

Features

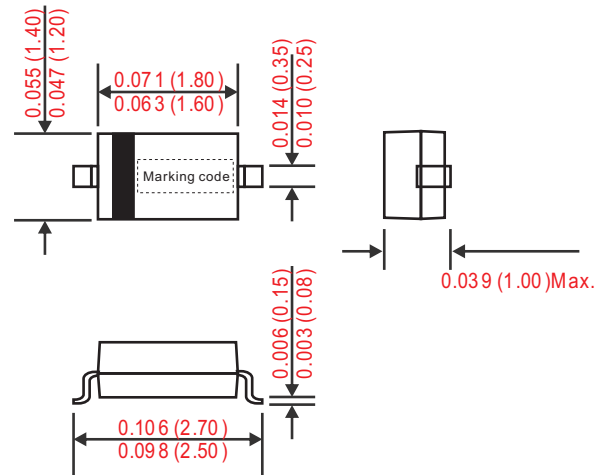
- Low current rectification and high speed switching.
- Extremely small surface mount type.
- Low forward voltage drop.
- Silicon epitaxial planar chip, metal silicon junction.
- Suffix "G" indicates Halogen-free part, ex. BAT42WSG.
- Lead-free parts for green partner, exceeds environmental standards of MIL-STD-19500 /228

Mechanical data

- Epoxy: UL94-V0 rated flame retardant
- Case : Molded plastic, SOD-323
- Terminals : Solder plated, solderable per MIL-STD-750, Method 2026
- Polarity : Indicated by cathode band
- Weight : 0.0002 ounce, 0.005 gram

Outline

SOD-323



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	BAT42WS	BAT43WS	UNIT
Marking code			S7	S8	
Peak Repetitive Reverse Voltage		V_{RRM}	30		V
Working Peak Reverse Voltage		V_{RWM}	30		V
DC Blocking Voltage		V_R	30		V
RMS Reverse Voltage		$V_{R(RMS)}$	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 ambient	$R_{\theta JA}$	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	$I_F = 200mA$ BAT42WS, BAT43WS $I_F = 10mA$ BAT42WS $I_F = 50mA$ BAT42WS $I_F = 2.0mA$ BAT43WS $I_F = 15mA$ BAT43WS	V_F	0.26	1.0 0.4 0.65 0.33 0.45	V
Reverse Current	$V_R = 25 V$ $V_R = 25 V, T_J = 100^\circ C$	I_R	0.5 100		uA
Junction Capacitance	$V_R = 0 V, f = 1.0MHz$	C_T	10		pF
Reverse Recover time	$I_F = I_R = 200mA$, $I_{rr} = 0.1 \times I_R$, $R_L = 100\Omega$	trr	5.0		ns

■ Rating and characteristic curves

Fig. 1 FORWARD CURRENT CURVE

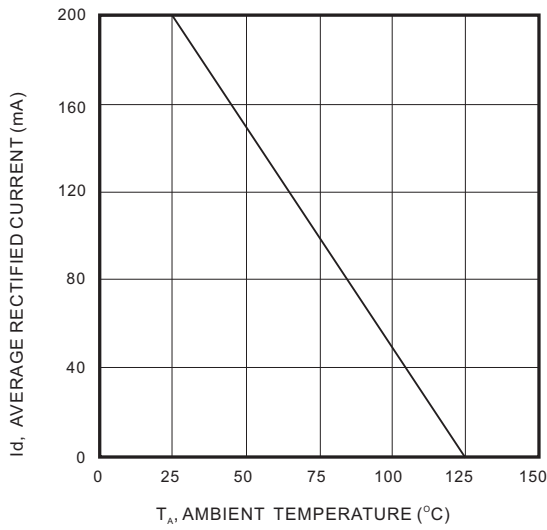


Fig. 2 TYPICAL FORWARD CHARACTERISTIC

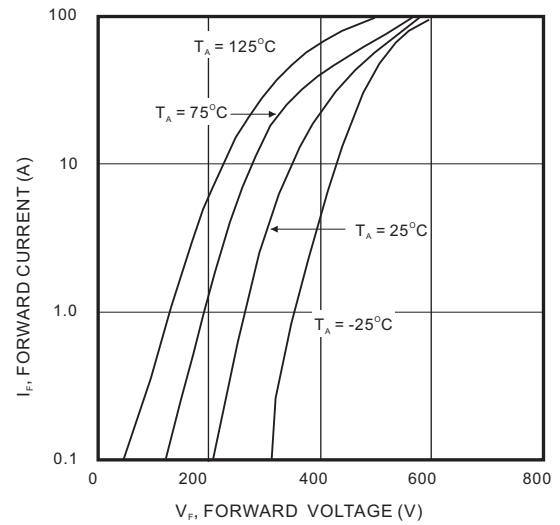


Fig. 3 TYPICAL REVERSE CHARACTERISTICS

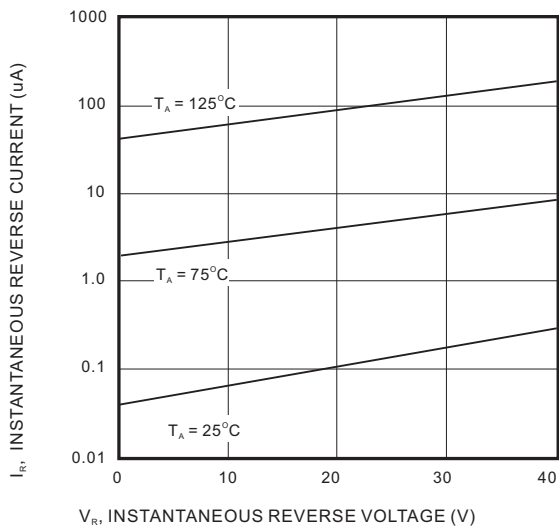
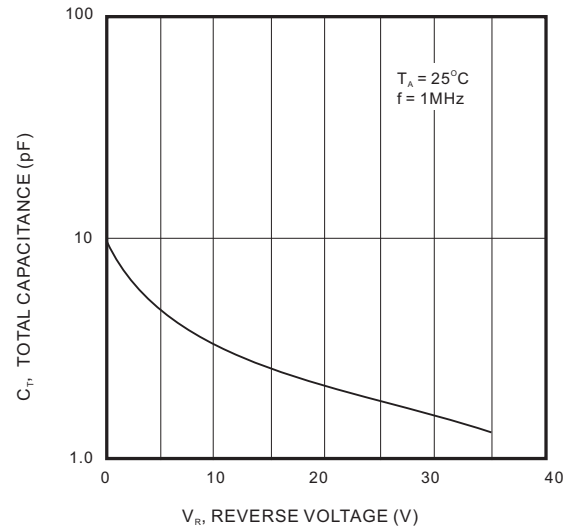


Fig. 4 TOTAL CAPACITANCE VS REVERSE VOLTAGE



■ SOD-323 foot print



A	B	C
0.059 (1.50)	0.039 (1.00)	0.051 (1.30)

Dimensions in inches and (millimeters)

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