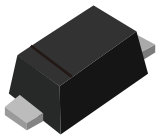
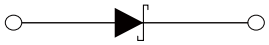
FEATURES

- SOD-523 Package
- Epoxy meets UL-94 V-0 flammability rating and halogen free
- Meet AEC-Q101 Requirements



SOD-523

Marking



Schematic Symbol

APPLICATIONS

- Extreme fast switches
- Automotive

APPROVALS

RoHS	Compliance with 2011/65/EU
HF	Compliance with IEC61249-2-21:2003

MAXIMUM RATINGS (T_A=25°C)

Parameter	Symbol	Value	Unit
Non-repetitive peak reverse voltage	V_{RM}	30	V
DC blocking voltage	V_R	21	V
Average rectified output current	I_O	100	mA
Forward continuous current	I_F	200	mA
Repetitive peak forward current	I_{FRM}	300	mA
Non-Repetitive Peak Forward Surge Current @t=8.3ms; TA=25°C	I_{FSM}	600	mA
Power Dissipation	P_D	150	mW
Thermal Resistance Junction to Ambient Air	$R_{\theta JA}$	667	°C/W
Operating Junction Temperature	T_J	-40-+125	°C
Storage Temperature Range	T_{STG}	-50-+150	°C

ELECTRICAL CHARACTERISTICS(T_A=25°C)

Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Reverse Voltage Leakage Current	I_R	V_R=25V			2.0	μA
Reverse breakdown voltage	V_{BR}	I_R=100μA	30			V
Forward Voltage	V_F	I_F=0.1mA			240	mV
		I_F=1.0mA			320	
		I_F=10mA			400	
		I_F=30mA			500	
		I_F=100mA			1000	
Reverse recovery time	t_{rr}	I_F=10mA, I_R=10mA to 1mA, RL=100Ω			5.0	ns
Capacitance between terminals	C_T	V_R=1V, f =1MHz			10	pF

