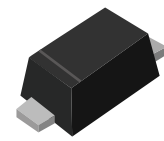
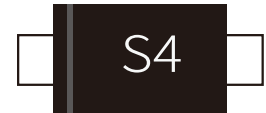


FEATURES

- | Low Forward Voltage Drop
- | Extremely Small SOD-523 Package
- | Surface Device Type Mounting
- | Green EMC
- | Band Indicates Cathode



SOD-523



Marking

APPLICATION

- | Low voltage rectification
- | Reverse polarity protection
- | Low power consumption applications



Schematic Symbol

APPROVALS

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

MAXIMUM RATINGS ($T_A=25^{\circ}\text{C}$)

Parameter	Symbol	Value	Unit
Maximum repetitive reverse voltage	V_{RRM}	40	V
Maximum DC blocking reverse voltage	V_R	40	V
Average Forward Current	$I_{F(AV)}$	500	mA
Peak Forward Surge Current (At 8.3ms single half sine-wave)	I_{FSM}	5	A
Operating Junction Range	T_J	-55 to 125	$^{\circ}\text{C}$
Storage Temperature Range	T_{STG}	-55 to 150	$^{\circ}\text{C}$

These ratings are limiting values above which the serviceability of the diode may be impaired.

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

Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Forward Voltage	V_F	$I_F=100\text{mA}$			0.37	V
		$I_F=500\text{mA}$			0.50	V
Reverse Leakage Current	I_R	$V_R=20\text{V}$			50	μA
		$V_R=40\text{V}$			80	μA
Breakdown Voltage	V_{BR}	$I_R=100\mu\text{A}$	40			V
Junction Capacitance	C_J	$V_R=5\text{V}, f=1\text{MHz}$		36		pF

