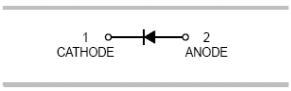
High Speed Switching Diode

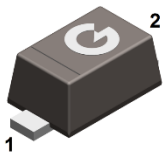
TBAS516

Features

HF

- High switching speed
- Continuous reverse voltage
- Repetitive peak reverse voltage
- Repetitive peak forward current
- Halogen free
- Qualified to AEC-Q101 standards for high reliability





SOD-523

Typical Applications

- High-speed switching in surface mounted circuits

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
TBAS516	SOD-523	3000 pcs / Tape & Reel	61

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

Parameter	Symbol	Value	Unit
Peak Repetitive Peak Reverse Voltage DC Blocking Voltage	V_{RRM} V_R	100	V
Continuous Forward Current	I_F	250	mA
Repetitive Forward Current	I_{FRM}	500	mA
Peak Forward Surge Current, t_p = 1μs	I_{FSM}	4	A
Peak Forward Surge Current, t_p = 1ms	I_{FSM}	1	A
Peak Forward Surge Current, t_p = 1s	I_{FSM}	0.5	A

Thermal Characteristics

Parameter	Symbol	Value	Unit
Power Dissipation	P_D	200	mW
Thermal Resistance Junction-to-Air *1	$R_{\theta JA}$	458	°C/W
Thermal Resistance Junction-to-Case *1	$R_{\theta JC}$	286	°C/W
Thermal Resistance Junction-to-Lead *1	$R_{\theta JL}$	324	°C/W
Operating Junction Temperature Range	T_J	-65 ~ +150	°C
Storage Temperature Range	T_{STG}	-65 ~ +150	°C

Electrical Characteristics (@ T_A = 25°C unless otherwise specified)

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Forward Voltage	V_F	I_F = 1.0mA	-	-	0.715	V
		I_F = 10mA	-	-	0.855	
		I_F = 50mA	-	-	1.0	
		I_F = 150mA	-	-	1.25	
Maximum Peak Reverse Current	I_R	V_R = 25V, T_J = 25°C	-	-	30	nA
		V_R = 25V, T_J = 125°C	-	-	30	μA
		V_R = 75V, T_J = 25°C	-	-	1	
		V_R = 75V, T_J = 150°C	-	-	50	
Total Capacitance	C_J	V_R = 0V, f = 1.0MHz	-	-	1	pF
Reverse Recovery Time	t_{rr}	I_F = I_R = 10mA, R_L = 400Ω	-	-	4	ns

Note 1: The data tested by surface mounted on a 15mm * 15mm * 1mm FR4-epoxy P.C.B

Ratings and Characteristic Curves (@ T_A = 25°C unless otherwise specified)

