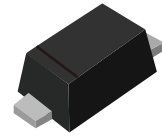


FEATURES

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



SOD-523

APPLICATIONS

- | Extreme fast switches
- | Automotive



Marking



Schematic Symbol

APPROVALS

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

MAXIMUM RATINGS (T_A = 25°C)

Parameter	Symbol	Value	Unit
DC reverse voltage	V _R	40	V
Forward Continuous Current (DC)	I _F	1	A
Non-Repetitive Peak Forward Surge Current @t=8.3ms; T _A =25°C	I _{FSM}	7	A
Power Dissipation	P _D	500	mW
Typical Thermal Resistance	R _{θJA}	250	°C/W
Operating Junction Temperature	T _J	-40-+125	°C
Storage Temperature Range	T _{STG}	-50-+150	°C

ELECTRICAL CHARACTERISTICS($T_A=25^\circ\text{C}$)

Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Forward voltage	V_F	$I_F=0.1\text{mA}$		0.35	0.38	V
		$I_F=0.2\text{mA}$		0.37	0.40	V
		$I_F=0.5\text{mA}$		0.42	0.49	V
		$I_F=0.7\text{mA}$		0.47	0.55	V
		$I_F=1\text{A}$		0.51	0.61	V
Reverse breakdown voltage	V_{BR}	$I_R=1\text{mA}$	40			V
Total capacitance	C_{tot}	$V_R=10\text{V}$, $f=1\text{MHz}$		19		pF
Reverse voltage leakage current	I_R	$V_R=40\text{V}$		10	40	μA

CHARACTERISTIC CURVES

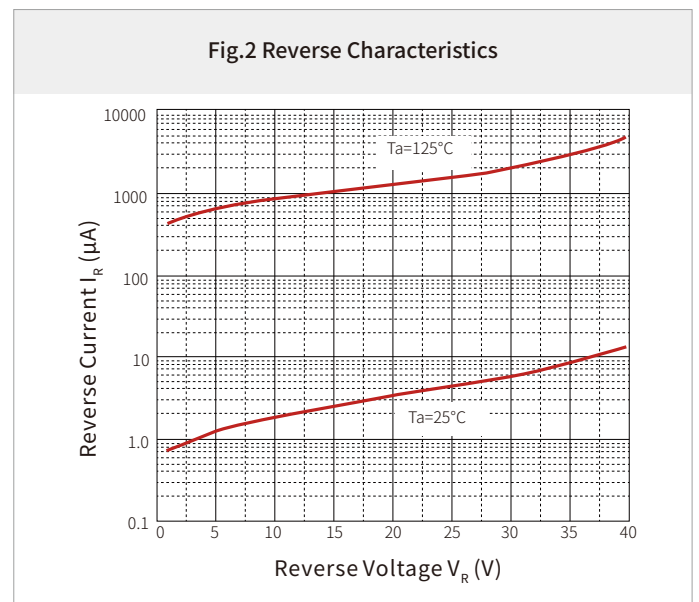
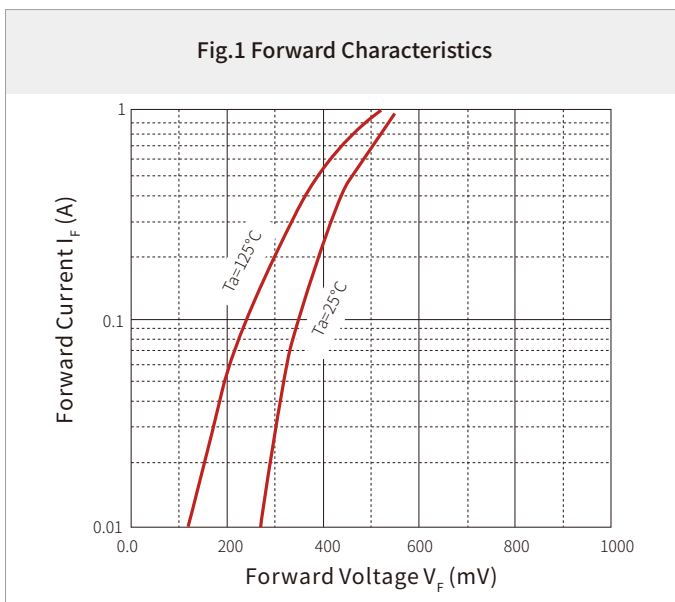
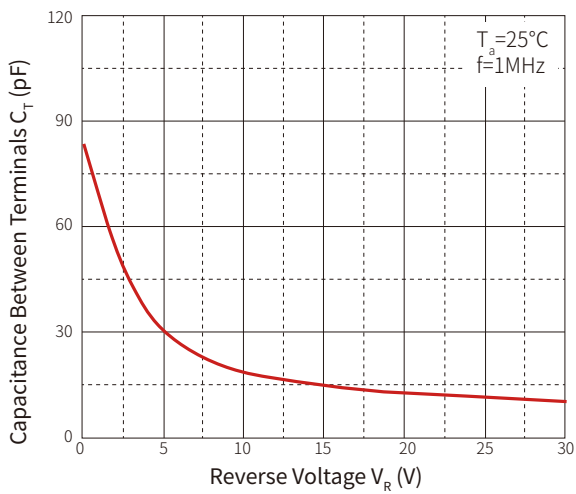
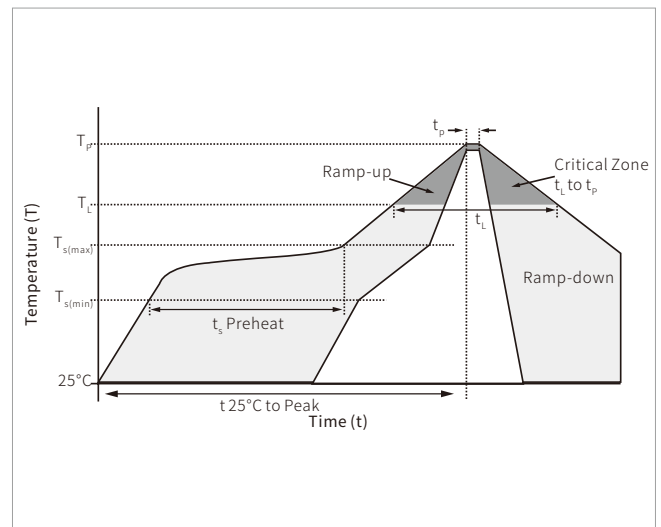