CHARACTERISTIC CURVES

Fig.1 Forward Characteristics

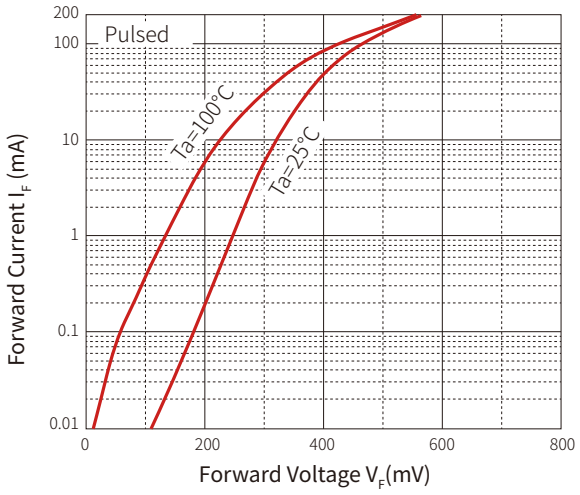


Fig.2 Reverse Characteristics

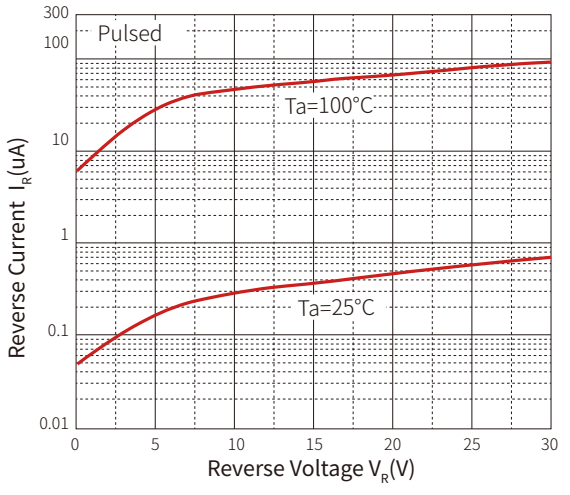


Fig.3 Capacitance Characteristics

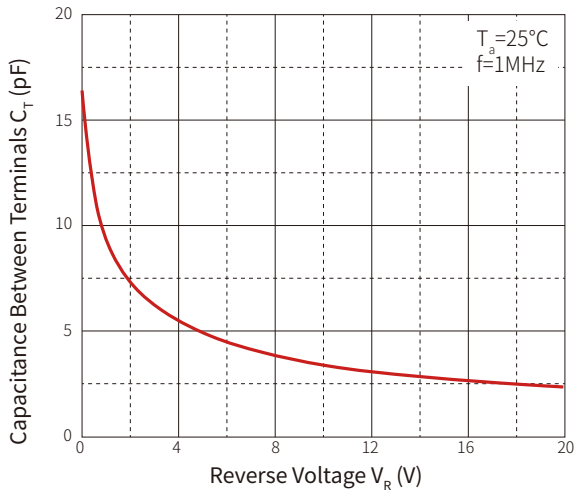
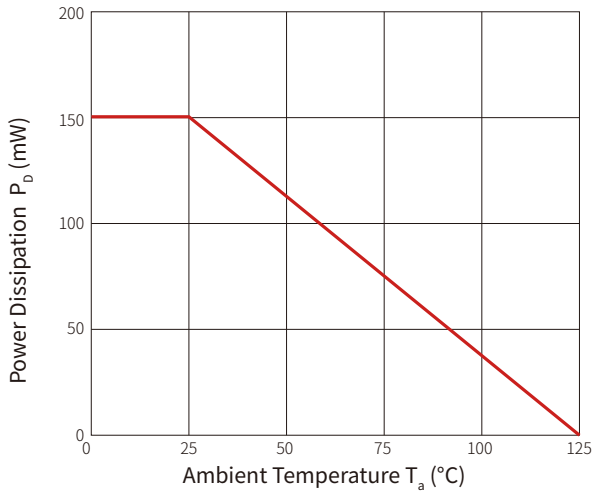
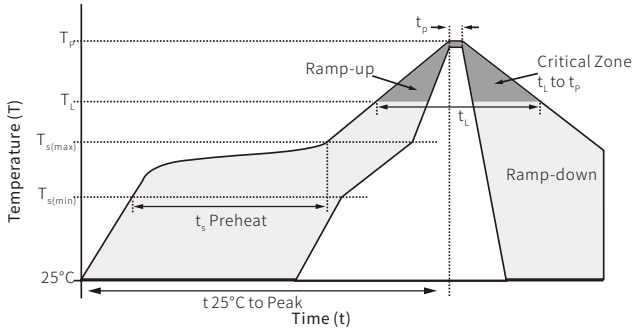


Fig.4 Power Derating Curve

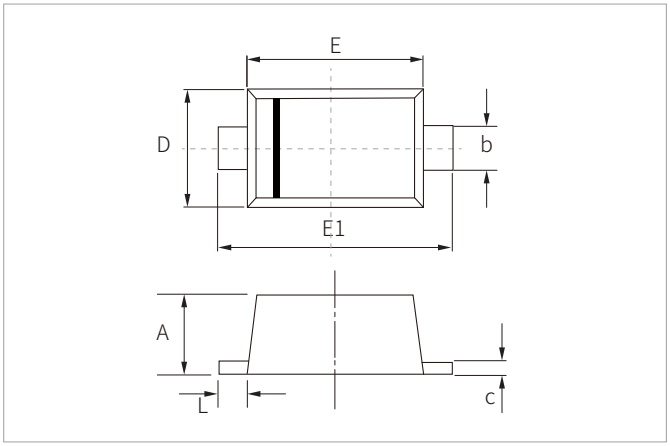


SOLDERING PARAMETERS

Reflow Condition		Lead–free assembly
Pre Heat	Temperature Max ($T_{s(min)}$)	150°C
	Temperature Max ($T_{s(max)}$)	200°C
	Time (min to max) (t_s)	60 – 180 secs
Average ramp up rate (Liquidus Temp (T_L) to peak		3°C/second max
$T_{S(max)}$ to T_L - Ramp-up Rate		3°C/second max
Reflow	Temperature (T_L) (Liquidus)	217°C
	Time (min to max) (t_L)	60 – 150 seconds
Peak Temperature (T_P)		260°C
Time within 5°C of actual peak Temperature (t_p)		20 – 40 seconds
Ramp-down Rate		6°C/second max
Time 25°C to peak Temperature (T_P)		8 minutes max.
Do not exceed		260°C

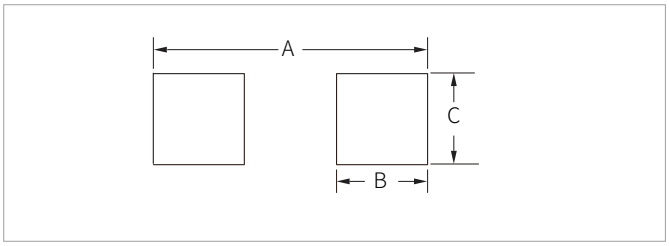


SOD-523 PACKAGE INFORMATION



Ref.	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	0.50	0.80	0.020	0.031
b	0.25	0.35	0.010	0.014
c	0.07	0.20	0.003	0.008
D	0.70	0.90	0.028	0.035
E	1.10	1.30	0.043	0.051
E1	1.50	1.70	0.059	0.067
L	0.15	0.25	0.006	0.010

RECOMMENDED PAD LAYOUT DIMENSIONS



Ref.	Millimeters	Inches
	Min.	Min.
A	2.00	0.0787
B	0.60	0.0236
C	0.70	0.0276

ORDERING INFORMATION

Part Number	Component Package	QTY/Reel	Reel Size
BAT54XQ	SOD-523	3000PCS	7”

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