

Features

- High reliability
- Small surface mounting type
- Low reverse current and low forward voltage
- RoHS compliant with Halogen-free
- Qualified to AEC-Q101 Standards

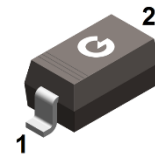
HF

Typical Applications

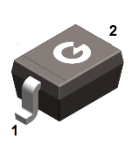
- For general purpose applications

Mechanical Data

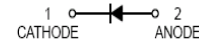
- Case: SOD-123, SOD-323
- Molding compound, UL flammability classification rating 94V-0
- Terminals: Tin plated leads, solderable per MIL-STD-202, Method 208



SOD-123



SOD-323



Ordering Information

Part Number	Package	Shipping	Marking Code
TB5818WH	SOD-123	3000 pcs / Tape & Reel	SKH
TB5818WSH	SOD-323	3000 pcs / Tape & Reel	SKH
TB5819WH	SOD-123	3000 pcs / Tape & Reel	SLH
TB5819WSH	SOD-323	3000 pcs / Tape & Reel	SLH

Maximum Ratings (@ T_A = 25°C unless otherwise specified)

Parameter	Symbol	TB5818W(S)H	TB5819W(S)H	Unit
Peak Repetitive Reverse Voltage	V _{RRM}	30	40	V
RMS Reverse Voltage	V _{RMS}	21	28	V
Maximum Average Forward Output Current	I _{F(AV)}	1		A
Peak Forward Surge Current, 8.3ms Single Half-sine-wave	I _{FSM}	10		A

Thermal Characteristics

Parameter	Symbol	TB5818WH/TB5819 WH	TB5818WSH/TB5819 WSH	Unit
Power Dissipation	P _D	500	250	mW
Typical Thermal Resistance per leg	R _{θJA} *	250	500	°C/W
Typical Thermal Resistance per leg	R _{θJL}	162	323	°C/W
Typical Thermal Resistance per leg	R _{θJC}	138	276	°C/W
Operating Junction Temperature Range	T _J	-55 to +150		°C
Storage Temperature Range	T _{STG}	-55 to +150		°C
* Part mounted on FR-4 board with recommended pad layout				

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

Parameter	Symbol	Test conditions	Min.	Typ.	Max.	Units
Reverse Breakdown Voltage	$V_{(BR)R}$	$I_R = 1\text{mA}$ TB5818W(S)H	30	-	-	V
		$I_R = 1\text{mA}$ TB5819W(S)H	40	-	-	V
Forward Voltage	V_F^*	$I_F = 1\text{A}$ TB5818W(S)H	-	-	0.55	V
		$I_F = 1\text{A}$ TB5819W(S)H	-	-	0.60	
		$I_F = 3\text{A}$ TB5818W(S)H	-	-	0.875	
		$I_F = 3\text{A}$ TB5819W(S)H	-	-	0.90	
Maximum Peak Reverse Current	I_{R}^{**}	$V_R = 30\text{V}$ TB5818W(S)H	-	-	1	mA
		$V_R = 40\text{V}$ TB5819W(S)H	-	-	1	
Capacitance Between Terminals	C_T	$V_R = 4\text{V}, f = 1\text{MHz}$	-	39	120	pF
*Pulse width $\leq 380\text{ us}$, Duty cycle $< 2\%$						
**pulse test , $t_p \leq 5\text{ms}$						

