

SOT-523 Plastic-Encapsulate Diodes**BAT54T/54AT/54CT/54ST****SCHOTTKY BARRIER DIODE****FEATURES**

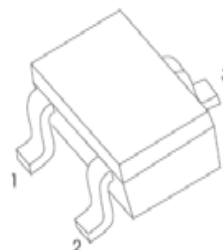
- Fast Switching Speed, Low Forward Voltage Drop

MARKING

BAT54T	BAT54AT	BAT54CT	BAT54ST

Equivalent Circuit

BAT54T	BAT54AT	BAT54CT	BAT54ST

SOT-523**MAXIMUM RATINGS** ($T_a=25^{\circ}\text{C}$ unless otherwise noted)

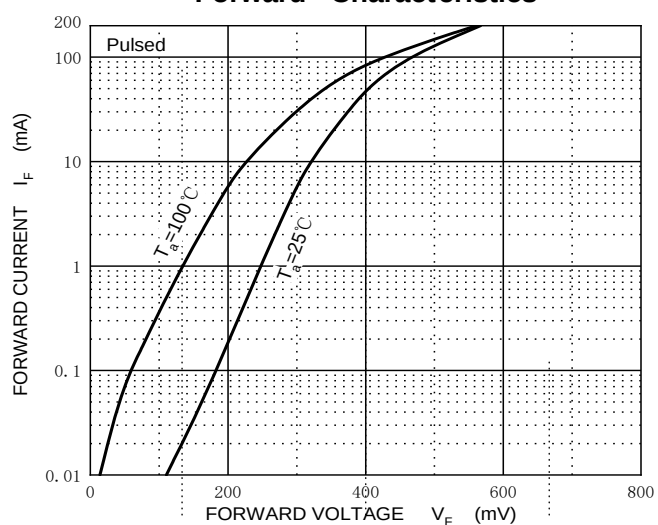
Symbol	Parameter	Value	Unit
V_{RRM}	Peak Repetitive Reverse Voltage	30	V
V_{RWM}	Working Peak Reverse Voltage		
$V_{R(RMS)}$	RMS Reverse Voltage	21	V
I_O	Average Rectified Output Current	0.2	A
I_{FSM}	Non-repetitive Peak Forward Surge Current @ $t=8.3\text{ms}$	600	mA
I_{FRM}	Repetitive Peak Forward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

ELECTRICAL CHARACTERISTICS ($T_a=25^{\circ}\text{C}$ unless otherwise specified)

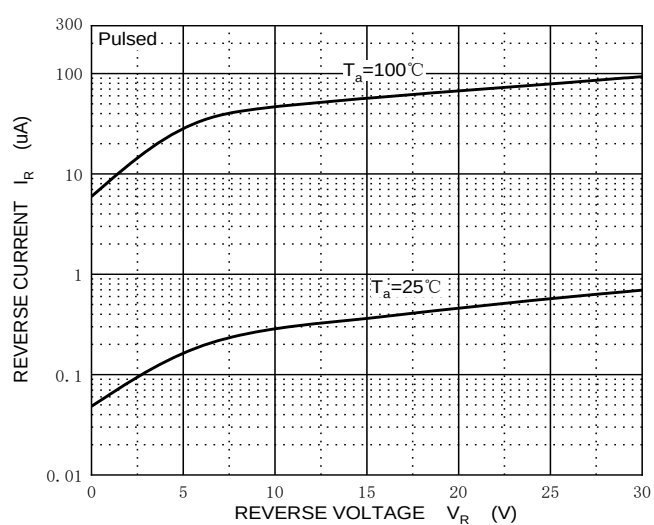
Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Reverse voltage	$V_{(BR)}$	$I_R=100\mu\text{A}$	30			V
Reverse current	I_R	$V_R=25\text{V}$			2	μA
Forward voltage	V_F	$I_F=1\text{mA}$			0.32	V
		$I_F=10\text{mA}$			0.4	
		$I_F=30\text{mA}$			0.5	
		$I_F=100\text{mA}$			1	
Total capacitance	C_{tot}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