CHARACTERISTIC CURVES

Fig.1 Typical Forward Current Derating Curve

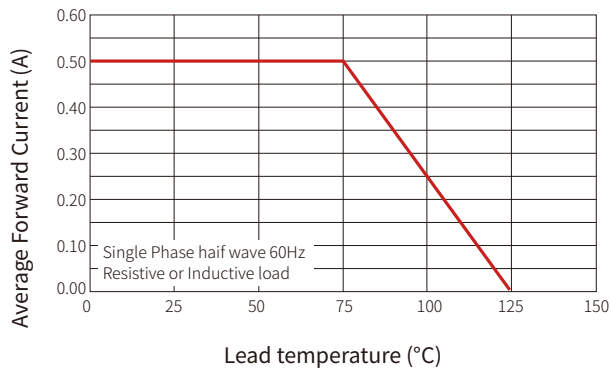


Fig.2 Total Capacitance vs.Reverse Voltage

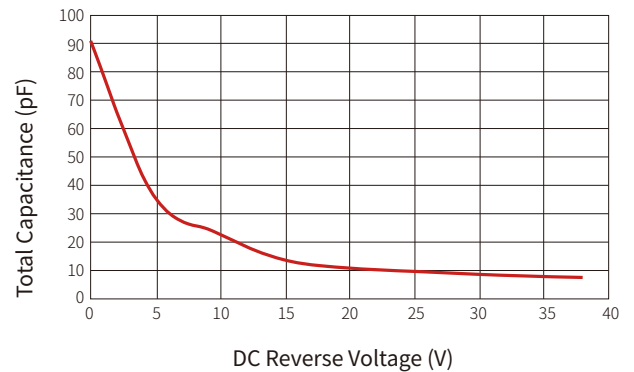
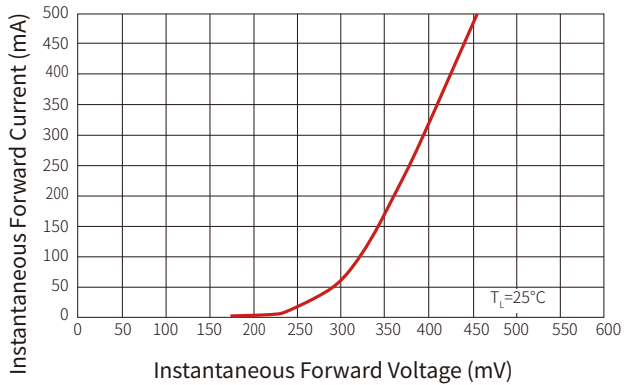
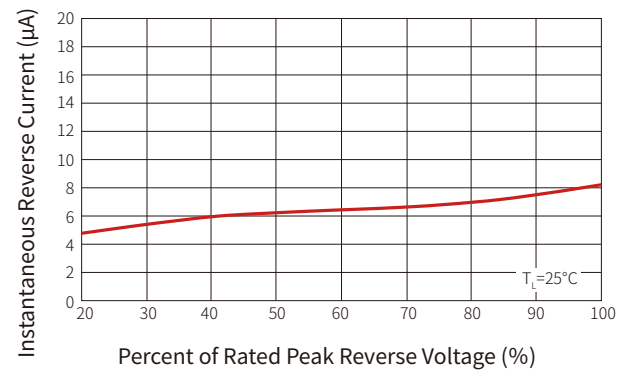
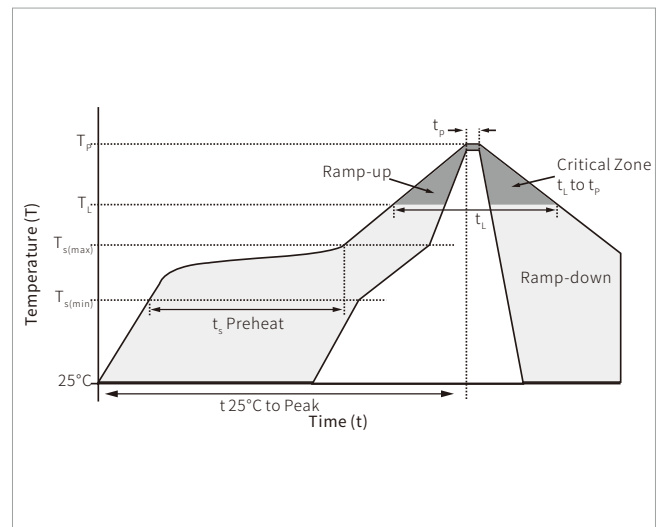


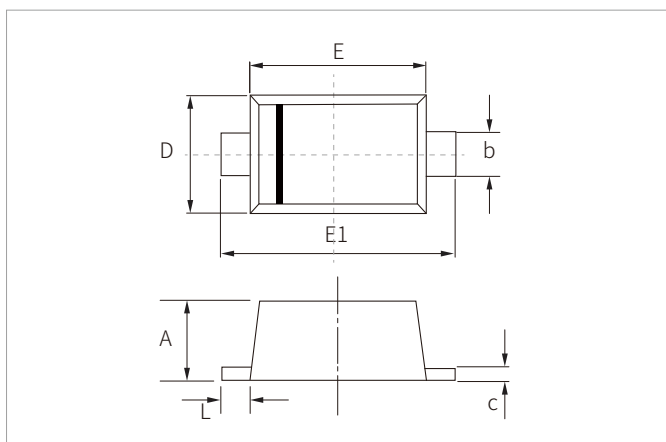
Fig.3 Typical Instantaneous Forward Characteristics

Fig.4 Typical Reverse 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

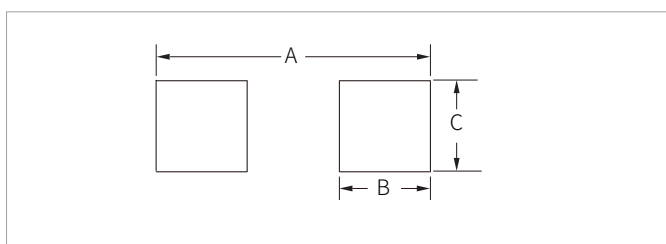


SOD-523 PACKAGE INFORMATION



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-40	SOD-523	3000PCS	7"

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