

BAT54T THRU BAT54ST

SURFACE MOUNT SCHOTTKY BARRIER RECTIFIER

SOT-523 Surface Mount Schottky Barrier Rectifier

Features

- V_R 30V
- $I_{F(AV)}$ 0.2A
- High Current Capability
- Low Forward Voltage Drop
- Extremely Fast Switching Speed

Reverse Voltage

30 V

Forward Current

0.2 Ampere

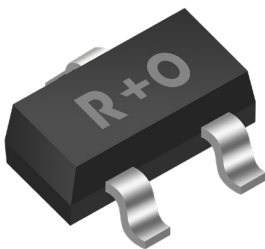
Applications

These Schottky barrier diodes are designed for high speed switching applications, circuit protection, and voltage clamping.

Mechanical Data

- Case: SOT-523
Molding compound meets UL 94V-0 flammability rating, RoHS-compliant, halogen-free
- Terminals: Solder plated, solderable per MIL-STD-750, Method 2026

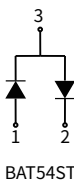
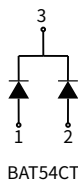
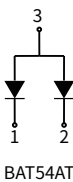
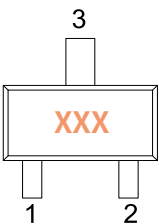
SOT-523



Function Diagram

Marking:

BAT54T:L1
BAT54AT:L2
BAT54CT:L3
BAT54ST:L4



Ordering Information

PACKAGE	PACKAGE CODE	UNIT WEIGHT(g)	REEL(pcs)	BOX(pcs)	CARTON(pcs)	DELIVERY MODE
SOT-523	R1	0.0025	3000	45000	180000	7"

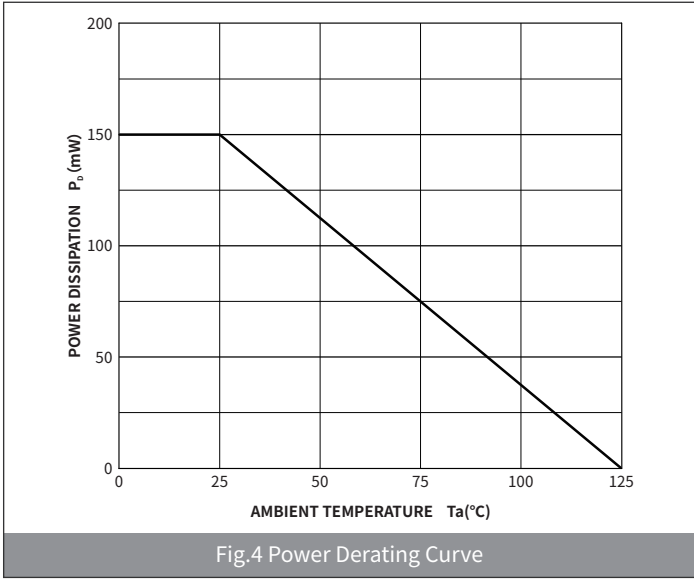
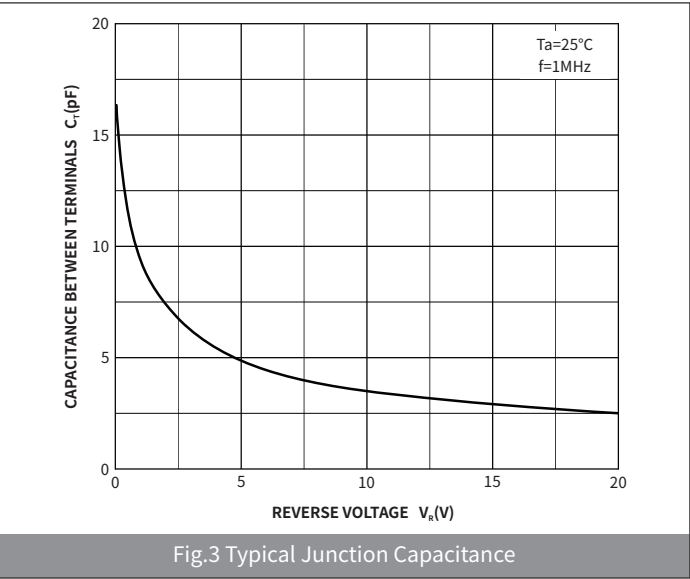
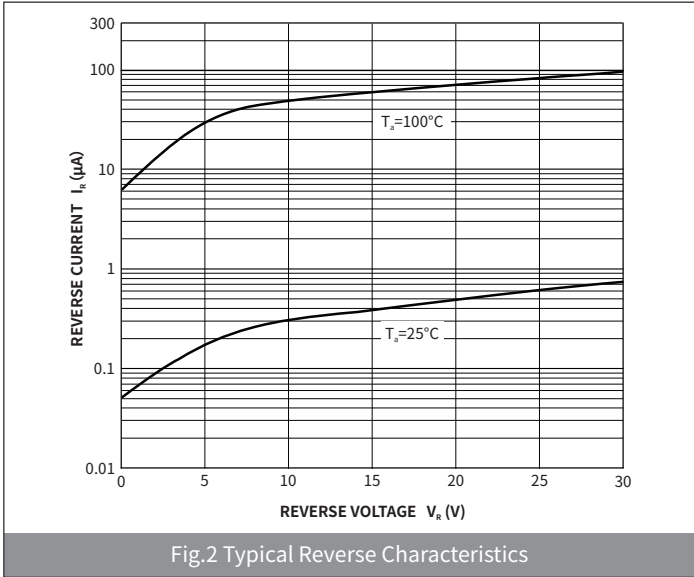
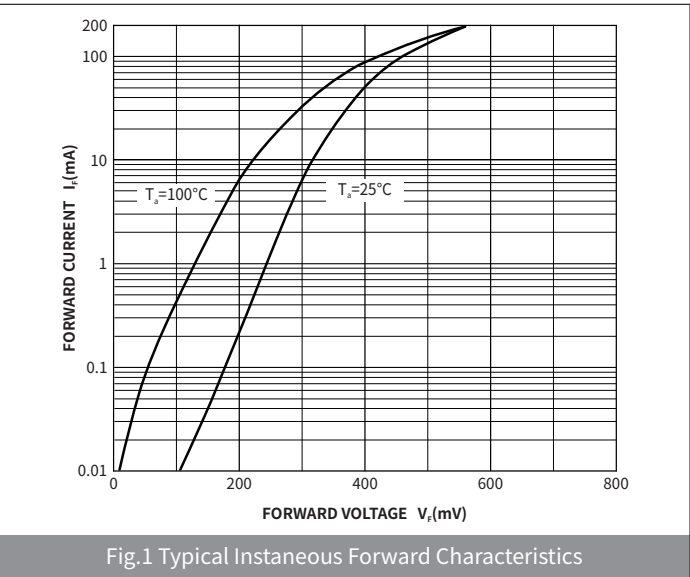
Maximum Ratings (Ta=25°C Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	VALUE
Maximum repetitive peak reverse voltage	V_{RRM}	V	30
Maximum RMS voltage	V_{RMS}	V	21
Maximum DC blocking voltage	V_{DC}	V	30
Maximum average forward rectified current	$I_{F(AV)}$	mA	200
Non-repetitive Peak Forward Surge Current @ t=8.3ms Half-sine wave	I_{FSM}	mA	600
Power Dissipation	P_D	mW	150
Junction Temperature	T_j	°C	-40 ~+125
Storage temperature range	T_{STG}	°C	-55 ~+150
Typical thermal resistance	$R_{\theta JA}$	°C /W	667

