

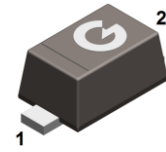
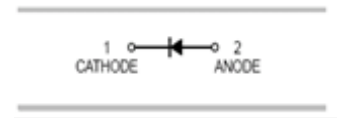
Features

- Fast switching
- Low forward voltage

HF

Mechanical Data

- Case: SOD-523
- Molding compound: UL flammability classification rating 94-0
- Terminals: Tin-plated; solderability per MIL-STD-202, Method 208



SOD-523

Ordering Information

Part Number	Package	Shipping Quantity	Marking Code
BAT54X	SOD-523	3000 pcs / Tape & Reel	JV

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
Forward Surge Current @ t _p < 1s	I _{FSM}	600	mA

Thermal Characteristics

Parameter	Symbol	Value	Unit
Power Dissipation *2	P _D	150	mW
Thermal Resistance (Junction-to-Ambient) *1	R _{ΘJA}	269	°C/W
Thermal Resistance (Junction-to-Case) *1	R _{ΘJC}	182	°C/W
Thermal Resistance (Junction-to-Lead) *1	R _{ΘJL}	194	°C/W
Operating junction Temperature	T _J	-55 ~ +125	°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 *3	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
		$I_F = 100\text{mA}$	-	-	0.80	V
Maximum Peak Reverse Current *4	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 25.4mm * 25.4mm * 1mm FR4-epoxy P.C.B
2. The data tested by surface mounted on FR-4 board with recommended pad layout
3. Pulse test, $t_p \leq 300\mu\text{s}$
4. 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

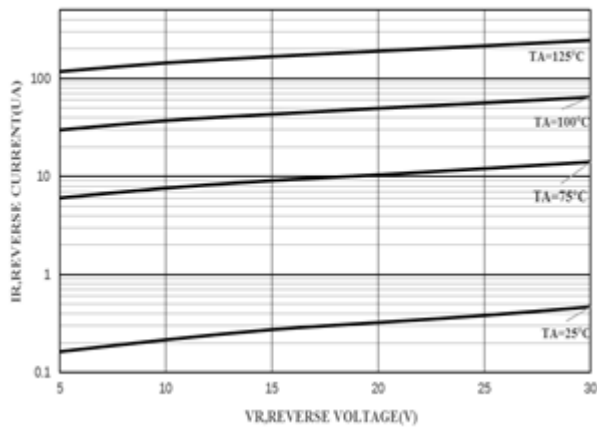


FIG 2.TYPICAL FORWARD CHARACTERISTIC

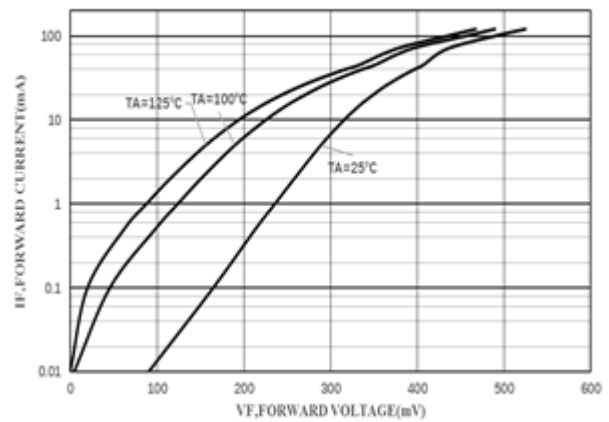


FIG 3.CAPACITANCE VS REVERSE VOLTAGE

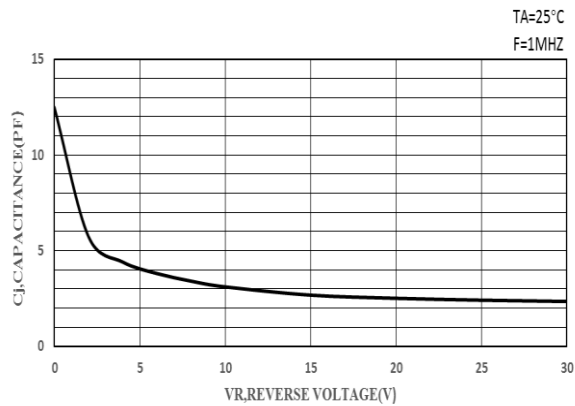
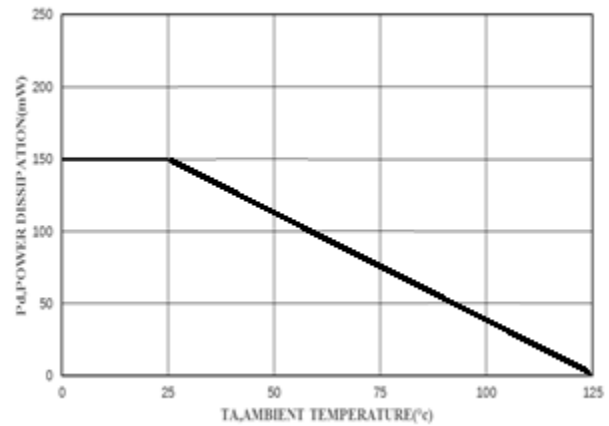
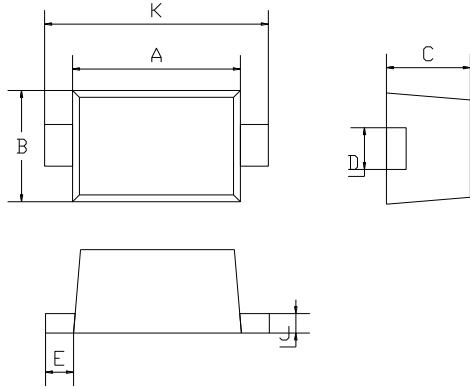


FIG 4.DERATING CURVE(P_d - T_A)



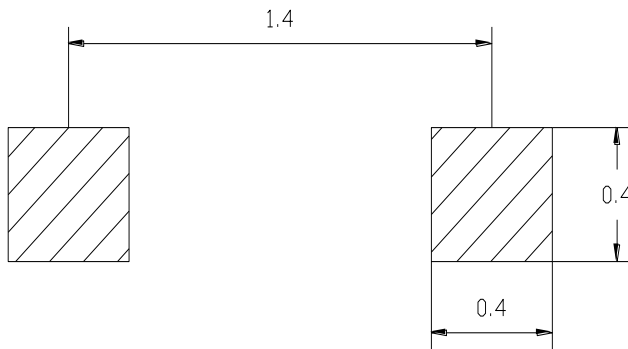
Package Outline Dimensions (Unit: mm)



SOD-523		
Dimension	Min.	Max.
A	1.10	1.30
B	0.70	0.90
C	0.50	0.70
D	0.25	0.35
E	0.15	0.25
J	0.05	0.15
K	1.50	1.70

Package Outline Dimensions (Unit: mm)

SOD-523



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