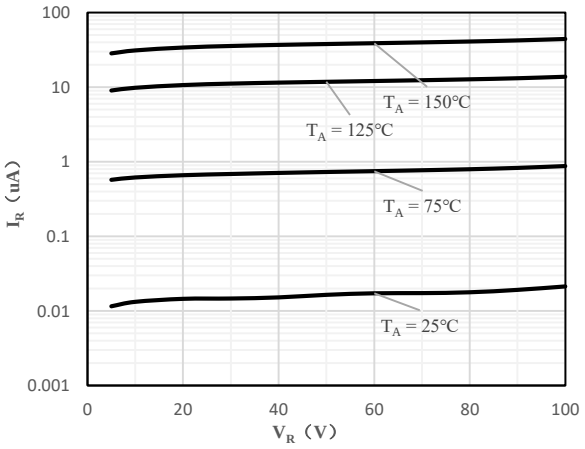


Fig 1 Typical Reverse Characteristic

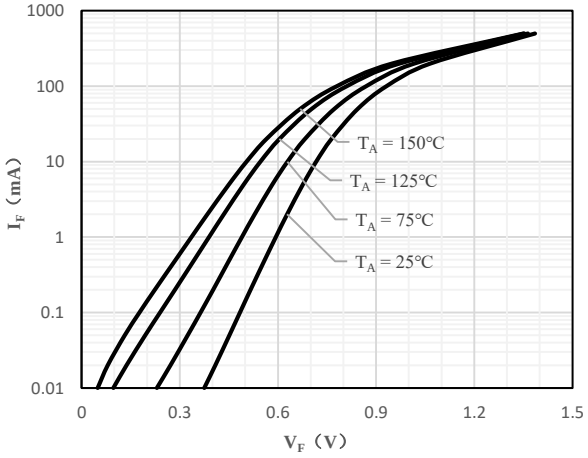


Fig 2 Typical Forward Characteristic

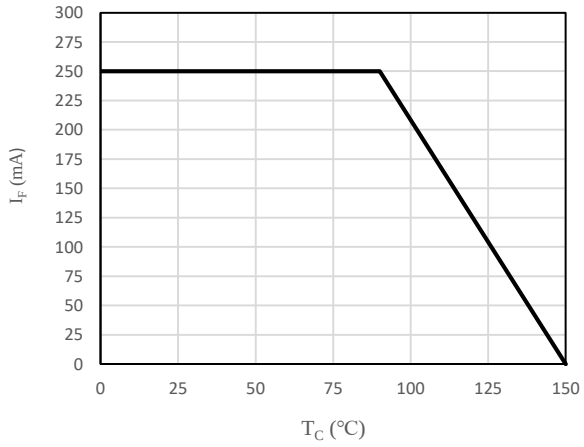


Fig 3 Current Derating Curve

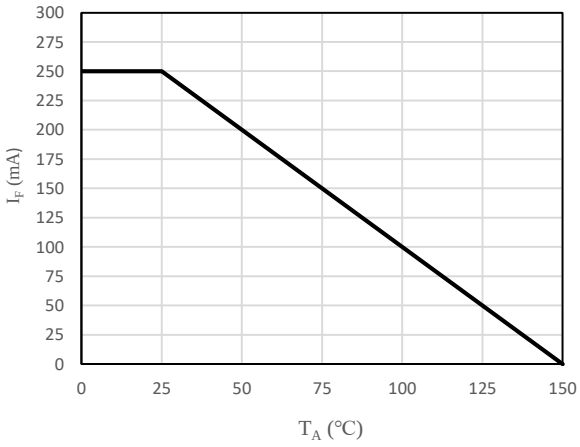


Fig 4 Current Derating Curve

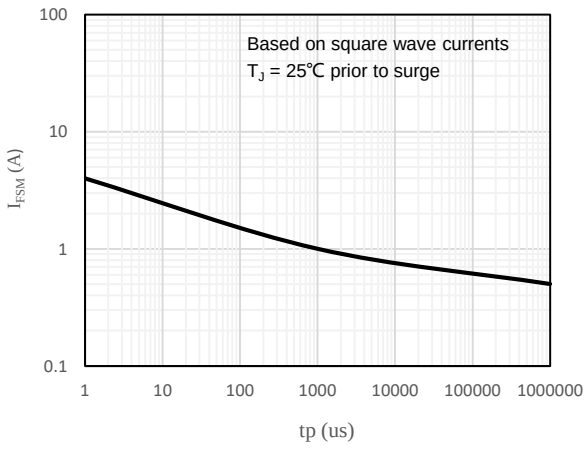


Fig 5 Non-repetitive peak forward current as a function of pulse duration; maximum values

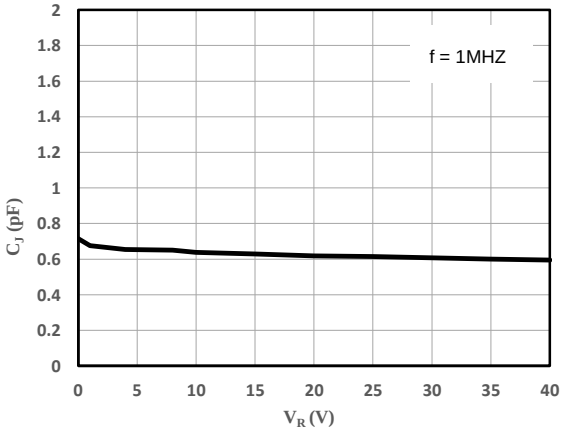
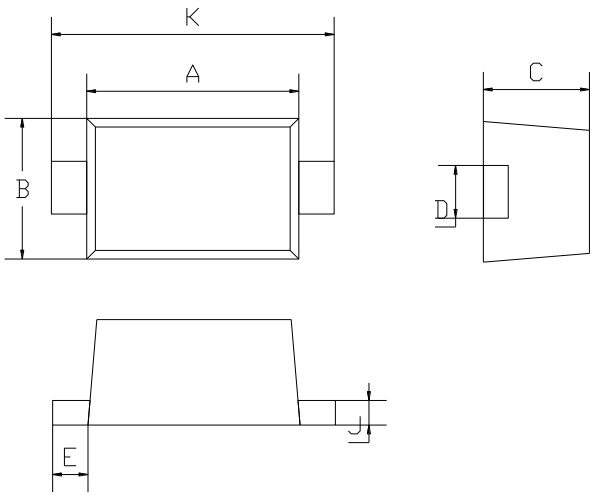


Fig 6 Diode capacitance as a function of reverse voltage; typical values

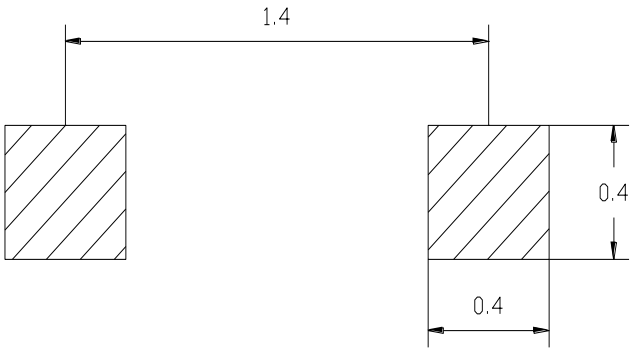
Package Outline Dimensions (Unit: mm)



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

Mounting Pad Layout (Unit: mm)

SOD-523



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