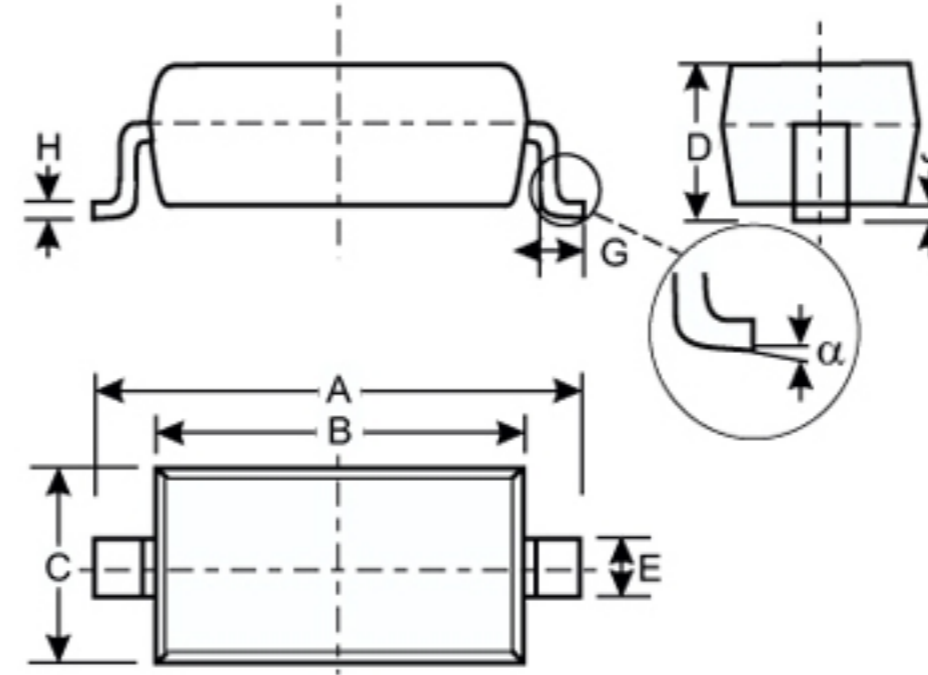


● Features

Low Forward Voltage Drop
Fast Switching Time
Surface Mount Package Ideally Suited for Automatic Insertion

● Mechanical Data

Case: SODv123, Plastic
Case material v UL Flammability Rating Classification 94Vv0
Moisture sensitivity: Level 1 per JvSTDv020A
Terminals: Solderable per MILvSTDv202, Method 208
Polarity: Cathode Band
Marking: Date Code & Type Code, See Page 2
Type Codes: BAT42W S7
 BAT43W S8
Weight: 0.01 grams (approx.)
Ordering Information: See Page 2



SOD-123		
Dim	Min	Max
A	3.55	3.85
B	2.55	2.85
C	1.40	1.70
D	—	1.35
E	0.55 Typical	
G	0.25	—
H	0.11 Typical	
J	—	0.10
α	0°	8°
All Dimensions in mm		

● Maximum Ratings @ $T_A = 25^\circ\text{C}$ unless otherwise specified

Characteristic	Symbol	BAT42W / BAT43W	Unit
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 (Note 1)	I_{FM}	200	mA
Repetitive Peak Forward Current (Note 1) @ $t < 1.0\text{s}$	I_{FRM}	500	mA
NonvRepetitive Peak Forward Surge Current @ $t < 10\text{ms}$	I_{FSM}	4.0	A
Power Dissipation	P_d	200	mW
Thermal Resistance Junction to Ambient Air (Note 1)	$R_{\theta JA}$	500	$^\circ\text{C/W}$
Operating and Storage Temperature Range	T_j, T_{STG}	v55 to +125	$^\circ\text{C}$

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

Characteristic	Symbol	Min	Max	Unit	Test Condition
Reverse Breakdown Voltage (Note 2)	$V_{(BR)R}$	30	—	V	$I_R = 100\mu\text{A}$
Forward Voltage Drop (Note 2)	V_{FM}	—	1.0	V	$I_F = 200\text{mA}$ $I_F = 10\text{mA}$ $I_F = 50\text{mA}$ $I_F = 2.0\text{mA}$ $I_F = 15\text{mA}$
Peak Reverse Current (Note 2)	I_{RM}	—	500 100	nA μA	$V_R = 25\text{V}$ $V_R = 25\text{V}, T_j = 100^\circ\text{C}$
Total Capacitance	C_T	—	10	pF	$V_R = 1.0\text{V}, f = 1.0\text{MHz}$
Reverse Recovery Time	t_{rr}	—	5.0	ns	$I_F = I_R = 10\text{mA}$, $I_{rr} = 0.1 \times I_R, R_L = 100\Omega$
Rectification Efficiency	η_V	80	—	%	$R_L = 15\Omega, C_L = 300\text{pF}$, $f = 45\text{MHz}, V_{RF} = 2.0\text{V}$

Notes: 1. Part mounted on FRv4 board with recommended pad layout.
2. Short duration pulse test used to minimize selfheating effect.

