

BAT42WS THRU BAT43WS

SURFACE MOUNT SCHOTTKY BARRIER RECTIFIER

SOD-323 Surface Mount Schottky Barrier Rectifier

● Features

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

● Applications

For use in low voltage high frequency circuit signals.

● Mechanical Data

- Case: SOD-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

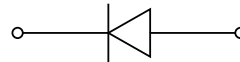
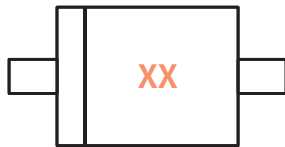
● Function Diagram

Reverse Voltage
30 V
Forward Current
0.2 Ampere

SOD-323



Marking:
BAT42WS:S7
BAT43WS:S8



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

PARAMETER	SYMBOL	UNIT	BAT42WS	BAT43WS
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	
Storage temperature	T_{stg}	°C	-55 ~ +150	
Junction temperature	T_j	°C	125	
Typical Thermal Resistance	$R_{\theta J-A}$	°C /W	500	

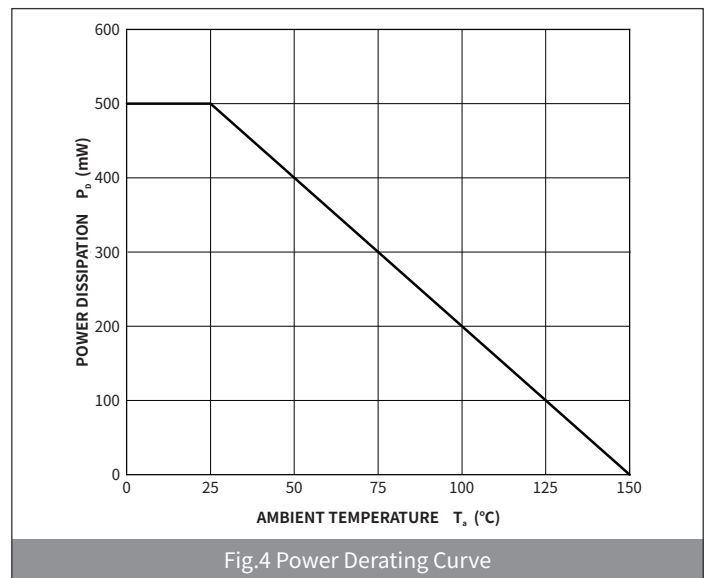
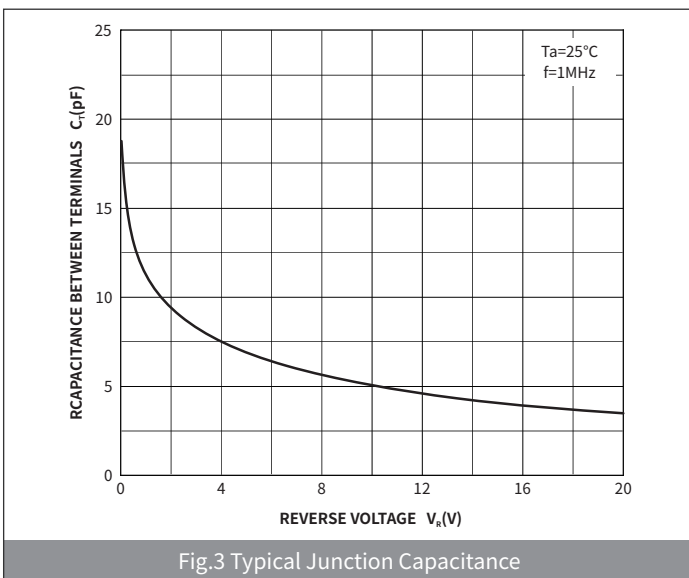
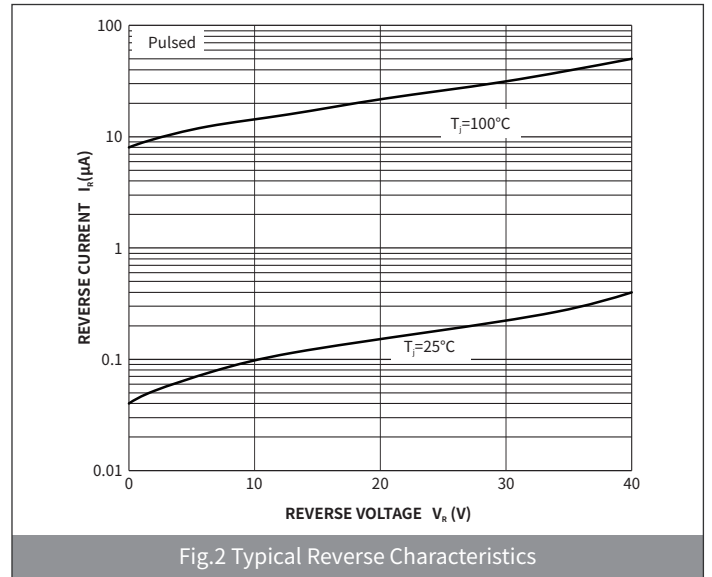
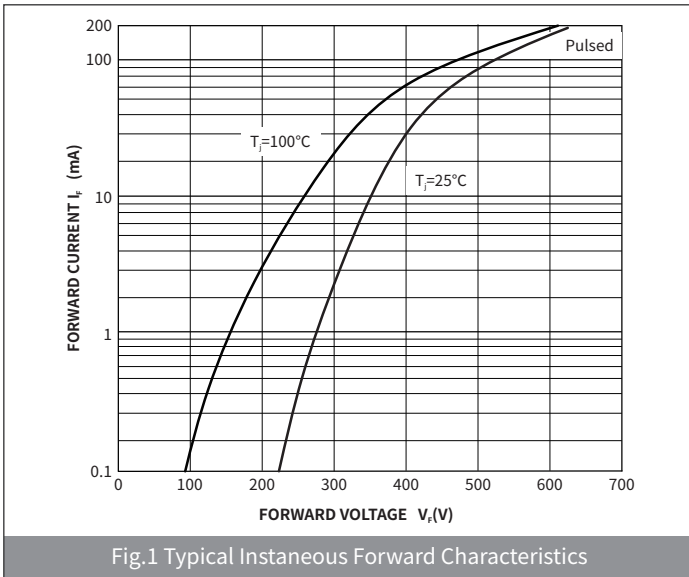
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● Electrical Characteristics (Ta=25°C Unless otherwise noted)

