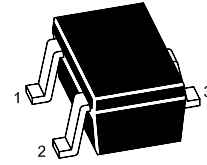


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Surface Mount Schottky Barrier Diodes

Features

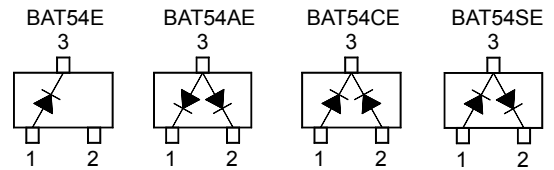
- Low forward voltage



SOT-523 Plastic Package

Applications

- Ultra high-speed switching
- Voltage clamping
- Protection circuits



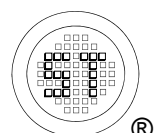
Absolute Maximum Ratings ($T_a = 25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Value	Unit
Peak Repetitive Reverse Voltage	V_{RRM}	30	V
Reverse Voltage	V_R	30	V
Forward Current	$I_{F(AV)}$	200	mA
Repetitive Peak Forward Current	I_{FRM}	300	mA
Peak Forward Surge Current 10 ms Half Sine-wave Superimposed on Rated Load (JEDEC method)	I_{FSM}	600	mA
Total Power Dissipation	P_{tot}	150	mW
Junction Temperature	T_j	125	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	- 65 to + 150	$^\circ\text{C}$

Thermal Resistance

Parameter	Symbol	Max.	Unit
Thermal Resistance from Junction Ambient ¹⁾	$R_{\theta JA}$	667	$^\circ\text{C/W}$

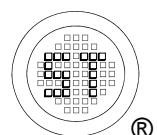
¹⁾ Device mounted on FR-4 substrate PC board, 2oz copper, with minimum recommended pad layout.



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

Parameter	Symbol	Min.	Max.	Unit
Reverse Breakdown Voltage at $I_R = 100 \mu\text{A}$	$V_{(BR)R}$	30	-	V
Forward Voltage at $I_F = 0.1 \text{ mA}$ at $I_F = 1 \text{ mA}$ at $I_F = 10 \text{ mA}$ at $I_F = 30 \text{ mA}$ at $I_F = 100 \text{ mA}$	V_F	- - - - -	240 320 400 500 1000	mV
Reverse Current at $V_R = 25 \text{ V}$	I_R	-	2	μA
Total Capacitance at $V_R = 1 \text{ V}$, $f = 1 \text{ MHz}$	C_{tot}	-	10	pF
Reverse Recovery Time at $I_F = 10 \text{ mA}$ through $I_R = 10 \text{ mA}$ to $I_R = 1 \text{ mA}$, $R_L = 100 \Omega$	t_{rr}	-	5	ns



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Electrical Characteristics Curves

