

Features

- Extremely low V_F
- Low stored charge, majority carrier conduction
- Low power loss/high efficient

HF

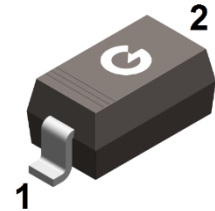
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Application

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

Mechanical Data

- Case: SOD-123
- Molding Compound: UL Flammability Classification Rating 94V-0
- Terminals: Matte tin-plated leads; solderability-per MIL-STD-202, Method 208



SOD-123

Ordering Information

Part Number	Package	Shipping Quantity	Marking Code
B5817WH	SOD-123	3000 pcs / Tape & Reel	SJH

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

Parameter	Symbol	Value	Unit
Non-Repetitive Peak Reverse Voltage	V_{RSM}	24	V
Peak Repetitive Reverse Voltage	V_{RRM}	20	V
Working Peak Reverse Voltage	V_{RWM}	20	V
DC Reverse Voltage	V_R	20	V
RMS Reverse Voltage	$V_{R(RMS)}$	14	V
Forward Continuous Current	I_F	1	A
Peak Forward Surge Current ($t_p = 8.3\text{ms}$)	I_{FSM}	10	A

Thermal Characteristics

Parameter	Symbol	Value	Unit
Power Dissipation	P_D	500	mW
Thermal Resistance (Junction-to-Ambient) ^{*1}	$R_{\theta JA}$	240	$^\circ\text{C/W}$
Thermal Resistance (Junction-to-Case) ^{*1}	$R_{\theta JC}$	125	$^\circ\text{C/W}$
Thermal Resistance (Junction-to-Lead) ^{*1}	$R_{\theta JL}$	180	$^\circ\text{C/W}$
Operating junction Temperature	T_J	-55 ~ +150	$^\circ\text{C}$
Storage Temperature Range	T_{STG}	-55 ~ +150	$^\circ\text{C}$

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

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Reverse Breakdown Voltage	$V_{(BR)R}$	$I_R = 1\text{mA}$	20	-	-	V
Forward Voltage	V_{F1}	$I_F = 1\text{A}$	-	-	0.50	V
	V_{F2}	$I_F = 3\text{A}$	-	-	0.75	V
Maximum Peak Reverse Current	I_R	$V_R = 20\text{V}$	-	-	1	mA
Typical Junction Capacitance	C_J	$V_R = 4\text{V}, f = 1\text{MHz}$	-	-	120	pF

Note 1: The data tested by surface mounted on a 1 inch² FR-4 board with 2OZ copper

Ratings and Characteristic Curves (@ $T_A = 25^\circ\text{C}$ unless otherwise specified)