PARAMETER		TEST CONDITIONS	SYMBOL	UNIT	Min	Typ	Max
Maximum instantaneous forward voltage	BAT42WS /BAT43WS	$I_F=200\text{mA}$	V_F	V	—	—	1.0
	BAT42WS	$I_F=10\text{mA}$			—	—	0.40
	BAT42WS	$I_F=50\text{mA}$			—	—	0.65
	BAT43WS	$I_F=2.0\text{mA}$			0.26	—	0.33
	BAT43WS	$I_F=15\text{mA}$			—	—	0.45
Maximum reverse 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
Maximum 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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SURFACE MOUNT SCHOTTKY BARRIER RECTIFIER

● Ordering Information

PACKAGE	PACKAGE CODE	UNIT WEIGHT(g)	REEL(pcs)	BOX(pcs)	CARTON(pcs)	DELIVERY MODE
SOD-323	R1	0.0048	3000	30000	120000	7"

● Package Outline Dimensions (SOD-323)

Symbol	Dimensions			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	1.60	1.80	0.063	0.071
B	0.25	0.40	0.010	0.016
C	2.30	2.80	0.091	0.110
D	0.80	1.10	0.031	0.043
D ₁	0.80	0.90	0.031	0.035
E	1.20	1.40	0.047	0.055
F	0.08	0.18	0.003	0.007
L	0.475REF		0.019REF	
L ₁	0.25	0.40	0.010	0.016
H	-	0.14	-	0.006

● Suggested Pad Layout

Symbol	Dimensions			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
X	0.65	0.75	0.026	0.030
Y	0.65	0.75	0.026	0.030
Z	2.10	2.20	0.084	0.088

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