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

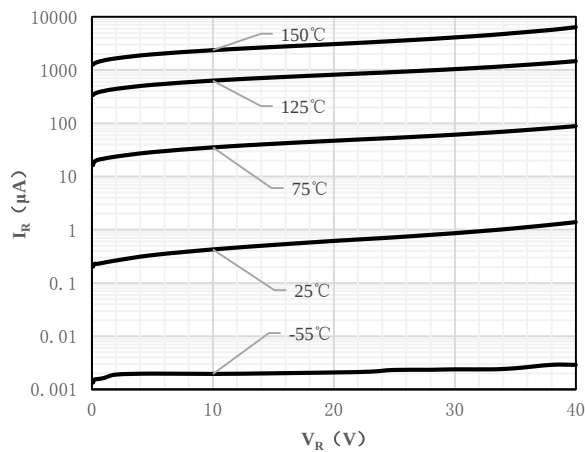


Fig 1 Typical Reverse Characteristic

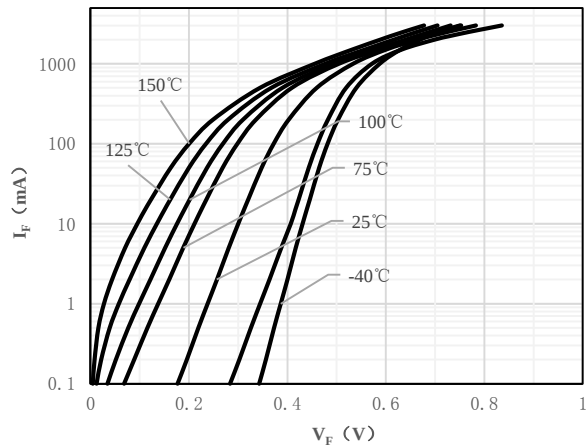


Fig 2 Typical Forward Characteristics

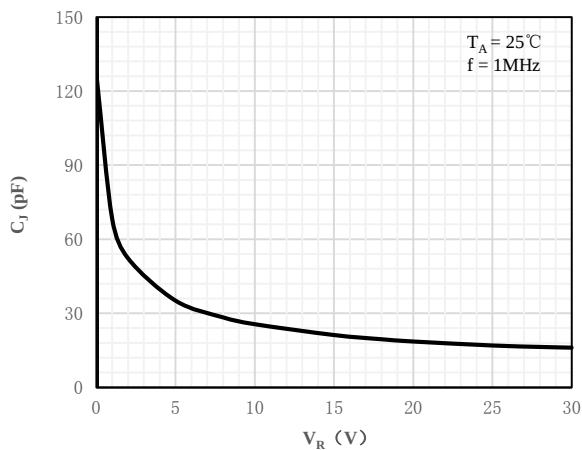


Fig 3 Capacitance vs. Reverse Voltage

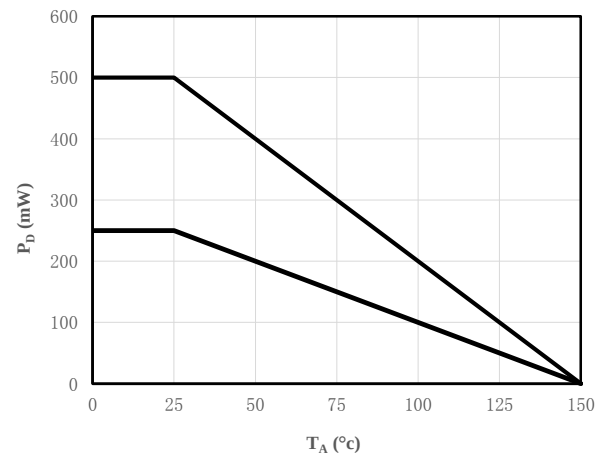
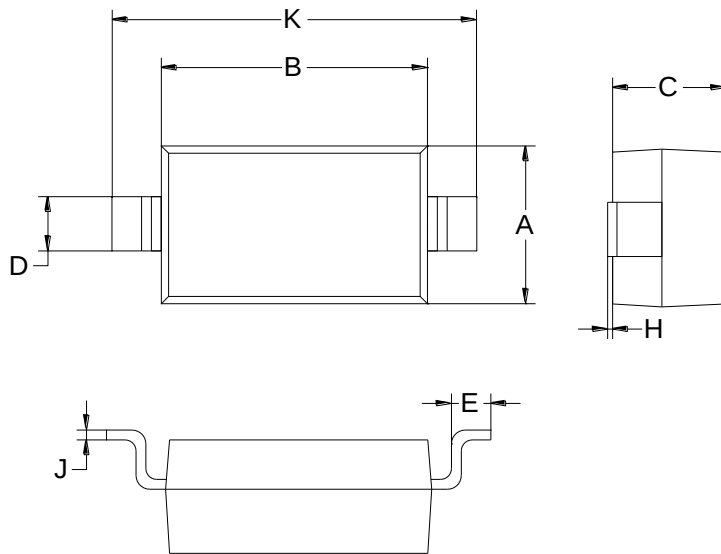


Fig 4 Derating Curve

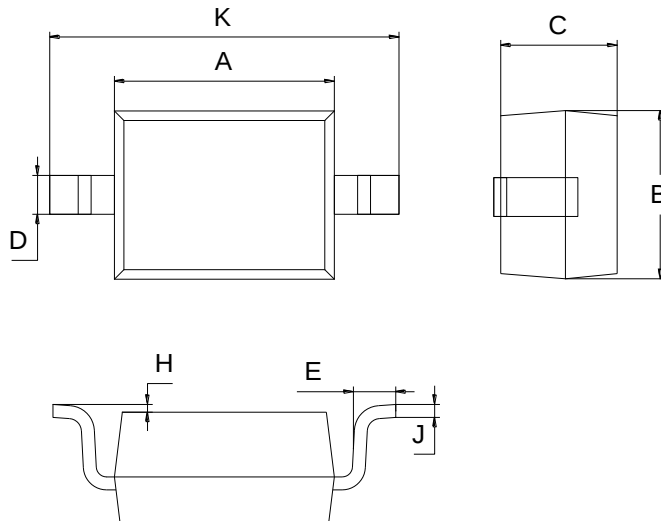
Package Outline Dimensions (unit: mm)

SOD-123



SOD-123		
Dim	Min	Max
A	1.45	1.75
B	2.55	2.85
C	1.00	1.30
D	0.50	0.60
E	0.25	0.45
H	0.02	0.10
J	0.05	0.15
K	3.55	3.85

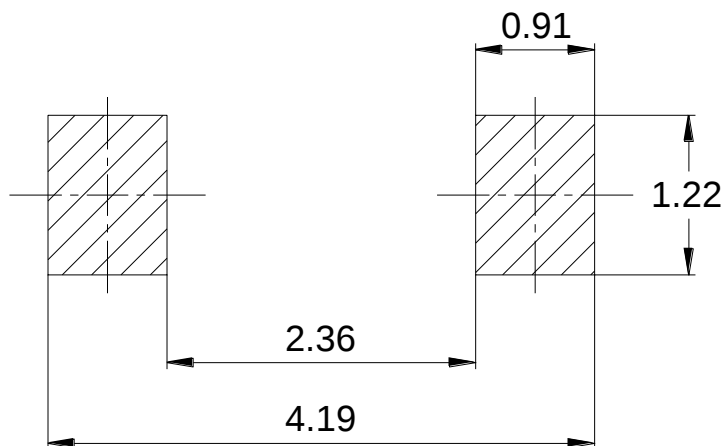
SOD-323



SOD-323		
Dim	Min	Max
A	1.60	1.80
B	1.20	1.40
C	0.80	0.90
D	0.25	0.35
E	0.22	0.42
H	0.02	0.10
J	0.05	0.15
K	2.55	2.75

Mounting Pad Layout (unit: mm)

SOD-123



SOD-323