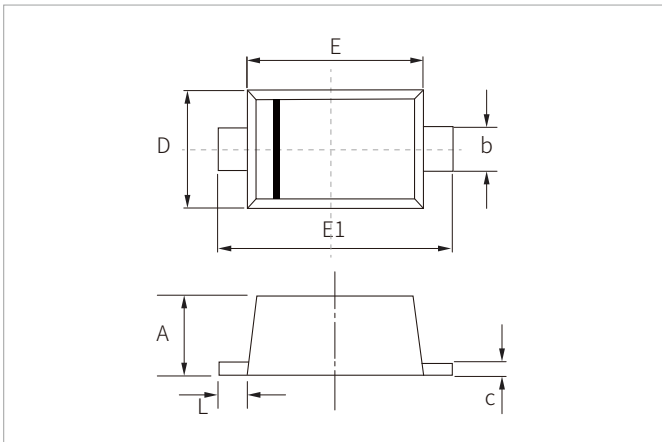
Fig.3 Capacitance Characteristics


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

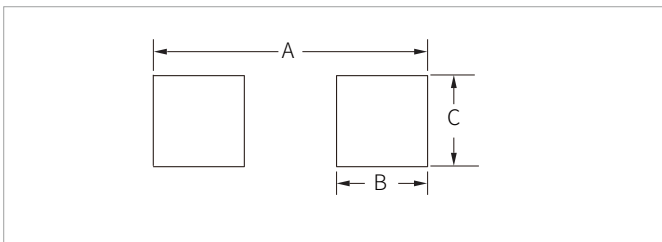


SOD-523 PACKAGE INFORMATION



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
RB551S-40Q	SOD-523	3000PCS	7"

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