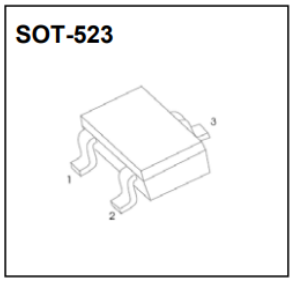
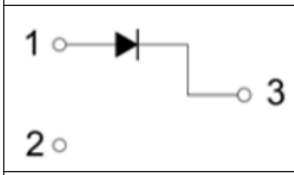
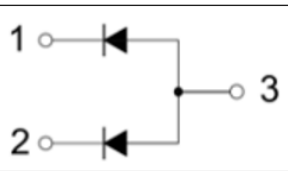
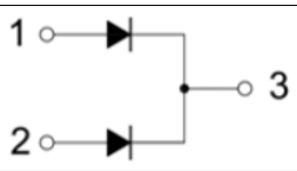
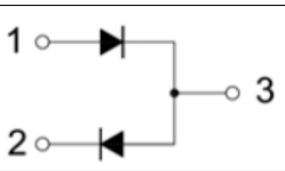
BAT54T/AT/CT/ST
SOT-523 Plastic-Encapsulate Schottky Barrier Diodes

General description
SOT-523 Plastic-Encapsulate Schottky Barrier Diodes



Features:
- Low Forward Voltage Drop
- Fast Switching
- PN Junction Guard Ring for Transient and ESD Protection

Marking

BAT54T	BAT54AT	BAT54CT	BAT54ST
			
L1	L2	L3	L4

Absolute Maximum Ratings (TA=25℃unless otherwise noted)

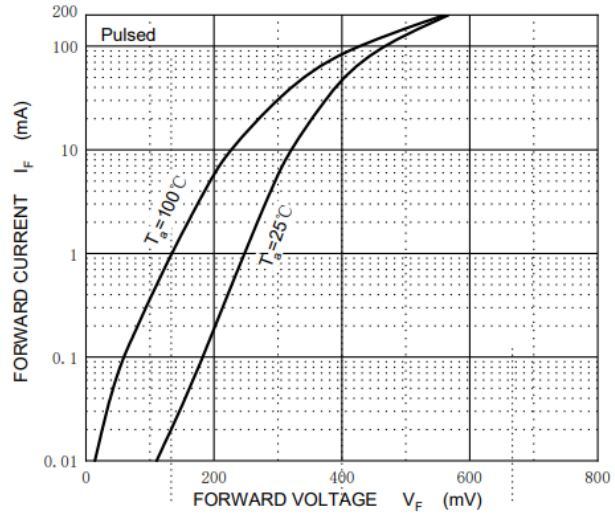
Symbol	Parameter	Value	Unit
V_{RRM}	Peak Repetitive Reverse Voltage	30	V
V_{RWM}	Working Peak Reverse Voltage		
$V_{R(RMS)}$	RMS Reverse Voltage	21	V
I_O	Average Rectified Output Current	0.2	A
I_{FSM}	Non-repetitive Peak Forward Surge Current @ t=8.3ms	600	mA
I_{FRM}	Repetitive Peak Forward Surge Current @ t≤1s; δ ≤ 0.5	300	mA
P_D	Power Dissipation	150	mW
$R_{\Theta JA}$	Thermal Resistance from Junction to Ambient	667	℃/W
T_j	Operating Junction Temperature Range	-40 ~ +125	℃
T_{stg}	Storage Temperature Range	-55 ~ +150	℃

Electrical Characteristics (T_J=25℃ unless otherwise noted)

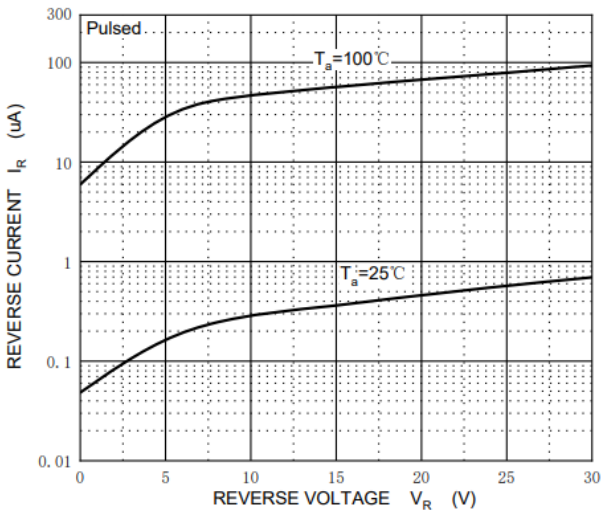
Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Reverse voltage	$V_{(BR)}$	I_R=100μA	30			V
Reverse current	I_R	V_R=25V			2	μA
Forward voltage	V_F	I_F=1mA			0.32	V
		I_F=10mA			0.4	
		I_F=30mA			0.5	
		I_F=100mA			1	
Total capacitance	C_{tot}	V_R=1V,f=1MHz			10	pF
Reverse recovery time	t_{rr}	I_F= I_R=10mA, I_{rr}=0.1×I_R, R_L=100Ω			5	ns