Typical Characteristics

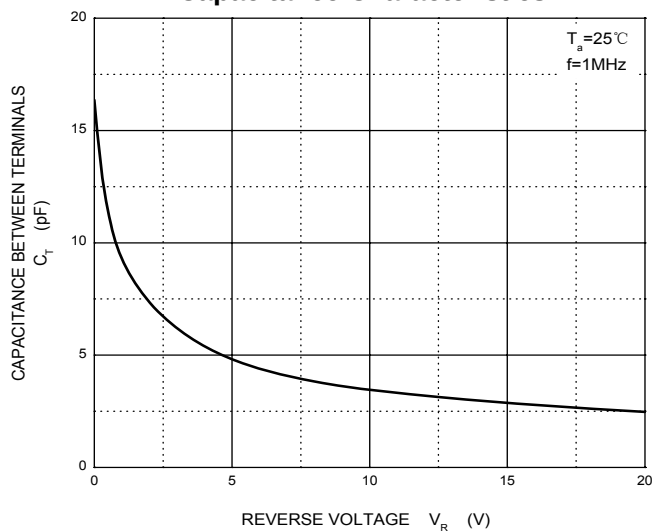
Forward Characteristics



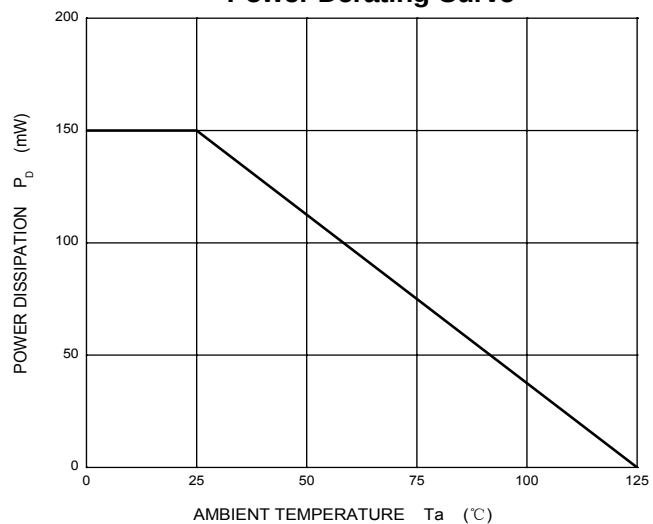
Reverse Characteristics



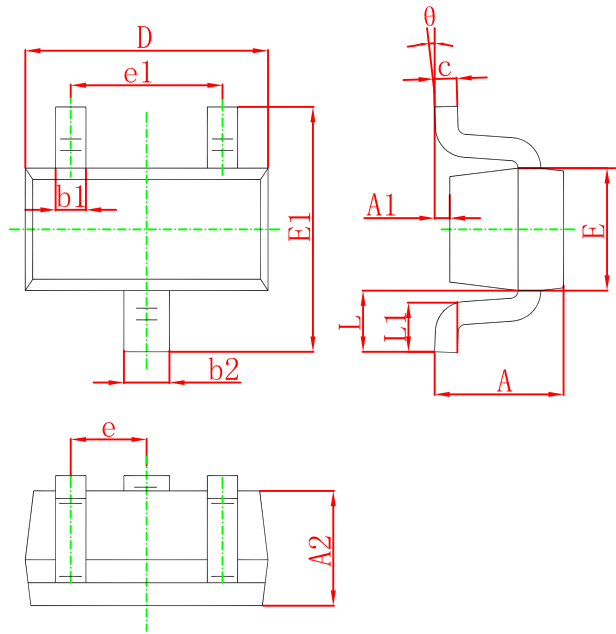
Capacitance Characteristics



Power Derating Curve

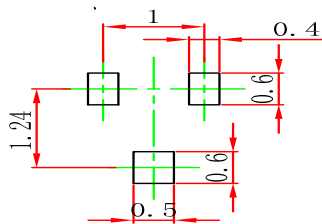


Package Outline Dimensions (SOT-523)



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	0.700	0.900	0.028	0.035
A1	0.000	0.100	0.000	0.004
A2	0.700	0.800	0.028	0.031
b1	0.150	0.250	0.006	0.010
b2	0.250	0.350	0.010	0.014
c	0.100	0.200	0.004	0.008
D	1.500	1.700	0.059	0.067
E	0.700	0.900	0.028	0.035
E1	1.450	1.750	0.057	0.069
e	0.500 TYP.		0.020 TYP.	
e1	0.900	1.100	0.035	0.043
L	0.400 REF.		0.016 REF.	
L1	0.260	0.460	0.010	0.018
θ	0°	8°	0°	8°

Suggested Pad Layout (SOT-523)



Note:

1. Controlling dimension: in millimeters.
2. General tolerance: ± 0.05 mm.
3. The pad layout is for reference purposes only.