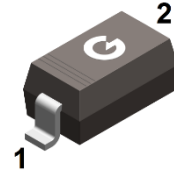


Features

- Low turn-on voltage
- Fast switching
- Ultra-small surface mount package
- PN junction guard ring for transient and ESD protection
- RoHS compliant with Halogen-free
- Qualified to AEC-Q101 Standards

HF

Cathode 1 Anode 2



SOD-123

Mechanical Data

- Case: SOD-123
- Molding compound: UL flammability classification rating 94-0
- Terminals: Tin-plated; solderability per MIL-STD-202, Method 208

Ordering Information

Part Number	Package	Shipping Quantity	Marking Code
TBAT54T	SOD-123	3000 pcs / Tape & Reel	L9

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

Parameter	Symbol	Value	Unit
Peak Repetitive Reverse Voltage	V _{RRM}	30	V
Working Peak Reverse Voltage	V _{RWM}		
DC Reverse Voltage	V _R		
Maximum Average Forward Output Current	I _{F(AV)}	200	mA
Repetitive Peak Forward Current	I _{FRM}	300	mA
Forward Surge Current @ t _p < 1s	I _{FSM}	600	mA

Thermal Characteristics

Parameter	Symbol	Value	Unit
Power Dissipation (T _A = 25°C)	P _D	350	mW
Thermal Resistance Junction-to-Air *1	R _{θJA}	375	°C/W
Thermal Resistance Junction-to-Case *1	R _{θJC}	210	°C/W
Thermal Resistance Junction-to-Lead *1	R _{θJL}	235	°C/W
Operating junction Temperature	T _J	-55 ~ +150	°C
Storage Temperature Range	T _{STG}	-55 ~ +150	°C

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

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Reverse Breakdown Voltage	$V_{(BR)}$	$I_R = 100\mu\text{A}$	30	-	-	V
Forward Voltage *2	V_F	$I_F = 0.1\text{mA}$	-	-	0.24	V
		$I_F = 1\text{mA}$	-	-	0.32	V
		$I_F = 10\text{mA}$	-	-	0.40	V
		$I_F = 30\text{mA}$	-	-	0.50	V
		$I_F = 100\text{mA}$	-	-	1.00	V
Maximum Peak Reverse Current *3	I_R	$V_R = 25\text{V}$	-	-	2	μA
Capacitance Between Terminals	C_T	$V_R = 1\text{V}, f = 1\text{MHz}$	-	-	10	pF
Reverse Recovery Time	t_{rr}	$I_F = I_R = 10\text{mA}$ $I_{rr} = 0.1 \cdot I_R, R_L = 100\Omega$	-	-	5	ns

Notes:

1. The data tested by surface mounted on a 15mm * 15mm * 1mm FR4-epoxy P.C.B
2. Pulse test, $t_p \leq 300\mu\text{s}$
3. Pulse test, $t_p \leq 5\text{ms}$

