

BAT42W/BAT43W SURFACE MOUNT SCHOTTKY BARRIER DIODE



Features

- Low Turn-on Voltage
- Fast Switching
- PN Junction Guard Ring Transient and ESD Protection
- Designed for Surface Mount Application
- Plastic Material —UL Recognition Flammability Classification 94V-0
- Green Products in Compliance with the ROHS Directive
- This is a Pb – Free Device
- All SMC parts are traceable to the wafer lot
- Additional testing can be offered upon request

Circuit Diagram



Mechanical Data

- Case: SOD-123, Molded Plastic
- Terminals: Plated leads Solderable per MIL-STD-202, Method 208
- Polarity: Cathode Band
- Weight: 0.01 grams(approx.)

Maximum Ratings @_{T_A}=25°C unless otherwise specified

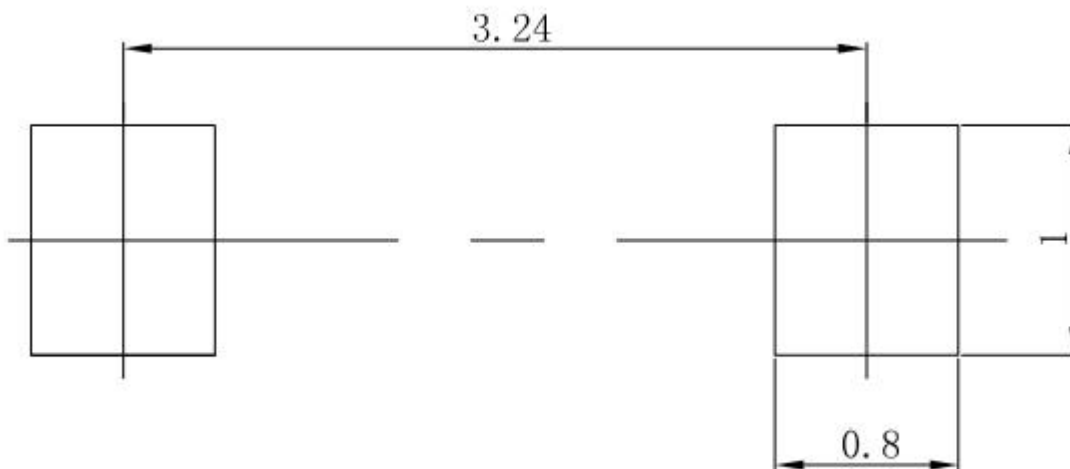
Single Phase, half wave, 60Hz, resistive or inductive load. For capacitive load, derate current by 20%.

Characteristic	Symbol	BAT42W/BAT43W	Units
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V_{RRM} V_{RWM} V_R	30	V
RMS Reverse Voltage	$V_{R(RMS)}$	21	V
Forward Continuous Current	I_{FM}	0.2	A
Repetitive Peak Forward Current @ $t < 1.0s$	I_{FRM}	500	mA
Non-Repetitive Peak Forward Surge Current 8.3ms Single half sine-wave superimposed on rated load (JEDEC Method)	I_{FSM}	4.0	A
Power Dissipation	P_d	500	mW
Typical Thermal Resistance Junction to Ambient	$R_{\theta JA}$	200	°C/W
Junction Temperature Range	T_J	125	°C
Storage Temperature Range	T_{STG}	-55 to +150	°C

