BAT42W / BAT43W

SURFACE MOUNT SCHOTTKY BARRIER DIODE

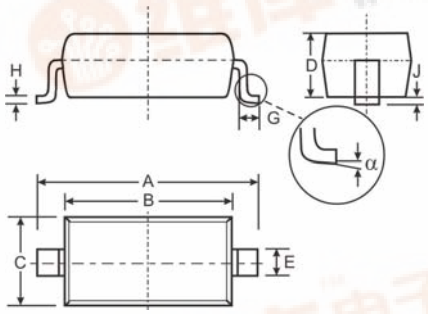
Lead-free

Features

- Low Forward Voltage Drop
- Fast Switching Time
- Surface Mount Package Ideally Suited for Automatic Insertion
- **Lead Free/RoHS Compliant Version (Note 3)**

Mechanical Data

- Case: SOD-123
- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020C
- Terminals: Solderable per MIL-STD-202, Method 208
- Lead Free Plating (Matte Tin Finish annealed over Alloy 42 leadframe).
- Polarity: Cathode Band
- Marking Information: See Page 3
- Type Codes: BAT42W S7
  BAT43W S8
- Ordering Information: See Page 3
- Weight: 0.01 grams (approximate)



SOD-123		
Dim	**Min**	**Max**
A	3.55	3.85
B	2.55	2.85
C	1.40	1.70
D	—	1.35
E	0.45	0.65
	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°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 < 1.0s	I_{FRM}	500	mA
Non-Repetitive Peak Forward Surge Current	@ t < 10ms	I_{FSM}	4.0	A
Power Dissipation		P_d	200	mW
Thermal Resistance Junction to Ambient Air (Note 1)		$R_{\theta JA}$	500	°C/W
Operating and Storage Temperature Range		T_j, T_{STG}	-55 to +125	°C

Electrical Characteristics @T_A = 25°C unless otherwise specified

Characteristic		Symbol	Min	Max	Unit	Test Condition
Reverse Breakdown Voltage (Note 2)		$V_{(BR)R}$	30	—	V	I_R = 100μA
Forward Voltage Drop	All Types	V_{FM}	—	1.0	V	I_F = 200mA
	BAT42W		—	0.40		I_F = 10mA
	BAT42W		—	0.65		I_F = 50mA
	BAT43W		0.26	0.33		I_F = 2.0mA
	BAT43W		—	0.45		I_F = 15mA
Peak Reverse Current (Note 2)		I_{RM}	—	500	nA	V_R = 25V
				100	μA	V_R = 25V, T_j = 100°C
Total Capacitance		C_T	—	10	pF	V_R = 1.0V, f = 1.0MHz
Reverse Recovery Time		t_{rr}	—	5.0	ns	I_F = I_R = 10mA, I_{rr} = 0.1 x I_R, R_L = 100Ω

Notes:
1. Part mounted on FR-4 board with recommended pad layout, which can be found on our website at http://www.diodes.com/datasheets/ap02001.pdf.
2. Short duration pulse test used to minimize self-heating effect.
3. No purposefully added lead.

