

BAT54W THRU BAT54SW

SURFACE MOUNT SCHOTTKY BARRIER RECTIFIER

SOT-323 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

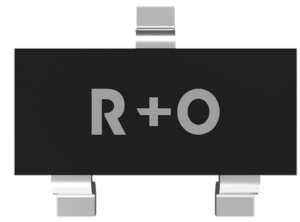
Applications

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

Mechanical Data

- Case: SOT-323
Molding compound meets UL 94V-0 flammability rating, RoHS-compliant, halogen-free
- Terminals: Solder plated, solderable per MIL-STD-750, Method 2026
- Polarity: Cathode line denotes the cathode end

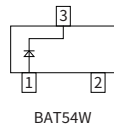
SOT-323



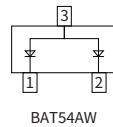
Function Diagram

Marking:

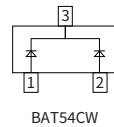
BAT54W:KL5
BAT54AW:KL6
BAT54CW:KL7
BAT54SW:KL8



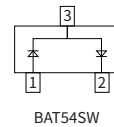
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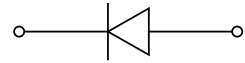
BAT54AW



BAT54CW



BAT54SW



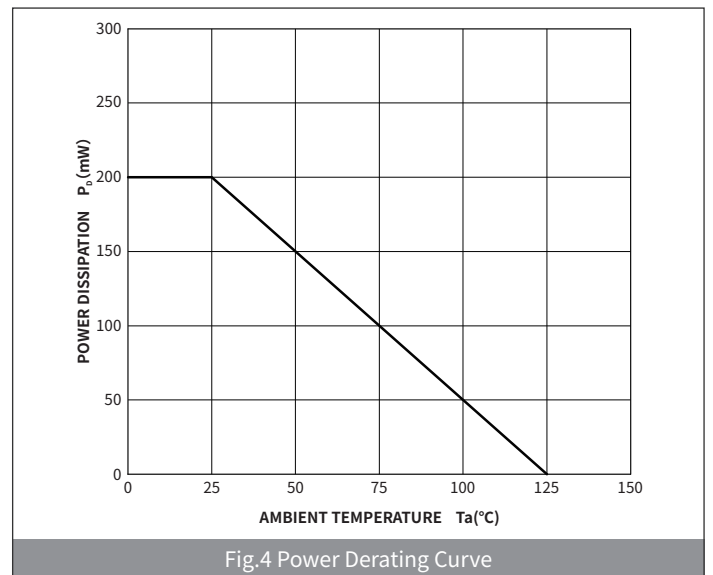
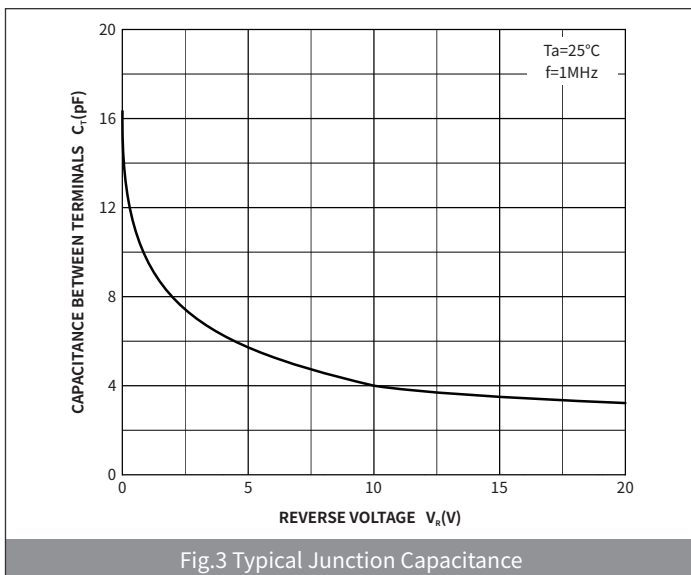
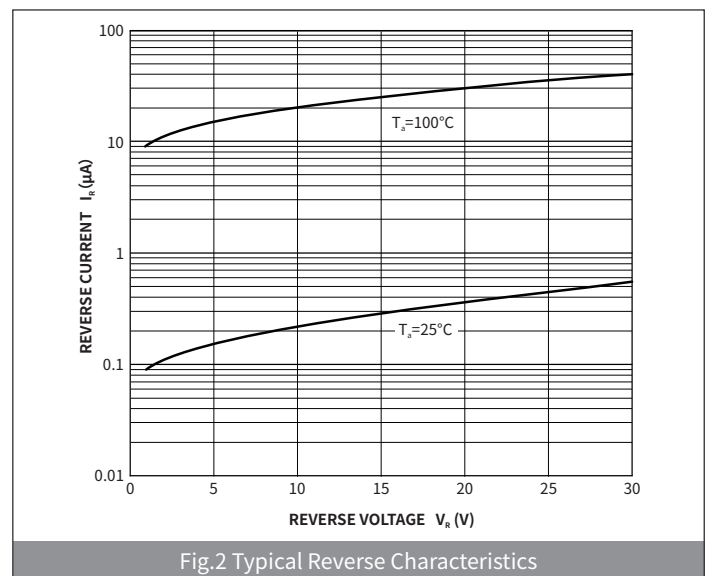
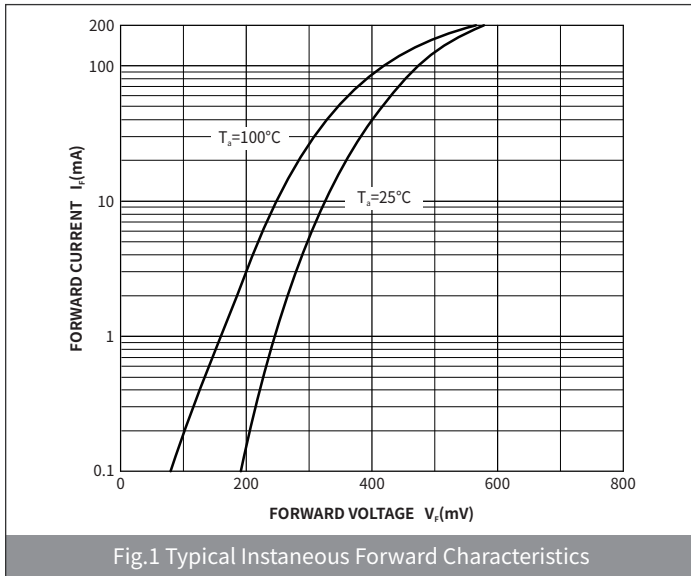
Maximum Ratings (Ta=25°C Unless otherwise specified)

