

Features

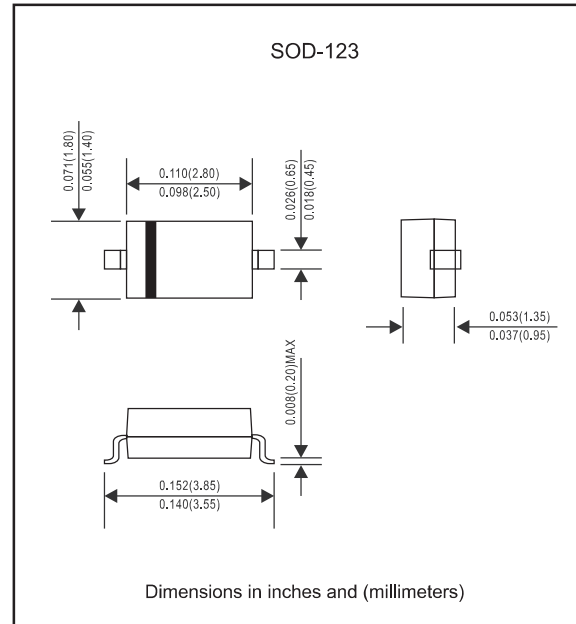
- ▶ For use in low voltage, high frequency inverters
- ▶ Free wheeling, and polarity protection applications

Mechanical data

- ▶ **Case:** JEDEC SOD-123 molded plastic body
- ▶ **Terminals:** Solder plated, solderable per MIL-STD-750, Method 2026
- ▶ **Polarity:** Color band denotes cathode end
- ▶ **Mounting Position:** Any



Package outline



Maximum ratings and Electrical Characteristics (AT $T_A=25^\circ\text{C}$ unless otherwise noted)

Parameter	Symbol	Limit	Unit
Peak repetitive peak reverse voltage	V_{RRM}	100	V
Working peak reverse voltage	V_{RWM}		
Forward continuous current	I_F	150	mA
Repetitive peak forward current (Note 1) @ $t_p < 1.0s$, Duty Cycle < 50%	I_{FRM}	350	mA
Non-repetitive Peak Forward surge current @ $t = 8.3ms$	I_{FSM}	750	mA
Power dissipation	P_D	500	mW
Thermal resistance junction to ambient air	$R_{\theta JA}$	200	$^\circ\text{C}/\text{W}$
Operating Junction Temperature Range	T_j	-40 ~ +125	$^\circ\text{C}$
Storage Temperature Range	T_{STG}	-55 ~ +150	$^\circ\text{C}$

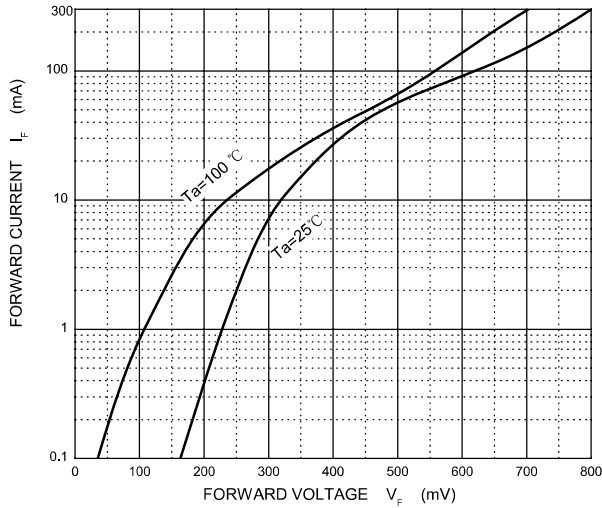
ELECTRICAL CHARACTERISTICS ($T_a=25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Reverse breakdown voltage(Note 2)	V_R	$I_R=100\mu\text{A}$	100			V
Reverse voltage leakage current	I_R	$V_{R1}=1.5\text{V}$			0.3	μA
		$V_{R2}=10\text{V}$			0.5	
		$V_{R3}=50\text{V}$			1	
		$V_{R4}=75\text{V}$			2	
Forward voltage(Note 2)	V_F	$I_{F1}=0.1\text{mA}$			0.25	V
		$I_{F2}=10\text{mA}$			0.45	
		$I_{F3}=250\text{mA}$			1	
Diode capacitance	C_T	$V_R=0, f=1\text{MHz}$		20		pF
		$V_R=1\text{V}, f=1\text{MHz}$		12		

