

BAT42W THRU BAT43W

SURFACE MOUNT SCHOTTKY BARRIER RECTIFIER

SOD-123 Surface Mount Schottky Barrier Rectifier

● Features

- $V_R=30V$
- $I_{F(AV)}=0.2A$
- Low Forward Voltage Drop
- Fast switching speed
- Meets MSL level 1, per J-STD-020, LF maximum peak of 260°C

Reverse Voltage
30 V
Forward Current
0.2 Ampere

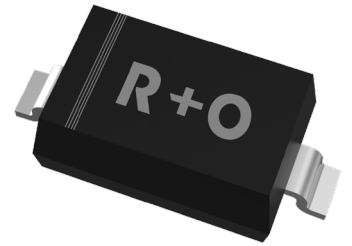
● Applications

For use in low voltage high frequency circuit signals.

● Mechanical Data

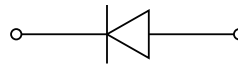
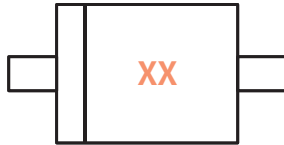
- Case: SOD-123
Molding compound meets UL 94V-0 flammability rating, RoHS-compliant, halogen-free
- Terminals: Solder plated, solderable per MIL-STD-750, Method 2026
- Polarity: Cathode line denotes the cathode end

SOD-123



● Function Diagram

Marking:
BAT42W:S7
BAT43W:S8



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

PARAMETER	SYMBOL	UNIT	BAT42W	BAT43W
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}	A		4.0
Power Dissipation	P_D	mW		200
Junction Temperature	T_j	°C		-40 ~+125
Storage temperature range	T_{STG}	°C		-55 ~+150
Typical thermal resistance	$R_{\theta JA}$	°C /W		500