Electrical Characteristics (Ta=25°C Unless otherwise noted)

PARAMETER	TEST CONDITIONS	SYMBOL	UNIT	Min	Typ	Max
Reverse voltage	$I_R = 0.1\text{mA}$	$V_{(BR)}$	V	30	—	—
Maximum forward voltage	$I_F = 1.0\text{mA}$	V_F	mV	—	—	320
	$I_F = 10\text{mA}$			—	—	400
	$I_F = 30\text{mA}$			—	—	500
	$I_F = 100\text{mA}$			—	—	1000
Maximum reverse current	$V_R = 25\text{V}$	I_R	μA	—	—	2.0
Capacitance between terminals	$V_R = 1.0\text{V}, f = 1\text{MHz}$	C_T	pF	—	—	10.0
Reverse Recovery time	$I_F = I_R = 10\text{mA}$ $I_{rr} = 0.1 \times I_R, R_L = 100\Omega$	t_{rr}	ns	—	—	5.0

Ratings And Characteristics Curves (Ta=25°C Unless otherwise specified)



● Package Outline Dimensions (SOT-523)

Symbol	Dimensions			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	0.65	0.85	0.026	0.033
A1	0.40	0.60	0.016	0.024
B	0.25	0.35	0.010	0.014
b	0.15	0.25	0.006	0.010
C	0.05	0.15	0.002	0.006
D	0.70	0.90	0.028	0.035
D1	1.50	1.70	0.059	0.067
E	1.5	1.7	0.059	0.067
e	0.95	1.05	0.037	0.041
H	-	0.10	-	0.004
L	0.17	-	0.007	-

● Suggested Pad Layout

Symbol	Dimensions			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	0.50	0.70	0.020	0.028
B	0.60	0.80	0.024	0.031
C	0.90	1.10	0.035	0.043
D	1.20	1.40	0.047	0.055