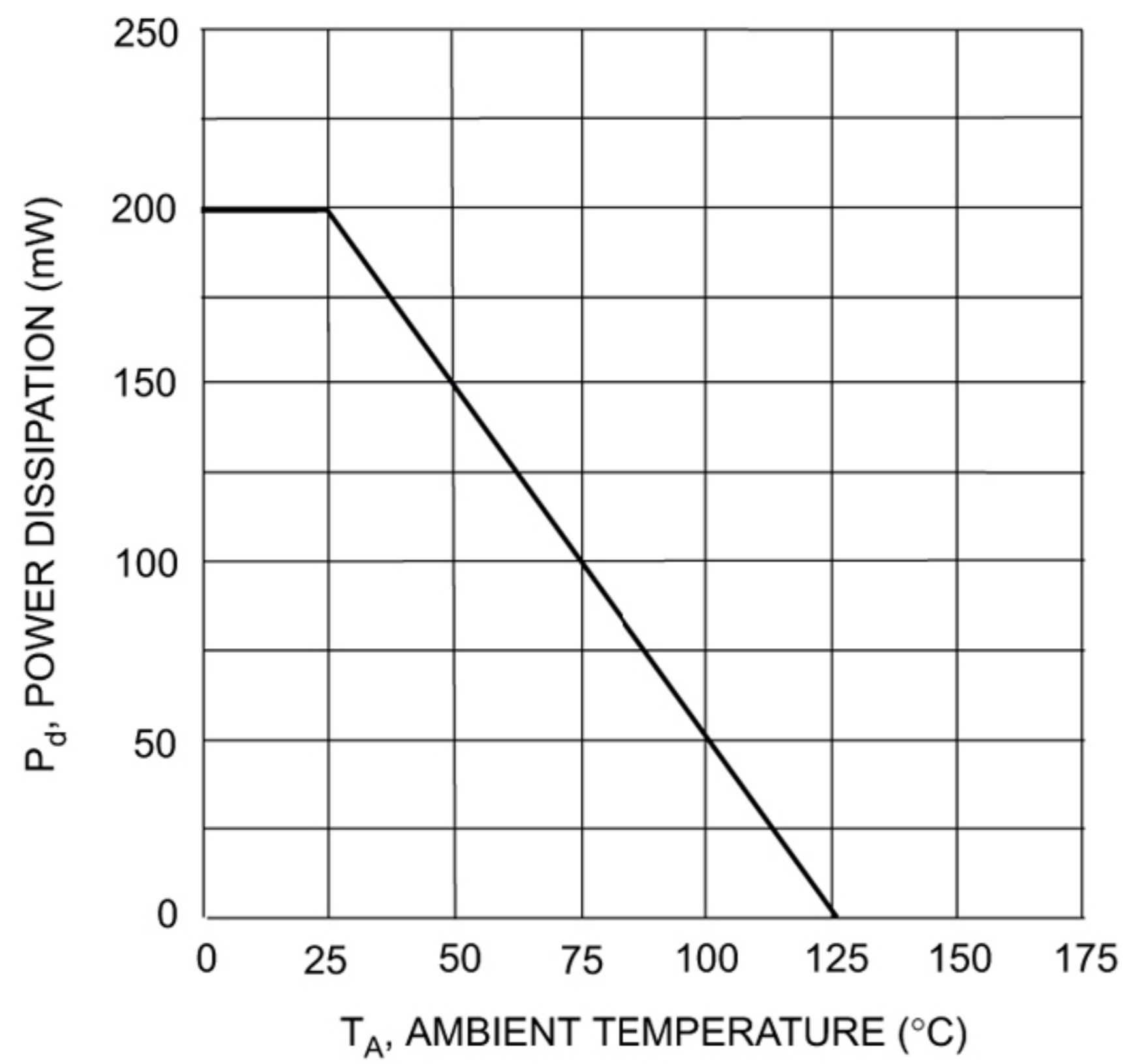


Fig. 1 Power Derating Curve

● Ordering Information

Device	Packaging	Shipping
BAT42W	SOD 123	3000/Tape & Reel
BAT43W	SOD 123	3000/Tape & Reel