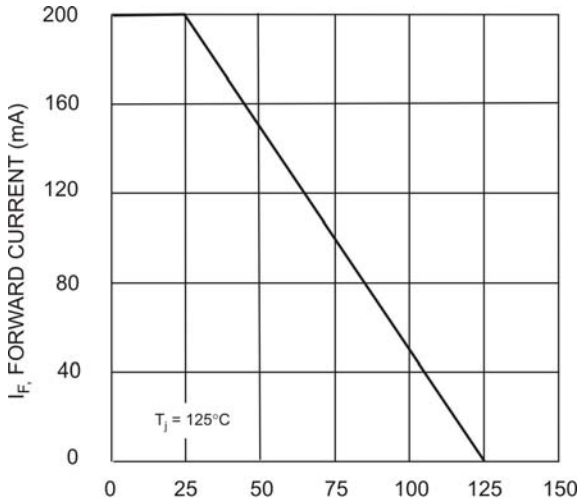


Fig. 1 Forward Current Derating Curve

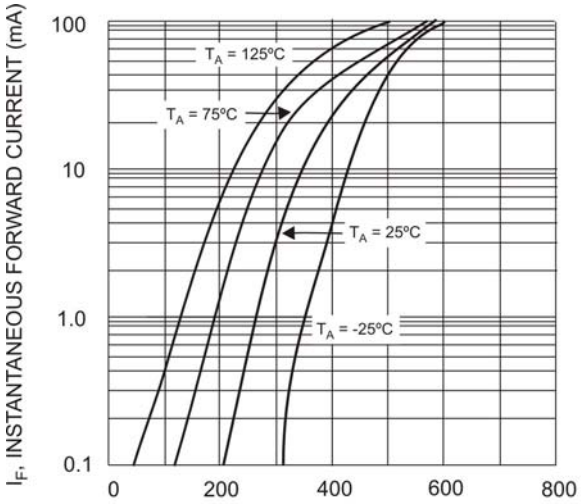


Fig. 2 Typical Forward Characteristics

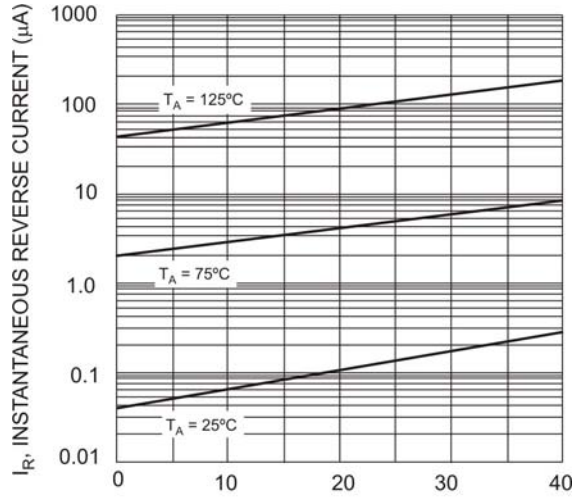


Fig. 3 Typical Reverse Characteristics

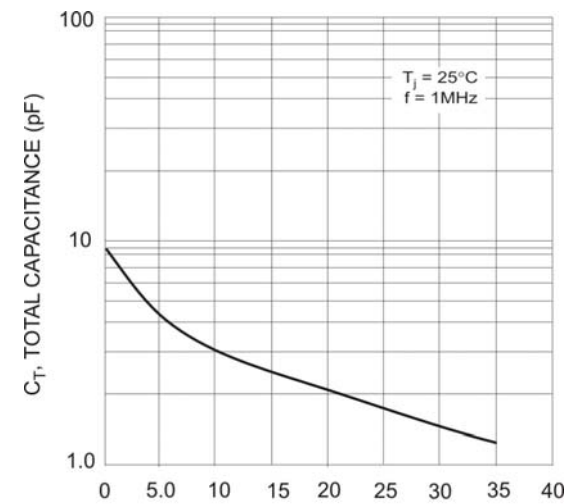


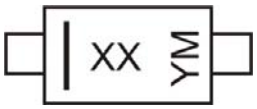
Fig. 4 Total Capacitance vs. Reverse Voltage

Ordering Information (Note 4)

Device	Packaging	Shipping
BAT42W-7-F	SOD-123	3000/Tape & Reel
BAT43W-7-F	SOD-123	3000/Tape & Reel

Notes: 4. For Packaging Details, go to our website at http://www.diodes.com/datasheets/ap02007.pdf.

Marking Information



XX = Product Type Marking Code
YM = Date Code Marking
Y = Year (ex: N = 2002)
M = Month (ex: 9 = September)

Data Code Key

Year	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Code	M	N	P	R	S	T	U	V	W	X	Y	Z

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Code	1	2	3	4	5	6	7	8	9	O	N	D