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	200
Junction Temperature	T_j	°C	125
Storage temperature range	T_{STG}	°C	-55 ~+150
Typical thermal resistance	$R_{\theta JA}$	°C /W	500

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

PARAMETER	TEST CONDITIONS	SYMBOL	UNIT	Min	Typ	Max
Maximum forward voltage	$I_F = 0.1\text{mA}$	V_F	mV	—	—	240
	$I_F = 1.0\text{mA}$			—	—	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)



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Ordering Information

PACKAGE	PACKAGE CODE	UNIT WEIGHT(g)	REEL(pcs)	BOX(pcs)	CARTON(pcs)	DELIVERY MODE
SOT-323	R1	0.005	3000	45000	180000	7"

Package Outline Dimensions (SOT-323)

Symbol	Dimensions			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	0.90	1.10	0.035	0.043
A1	-	0.10	-	0.004
A2	0.90	1.00	0.035	0.039
b	0.15	0.40	0.012	0.020
c	0.10	0.25	0.004	0.010
D	1.80	2.20	0.071	0.087
E	1.15	1.35	0.045	0.053
E1	2.15	2.45	0.085	0.096
e	0.650TYP		0.026TYP	
e1	1.20	1.40	0.047	0.055
L	0.525REF		0.021REF	
L1	0.26	0.46	0.010	0.018
θ	-	8°	-	8°

Suggested Pad Layout

Symbol	Dimensions			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
J	0.65	0.75	0.026	0.030
K	0.85	0.95	0.033	0.037
M	2.15	2.25	0.073	0.077
N	1.25	1.35	0.049	0.053

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