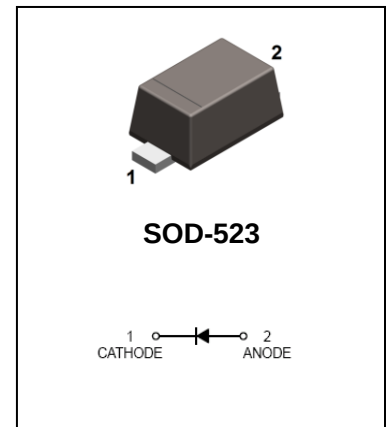


Features

- Fast switching speed
- High conductance

Mechanical Data

- Case: SOD-523
- Molding Compound: UL Flammability Classification Rating 94V-0
- Terminals: Matte tin-plated leads; solderability-per MIL-STD-202, Method 208



Ordering Information

Part Number	Package	Shipping Quantity	Marking Code
TKBAS521	SOD-523	8000 pcs / Tape & Reel	A

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

Parameter	Symbol	Value	Unit
Peak Repetitive Peak Reverse Voltage	V _{RRM}	300	V
DC Blocking Voltage	V _R	300	V
Continuous Forward Current (T _S ≤ 90°C) *1	I _F	250	mA
Peak Forward Surge Current, 1ms square wave	I _{FSM}	4.5	A
Repetitive Forward Current, 1ms	I _{FRM}	1	A

Thermal Characteristics

Parameter	Symbol	Value	Unit
Power Dissipation (T _S ≤ 90°C) *1	P _D	500	mW
Thermal Resistance Junction-to-Air *2	R _{θJA}	400	°C/W
Thermal Resistance Junction-to-Case *2	R _{θJC}	285	°C/W
Thermal Resistance Junction-to-Lead *2	R _{θJL}	315	°C/W
Operating Junction Temperature Range	T _J	-65 ~ +150	°C
Storage Temperature Range	T _{STG}	-65 ~ +150	°C

Notes:

1. T_S is the temperature at the soldering point of the cathode tab
2. The data tested by surface mounted on a 22mm * 17mm * 1mm FR4-epoxy P.C.B

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

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Reverse Breakdown Voltage	$V_{(BR)R}$	$I_R = 100\mu\text{A}$	300	-	-	V
Forward Voltage	V_F	$I_F = 100\text{mA}$	-	-	1.10	V
Maximum Peak Reverse Current	I_R	$V_R = 250\text{V}$	-	-	0.15	μA
		$V_R = 250\text{V}, T_J = 150^\circ\text{C}$	-	-	100	μA
Total Capacitance	C_J	$V_R = 0\text{V}, f = 1.0\text{MHz}$	-	-	5	pF
Reverse Recovery Time	t_{rr}	$I_F = I_R = 30\text{mA}$	-	-	50	ns
		$I_{rr} = 0.1 \times I_R, R_L = 100\Omega$				

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

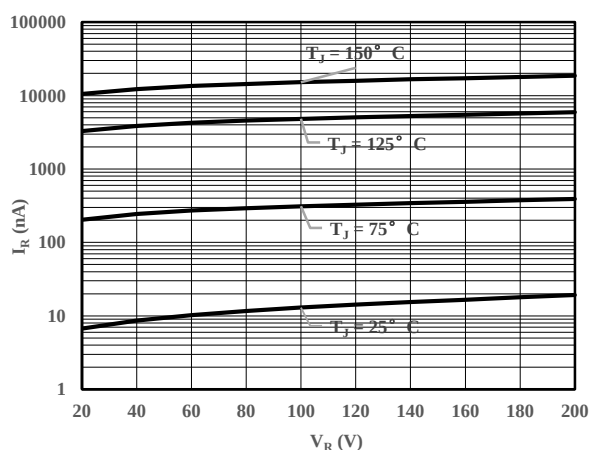


Fig 1 Typical Reverse Characteristic

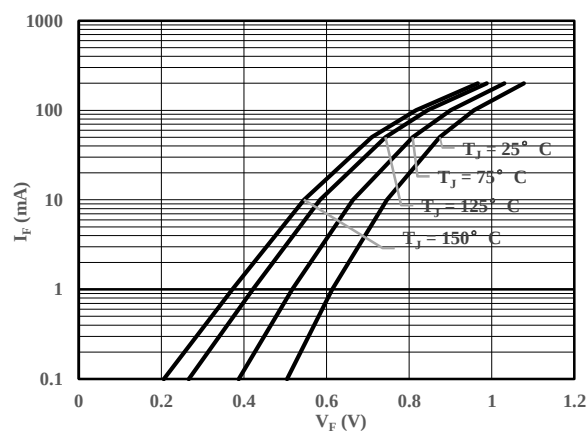
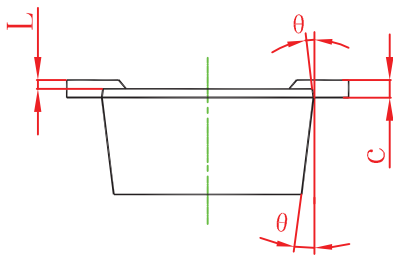
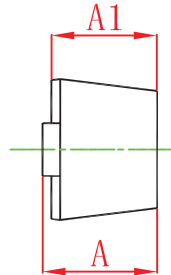
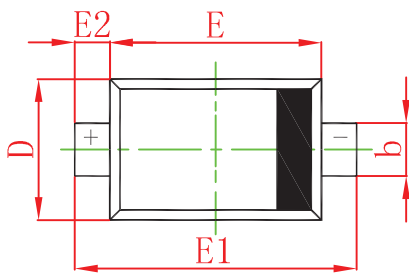
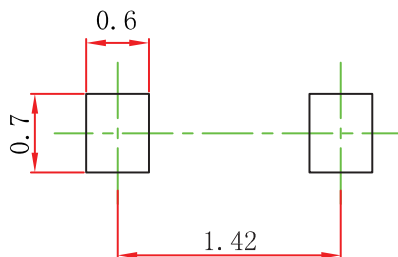


Fig 2 Typical Forward Characteristics



Symbol	Dimensions In Millimeters	
	Min	Max
A	0.530	0.590
A1	0.515	0.580
b	0.250	0.350
c	0.080	0.150
D	0.750	0.850
E	1.100	1.300
E1	1.500	1.700
E2	0.200 REF	
L	0.010	0.070
θ	7° REF	

SOD-523 Suggested Pad Layout



Note:

1. Controlling dimension: in millimeters.
2. General tolerance: $\pm 0.05\text{mm}$.
3. The pad layout is for reference purposes only.