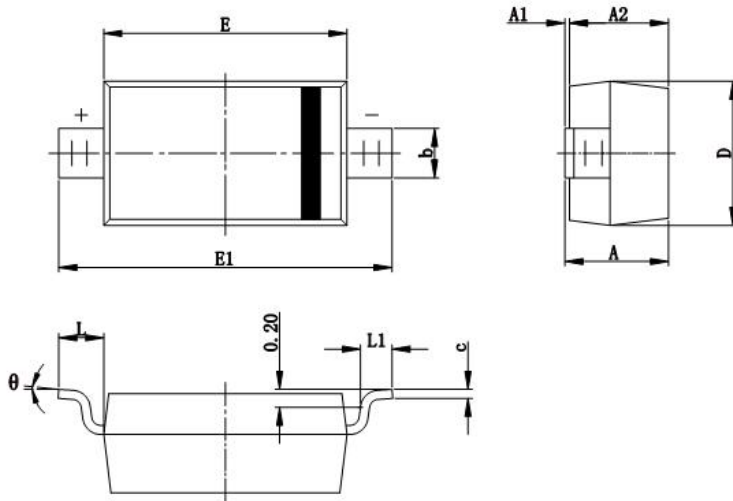
Electrical Characteristics @ $T_A=25^{\circ}\text{C}$ unless otherwise specified

Characteristic	Symbol	Min	Typ	Max	Units	Test Condition	
Reverse Breakdown Voltage	$V_{(BR)}$	30	-	-	V	$I_R=10\mu\text{A}$	
Forward Voltage	All Types	V_F	-	-	1.0	V	$I_F=200\text{mA}$
	BAT42W	V_F	-	-	0.4	V	$I_F=10\text{mA}$
	BAT42W	V_F	-	-	0.65	V	$I_F=50\text{mA}$
	BAT43W	V_F	0.26	-	0.33	V	$I_F=2\text{mA}$
	BAT43W	V_F	-	-	0.45	V	$I_F=15\text{mA}$
Reverse Leakage Current	I_R	-	-	0.5	μA	$V_R=25\text{V}$	
Junction Capacitance	C_j	-	-	10	pF	$V_R=1.0\text{V}, f=1.0\text{MHz}$	

SOD-123 Suggested Pad Layout



- Note:
1. Controlling dimension: in millimeters.
 2. General tolerance: $\pm 0.05\text{mm}$.
 3. The pad layout is for reference purposes only.

Mechanical Dimensions SOD-123


SYMBOL	Millimeters		Inches	
	MIN.	MAX.	MIN.	MAX.
A	1.050	1.250	0.041	0.049
A1	0.000	0.100	0.000	0.004
A2	1.050	1.150	0.041	0.045
b	0.450	0.650	0.018	0.026
c	0.080	0.150	0.003	0.006
D	1.500	1.700	0.059	0.067
E	2.600	2.800	0.102	0.110
E1	3.550	3.850	0.140	0.152
L	0.500 REF.		0.020 REF.	
L1	0.250	0.450	0.010	0.018
θ	0°	8°	0°	8°

Ordering Information

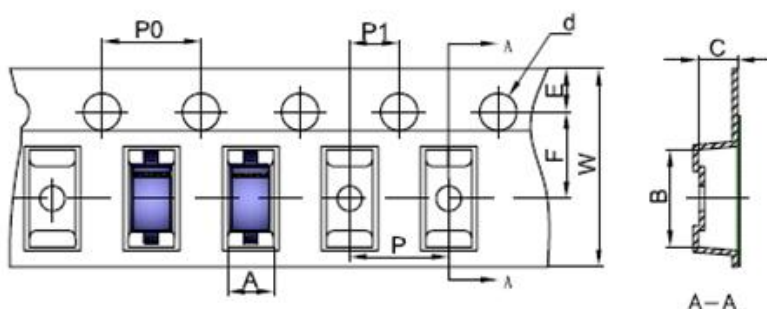
Device	Package	Shipping
BAT42(43)W	SOD-123 (Pb-Free)	3000pcs / reel

For information on tape and reel specifications, including part orientation and tape sizes, please refer to our tape and reel packaging specification.

Marking Diagram


BAT42W

BAT43W

Carrier Tape Specification SOD-123


SYMBOL	Millimeters	
	Min.	Max.
A	1.80	1.90
B	3.89	3.99
C	1.52	1.62
d	1.45	1.65
E	1.65	1.85
F	3.40	3.60
P	3.90	4.10
P0	3.90	4.10
P1	1.90	2.10
W	7.90	8.30



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