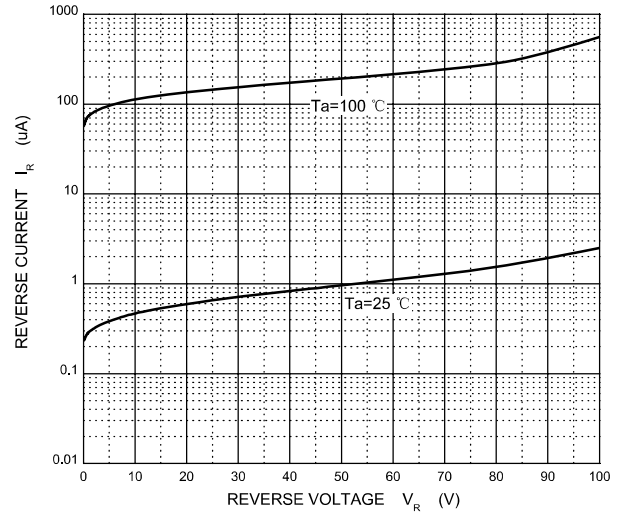
Notes: 1. Part mounted on FR-4 board with recommended pad layout.
 2. Short duration pulse test used to minimize self-heating effect.

Rating and characteristic curves

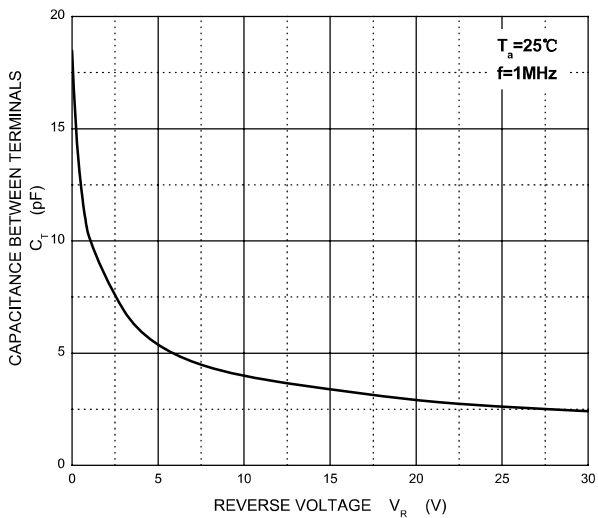
Forward Characteristics



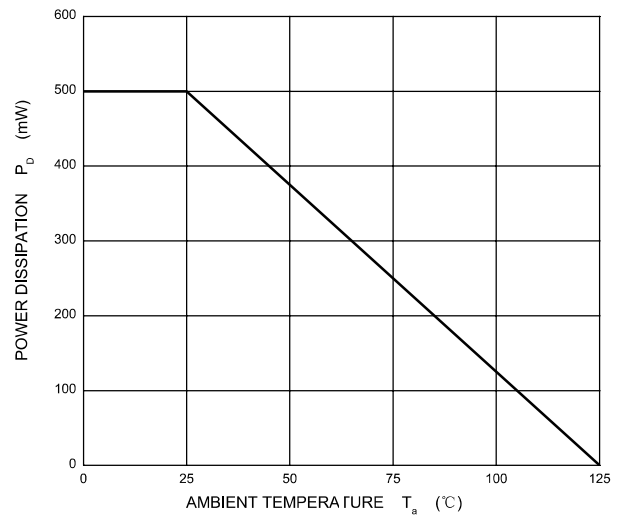
Reverse Characteristics



Capacitance Characteristics



Power Derating Curve



Marking

Type number	Marking code
BAT46W	S9

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