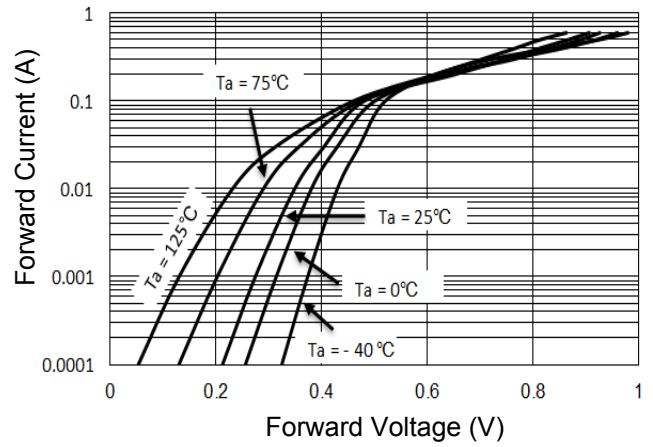


Fig 3. Junction Capacitance

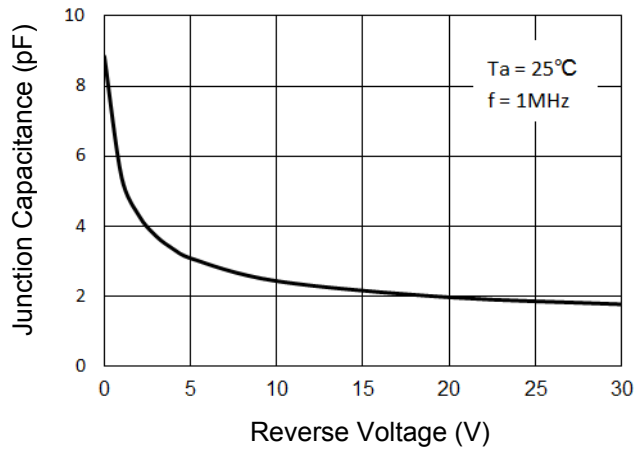
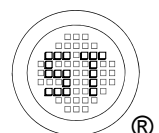
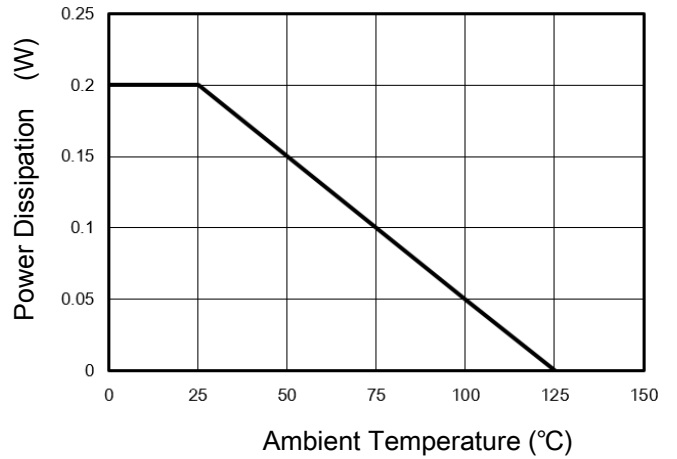


Fig 4. Power Derating Curve

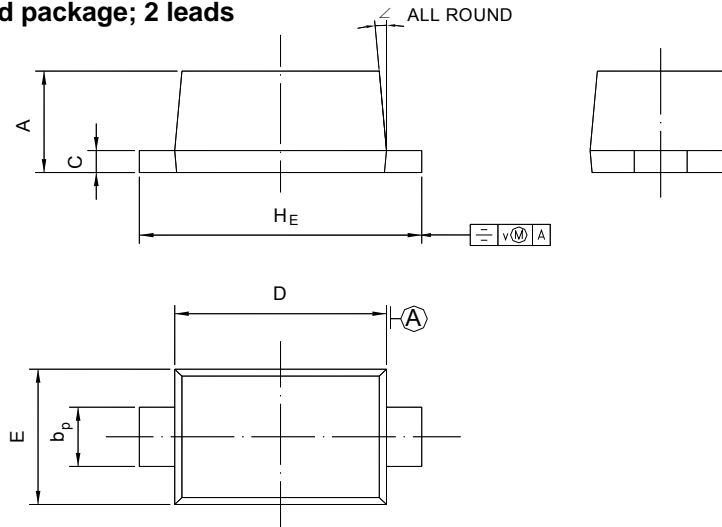


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## PACKAGE OUTLINE

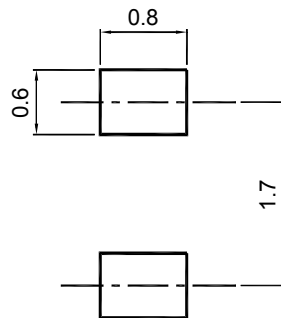
Plastic surface mounted package; 2 leads

SOD-523



UNIT	A	$b_p$	C	D	E	$H_E$	V	$\angle$
mm	0.70 0.60	0.4 0.3	0.135 0.100	1.25 1.15	0.85 0.75	1.7 1.5	0.1	5°

## Recommended Soldering Footprint



## Packing information

Package	Tape Width (mm)	Pitch		Reel Size		Per Reel Packing Quantity
		mm	inch	mm	inch	
SOD-523	8	4 ± 0.1	0.157 ± 0.004	178	7	4,000

## Marking information

" 3 " = Part No.  
 " III " = Cathode line  
 Font type: Arial