Fig 1. Forward Current Derating Curve

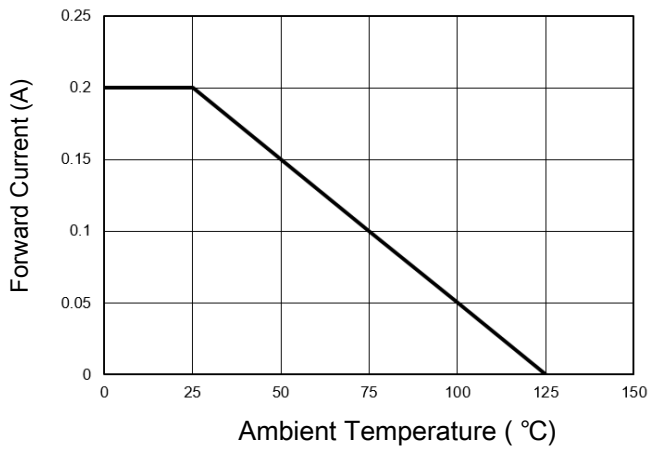


Fig 2. Forward Characteristics

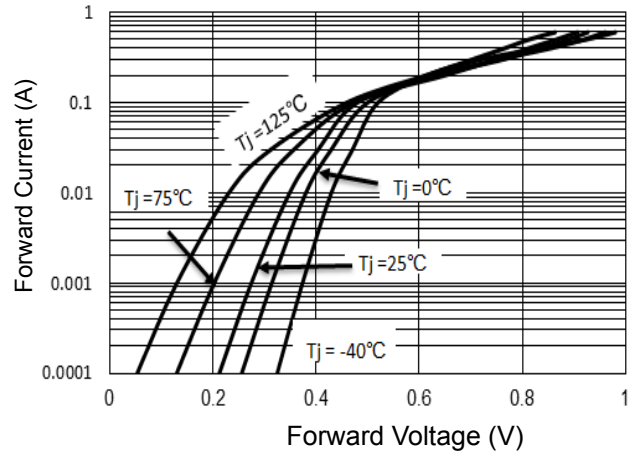


Fig 3. Reverse Characteristics

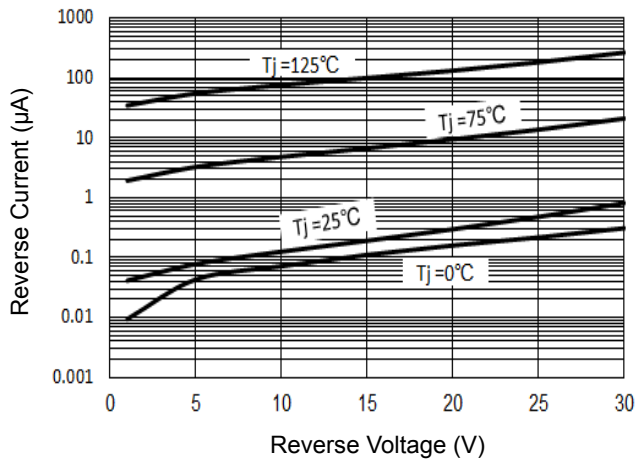
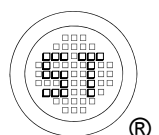
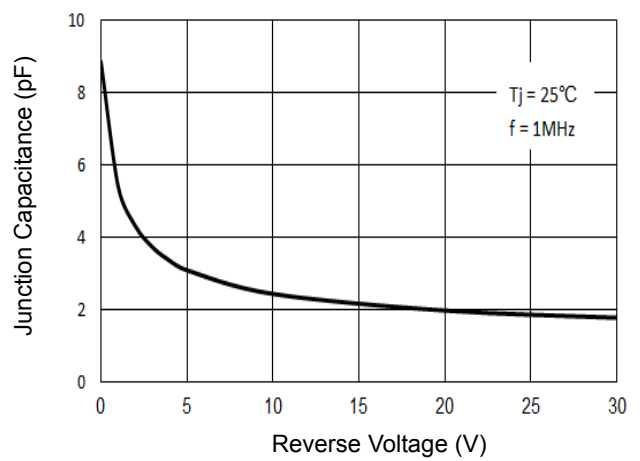


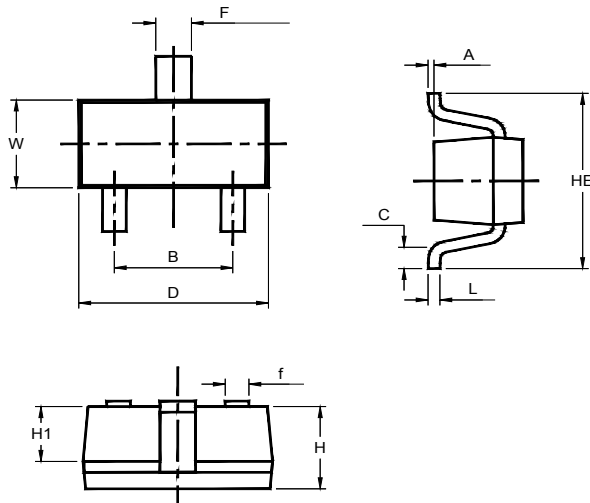
Fig 4. Junction Capacitance



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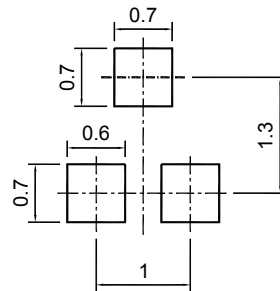
Package Outline Dimensions (Units: mm)

SOT-523



UNIT	A	B	C	D	H	H1	HE	F	f	L	W
mm	0.1 MAX.	1.05 0.95	0.17 MIN.	1.7 1.5	0.85 0.65	0.6 0.4	1.7 1.5	0.35 0.25	0.25 0.15	0.15 0.05	0.9 0.7

Recommended Soldering Footprint



Packing information

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

Marking information

" ** " = Part No.

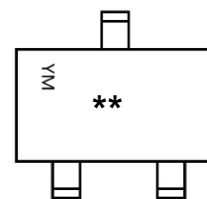
Part No.	Marking	Part No.	Marking
BAT54E	L1	BAT54AE	L2
BAT54CE	L3	BAT54SE	L4

" YM " = Date Code Marking

" Y " = Year

" M " = Month

Font type: Arial



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