BAT42W / BAT43W

200mA Surface Mount Small Signal Diodes

■ Features

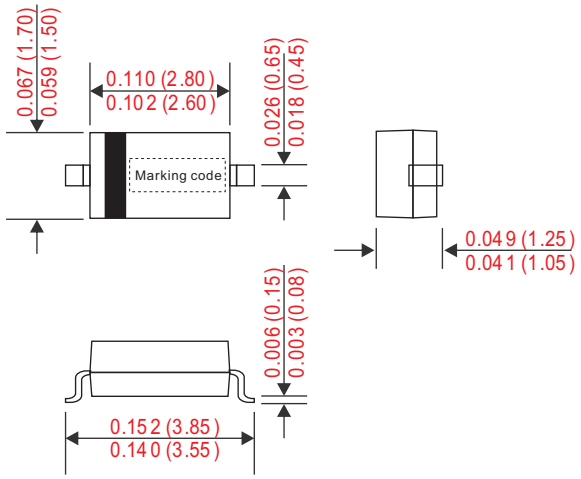
- Low profile surface mounted application in order to optimize board space.
- Low power loss, high efficiency.
- High current capability, low forward voltage drop.
- Ultra high-speed switching.
- Silicon epitaxial planar chip, metal silicon junction.
- Suffix "G" indicates Halogen-free part, ex.BAT42WG.
- Lead-free parts meet environmental standards of MIL-STD-19500 /228

■ Mechanical data

- Epoxy:UL94-V0 rated flame retardant
- Case : Molded plastic, SOD-123
- Terminals : Solder plated, solderable per MIL-STD-750, Method 2026
- Polarity : Indicated by cathode band
- Weight : 0.0004 ounce, 0.010 gram

■ Outline

SOD-123



Dimensions in inches and (millimeters)

■ Maximum ratings and electrical characteristics

Rating at 25°C ambient temperature unless otherwise specified. Single phase, half wave, 60Hz, resistive or inductive load. For capacitive load, derate current by 20%.

Parameter	Conditions	Symbol	BAT42W	BAT43W	UNIT
Marking code			S7	S8	
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage		V_{RRM} V_{RWM} V_R	30		V
RMS Reverse Voltaget		$V_{R(RMS)}$	21		V
Average Rectified Output Current		I_{FAV}	200		mA
Non-repetitive Peak Forward Surge Current	@ t < 1.0s	I_{FSM}	4.0		A
Total Device Dissipation		P_D	200		mW
Thermal Resistance Junction To Ambient	junction to ambientrse	$R_{\theta JA}$	500		°C/W
Operating Temperature		T_J	-55 ~ +125		°C
Storage Temperature		T_{STG}	-55 ~ +125		°C
Reverse Breakdown Voltage		$V_{(BR)R}$	30		V
Forward Voltage	I_F = 200mA BAT42W, BAT43W I_F = 10mA BAT42W I_F = 50mA BAT42W I_F = 2.0mA BAT43W I_F = 15mA BAT43W	V_F	0.26	1.0 0.4 0.65 0.33 0.45	V
Reverse Current	V_R = 25 V V_R = 25 V, T_J = 100°C	I_R	0.5 100		uA
Junction Capacitance	V_R = 0 V, f = 1.0MHz	C_T	10		pF
Reverse Recover time	I_F = I_R = 200mAdc, I_{rr} = 0.1 X I_R, R_L = 100Ω	trr	5.0		ns

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■ Rating and characteristic curves

