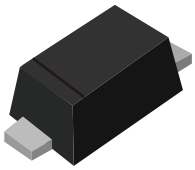
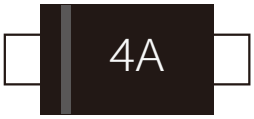
FEATURES

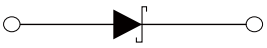
- Low Forward Voltage Drop
- Cathode Band / Device marking
- Surface Mount Package Ideally Suited for Automatic Insertion



SOD-523



Marking



Schematic Symbol

MECHANICAL DATA

- Encapsulation: SOD-523 Small Outline Plastic Package
- Polarity: Color band denotes cathode end
- Mounting Position: Any

APPROVALS

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

MAXIMUM RATINGS (T_A=25°C)

Parameter	Symbol	Value	Unit
Repetitive Peak Reverse Voltage	V_{RRM}	40	V
Average Forward Rectified Current	$I_{F(AV)}$	1	A
Non-Repetitive Peak Forward Surge Current (@t=8..3ms)	I_{FSM}	6	A
Operating junction temperature range	T_J	125	°C
Storage temperature range	T_{STG}	-50 to 125	°C

ELECTRICAL CHARACTERISTICS(T_A=25°C)

Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Reverse breakdown voltage	V_{BR}	I_R=0.5mA	40			V
Reverse current	I_R	V_R=40V			100	μA
Forward Voltage	V_F	I_F=0.3mA			0.5	V
		I_F=1A			0.68	
Capacitance	C_J	V_R=0V, f=1MHz			100	pF