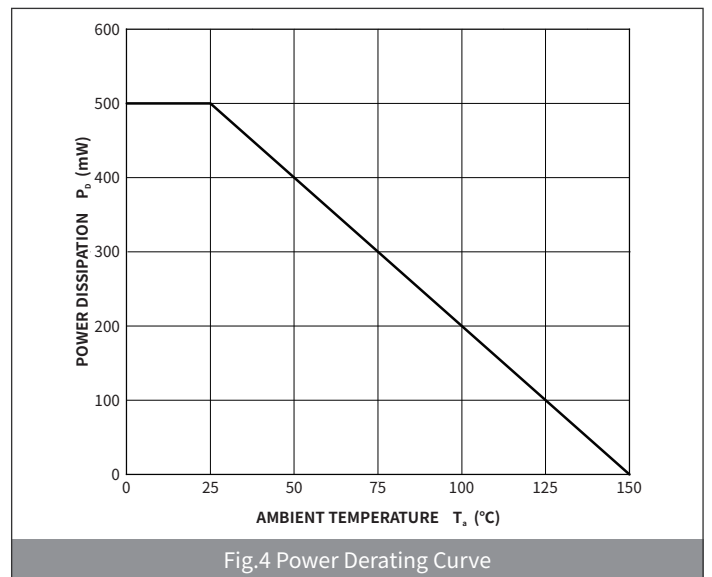
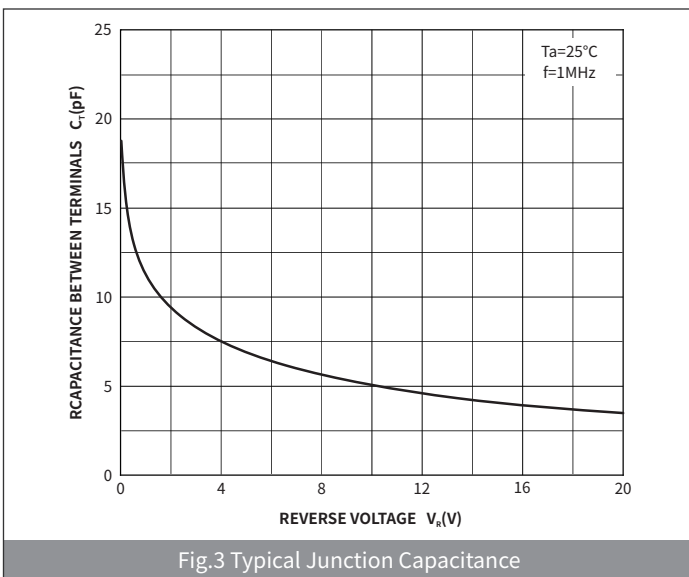
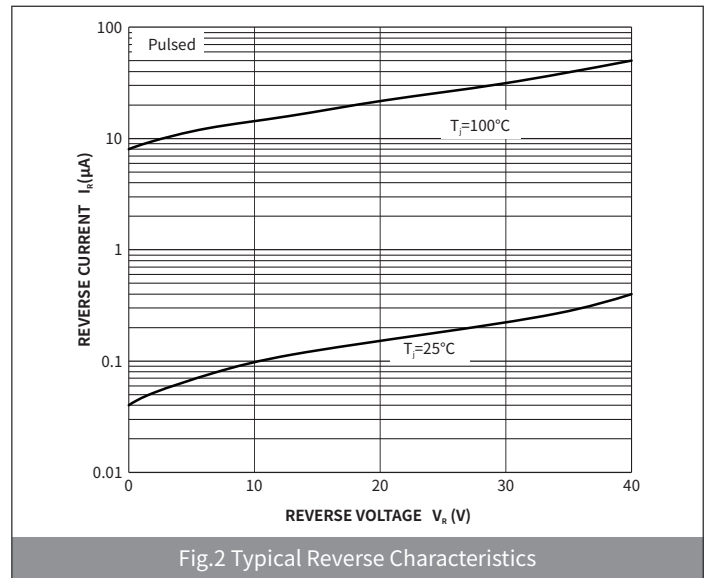
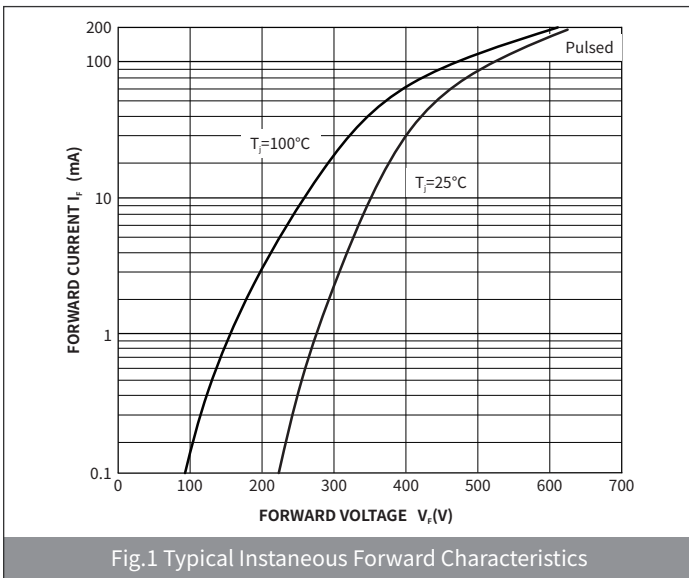
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Electrical Characteristics (Ta=25°C Unless otherwise noted)

PARAMETER		TEST CONDITIONS	SYMBOL	UNIT	Min	Type	Max
Maximum instantaneous forward voltage	BAT42W /BAT43W	$I_F=200\text{mA}$	V_F	V	—	—	1.0
	BAT42W	$I_F=10\text{mA}$			—	—	0.4
	BAT42W	$I_F=50\text{mA}$			—	—	0.65
	BAT43W	$I_F=2.0\text{mA}$			0.26	—	0.33
	BAT43W	$I_F=15\text{mA}$			—	—	0.45
Maximum Reverse Leakage Current		$V_R=25\text{V}$	I_R	μA	—	—	0.5
Capacitance between terminals		$V_R = 1.0\text{V}, f = 1\text{MHz}$	C_T	pF	—	—	10
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
SOD-123	R1	0.012	3000	45000	180000	7"

● Package Outline Dimensions (SOD-123)

Symbol	Dimensions			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	3.55	3.85	0.140	0.152
B	2.55	2.85	0.100	0.112
C	1.40	1.80	0.055	0.071
D	0.95	1.35	0.140	0.152
E	0.51	0.71	0.037	0.053
F	-	0.15	-	0.006
G	0.15	0.45	0.006	0.008
H	0.08	0.25	0.003	0.010
θ	-	8°	-	8°

● Suggested Pad Layout

Symbol	Dimensions			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
J	0.75	0.85	0.030	0.034
K	2.39	2.49	0.094	0.098
M	0.95	1.05	0.037	0.041

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