Fig. 1 FORWARD CURRENT CURVE

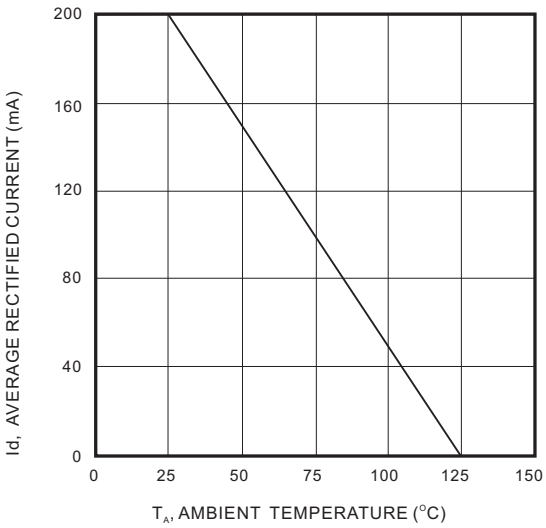


Fig. 2 TYPICAL FORWARD CHARACTERISTIC

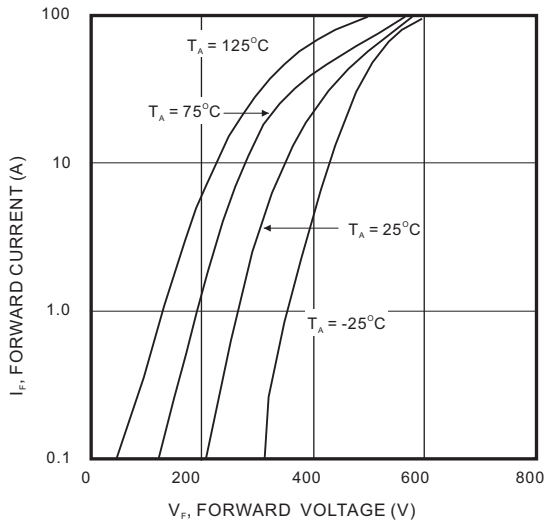


Fig. 3 TYPICAL REVERSE CHARACTERISTICS

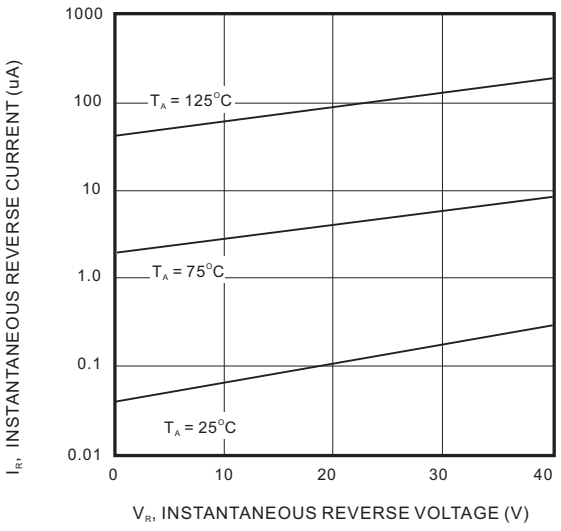
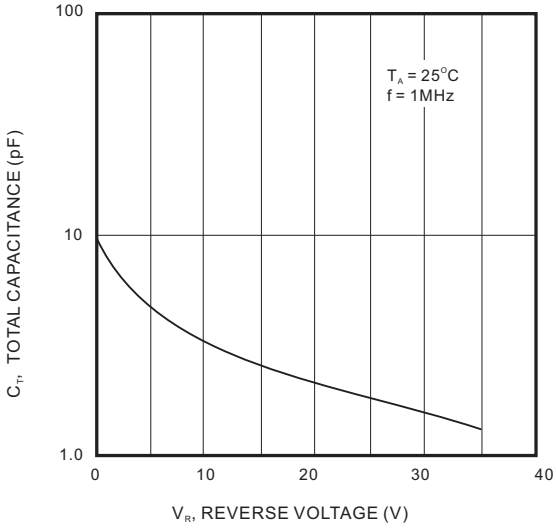


Fig. 4 TOTAL CAPACITANCE VS REVERSE VOLTAGE



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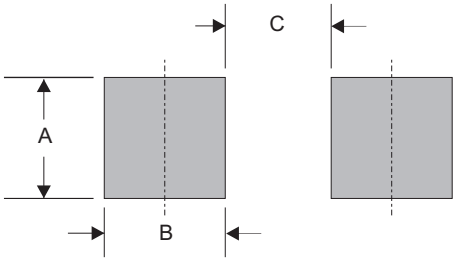
■ SOD-123 foot print



A	B	C
0.059 (1.50)	0.059 (1.50)	0.094 (2.40)

Dimensions in inches and (millimeters)

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