CHARACTERISTIC CURVES

Fig.1 Forward Current Derating Curve

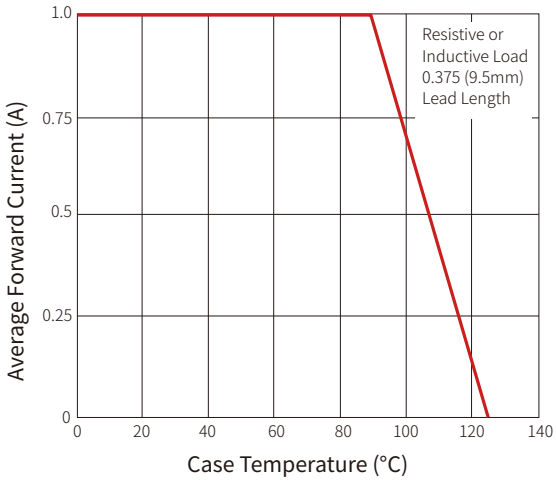


Fig.2 Maximum Non-Repetitive Peak Forward Surge Current

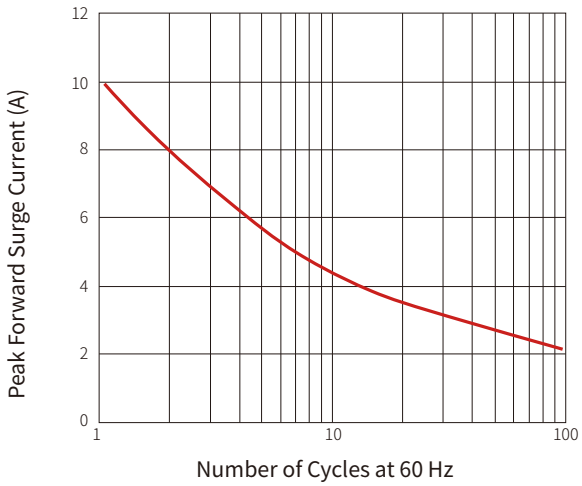


Fig.3 Typical Instantaneous Forward Characteristics

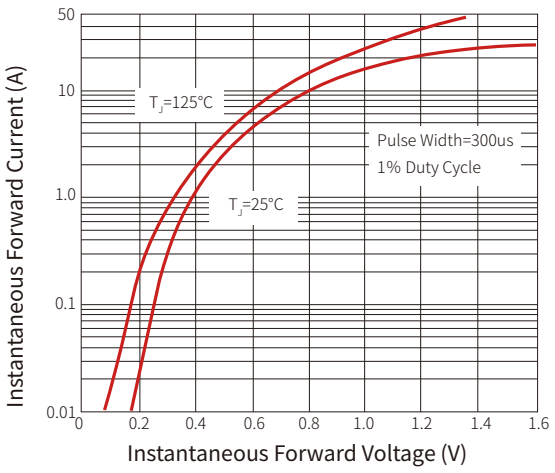


Fig.4 Typical Reverse Characteristics

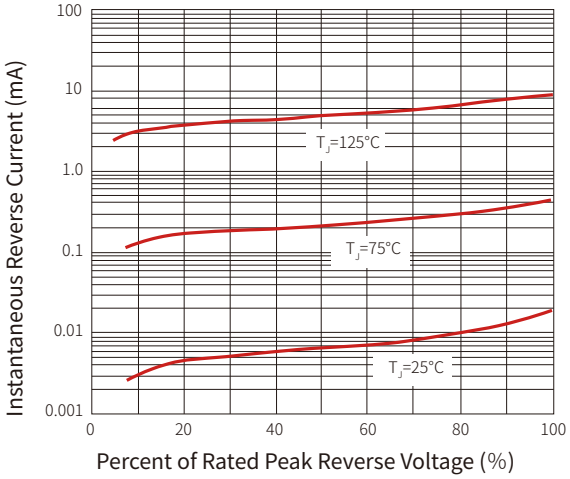


Fig.5 Typical Junction Capacitance

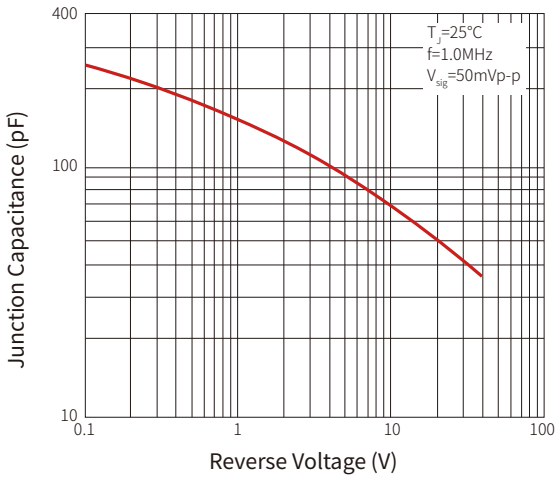
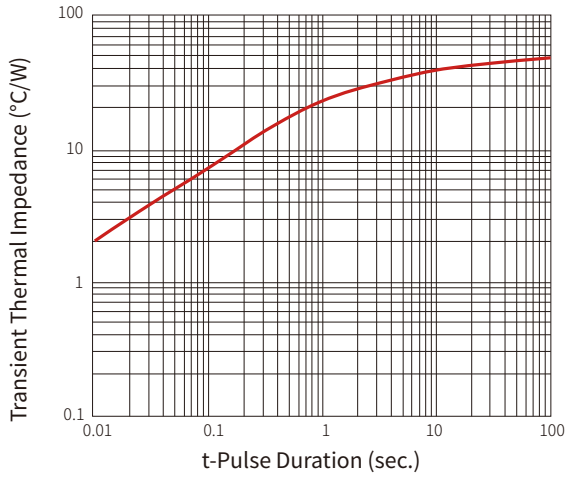
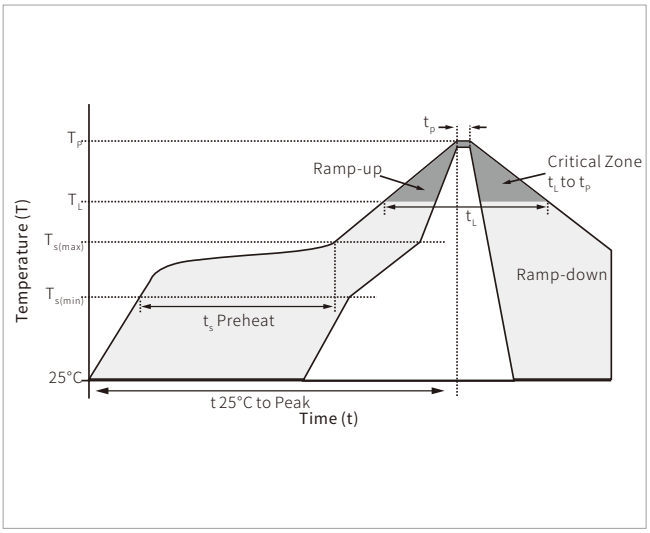


Fig.6 Typical Transient Thermal Impedance

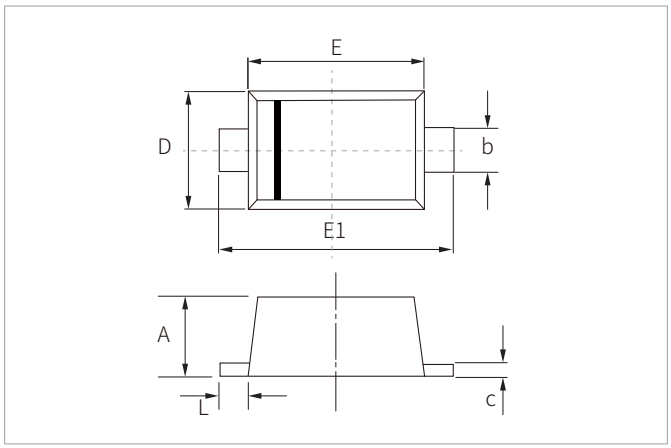


SOLDERING PARAMETERS

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

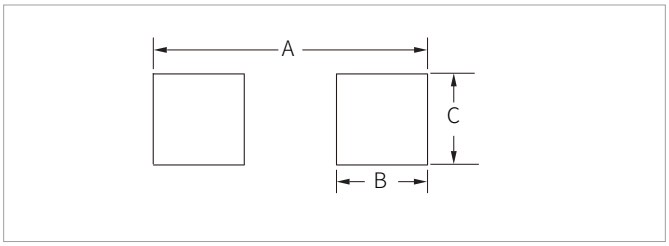


SOD-523 PACKAGE INFORMATION



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
1N5819WT	SOD-523	3000PCS	7”

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