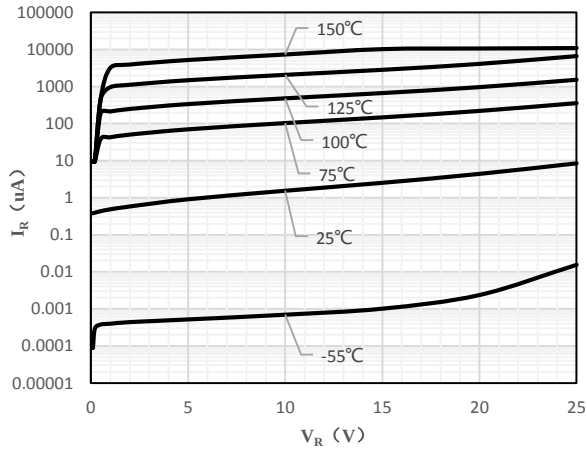


Fig 1 Typical Reverse Characteristic

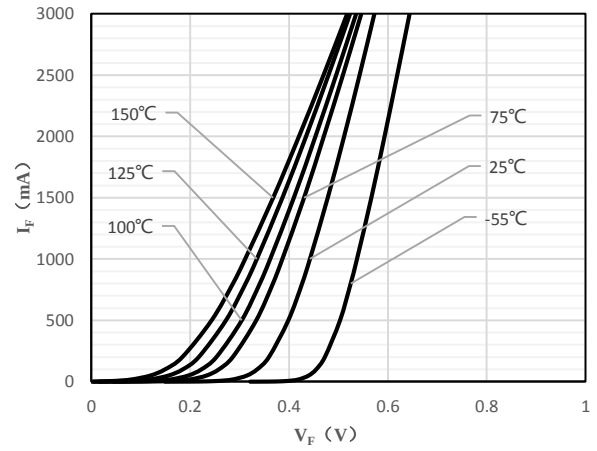


Fig 2 Typical Forward Characteristics

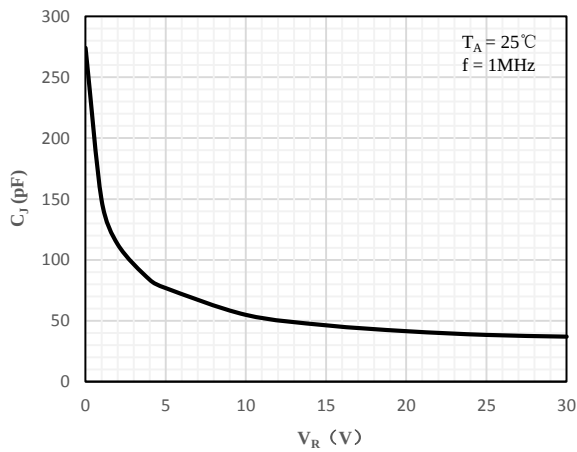


Fig 3 Capacitance Characteristics

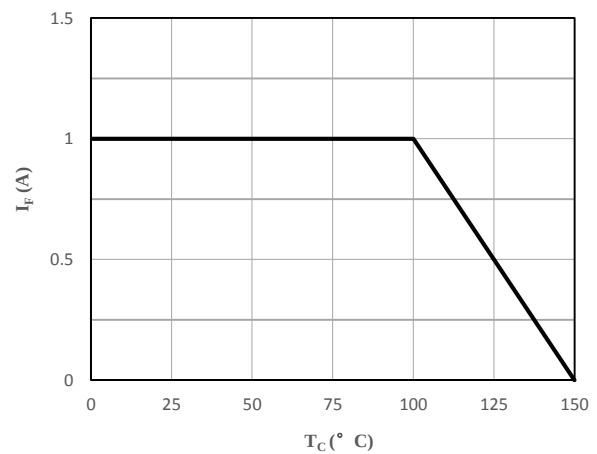


Fig 4 Derating Curve

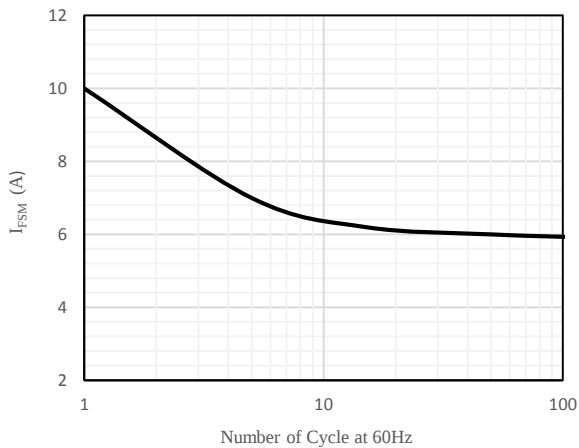
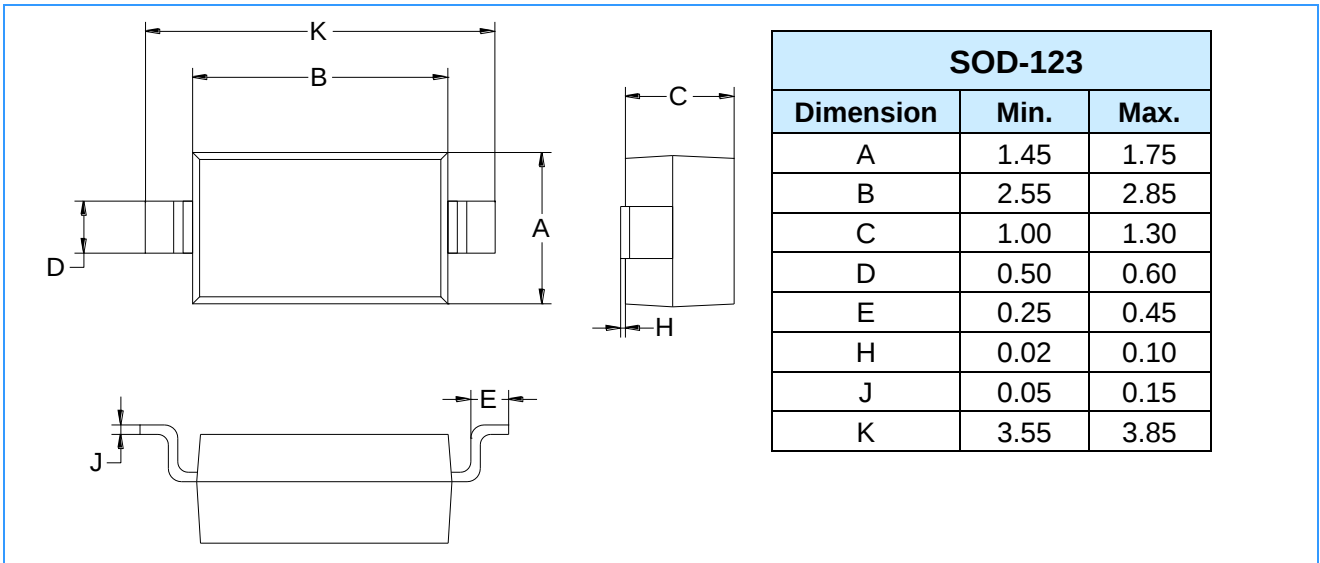


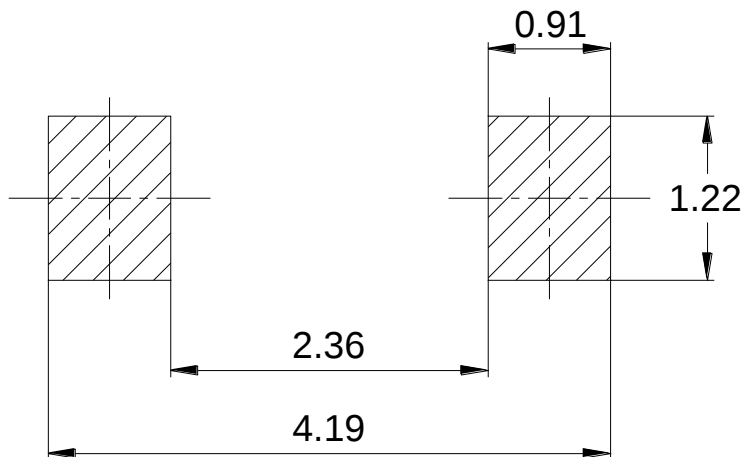
Fig 5 Surge Current Derating Curve

Package Outline Dimensions (Unit: mm)



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SOD-123



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