Typical Performance Characteristics

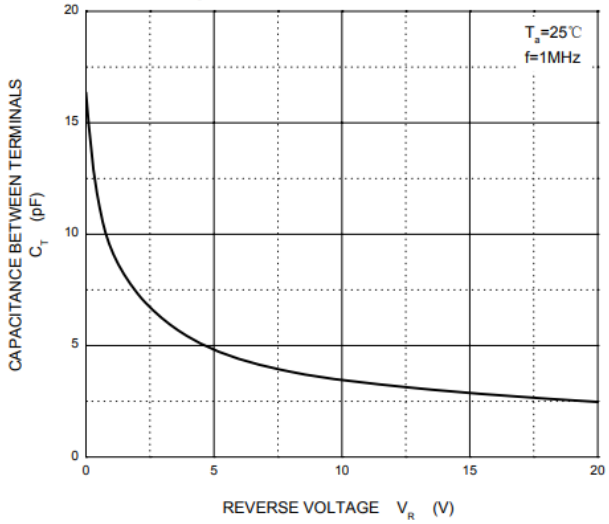
Forward Characteristics



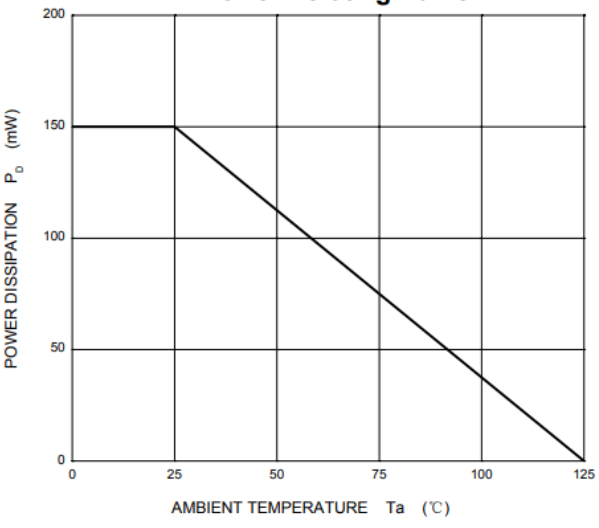
Reverse Characteristics



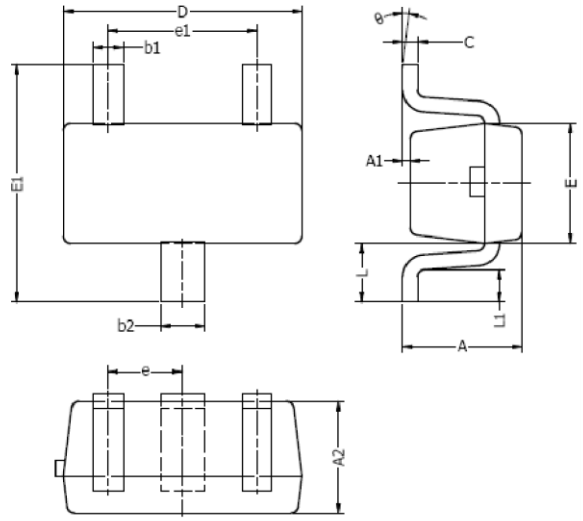
Capacitance Characteristics



Power Derating Curve

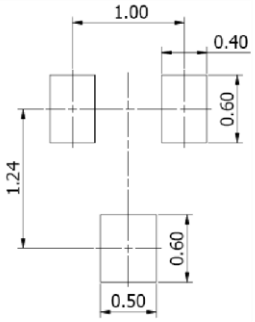


SOT-523 Package Outline



DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	0.70	0.90	0.028	0.035
A1	0.00	0.10	0.000	0.004
A2	0.70	0.80	0.028	0.031
b1	0.15	0.25	0.006	0.010
b2	0.25	0.35	0.010	0.014
c	0.10	0.20	0.004	0.008
D	1.50	1.70	0.059	0.067
E	0.70	0.90	0.028	0.035
E1	1.45	1.75	0.057	0.069
e	0.50 TYP.		0.020 TYP.	
e1	0.90	1.10	0.035	0.043
L	0.40 REF.		0.016 REF.	
L1	0.10	0.30	0.004	0.012
θ	0°	8°	0°	8°

Typical Soldering Pattern:



Note
1.Above package outline conforms to JEITA EAIJ ED-7500A SC-75A.
2.Dimensions are exclusive of Burrs, Mold Flash & Tie Bar extrusions.

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