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

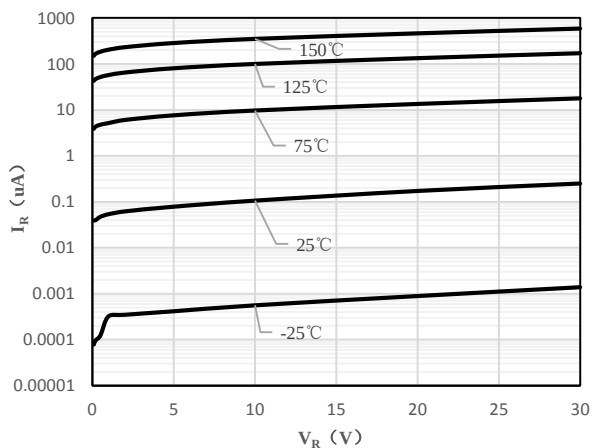


Fig 1 Typical Reverse Characteristic

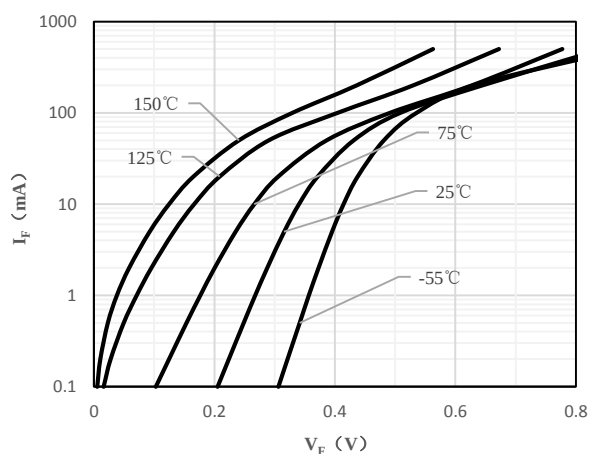


Fig 2 Typical Forward Characteristics

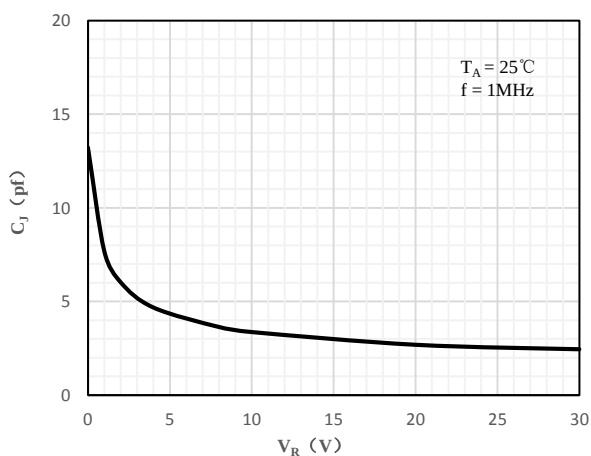


Fig 3 Capacitance vs. Reverse Voltage

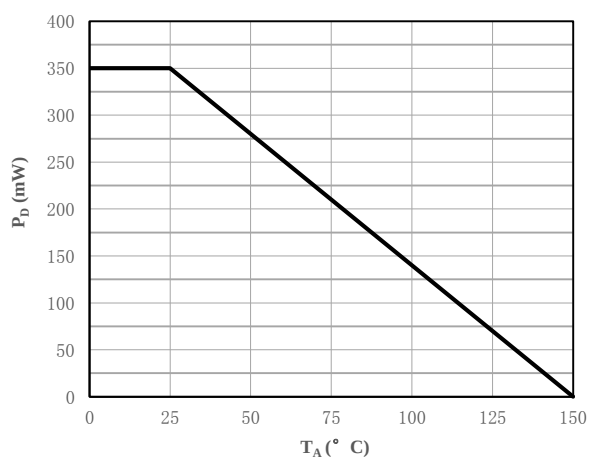
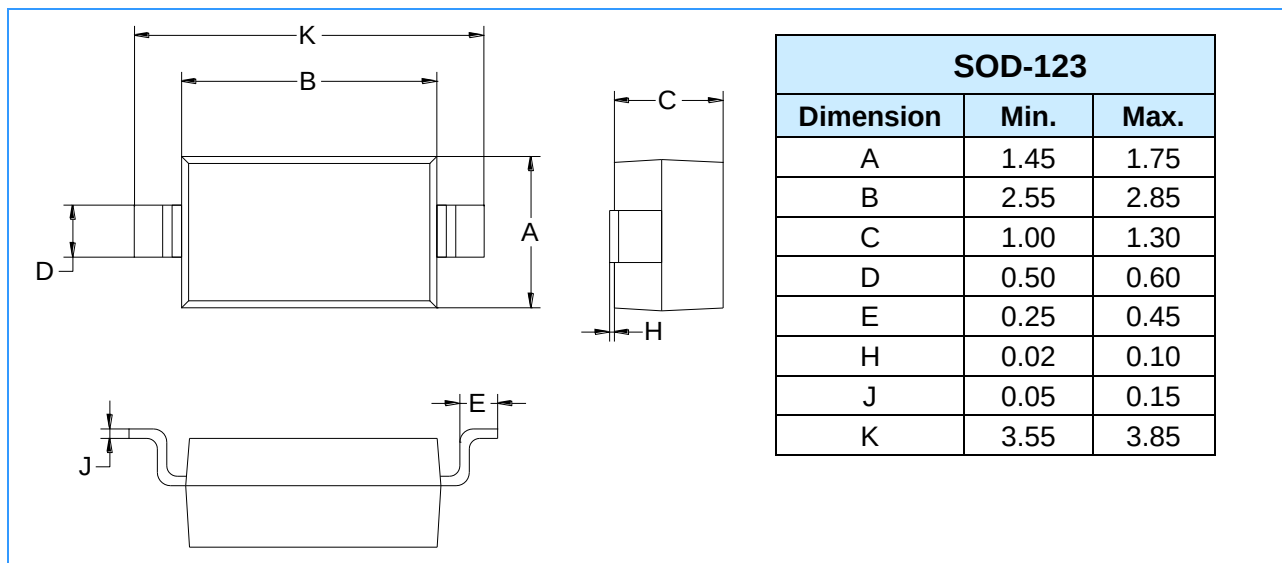


Fig 4 Power Derating Curve

Package Outline Dimensions (Unit: mm)



Package Outline Dimensions (Unit: mm)

