

Rectifier Diodes
FEATURES

- ◆ For surface mounted applications
- ◆ Glass Passivated Chip Junction
- ◆ Fast reverse recovery time
- ◆ Ideal for automated placement
- ◆ Lead free in comply with EU RoHS 2011/65/EU directives

MECHANICAL DATA

- ◆ Case: SOD-323
- ◆ Terminals: Solderable per MIL-STD-750, Method 2026
- ◆ Approx. Weight: 5.48mg /0.00019oz

Absolute Maximum Ratings at 25 °C

Parameter	Symbols	1N4007WS	Units
Maximum Repetitive Peak Reverse Voltage	V_{RRM}	140	V
Maximum RMS voltage	V_{RMS}	100	V
Continuous Forward Current	$I_{F(AV)}$	250	mA
Non-reptitive Peak Forward Surge Current	I_{FSM}	0.5 1 4	A
at 1s at 1ms at 1us			
Total Power Dissipation	P_{tot}	500	mW
Typical Thermal Resistance (1)	$R_{\theta JA}$ $R_{\theta JC}$	340 120	°C/W
Operating and Storage Temperature Range	T_j, T_{stg}	-55 ~ +150	°C

(1) P.C.B. mounted with 5*5mm copper pad areas.

Characteristics at Ta = 25 °C

Parameter	Symbols	1N4007WS	Units
Reverse Breakdown Voltage at $I_R=1\mu A$	$V_{(BR)R}$	100	V
Maximum Forward Voltage	V_F	0.715 0.855 1.00 1.25	V
at 1 mA at 10 mA at 50 mA at 150 mA			
Peak Reverse Current	I_R	0.025 1 30 50	uA
at $V_R=20V, T_j=25^\circ C$ at $V_R=100V, T_j=25^\circ C$ at $V_R=25V, T_j=150^\circ C$ at $V_R=100V, T_j=150^\circ C$			
Typical Junction Capacitance $f=1MHz, V_R=0V$	C_j	2	pF
Maximum Reverse Recovery Time (2)	T_{rr}	4	nS

(2) Measured with $I_F=I_R=10mA, I_{rr}=0.1xI_R, R_L=100\Omega$

Pinning

1.Cathode	2.Anode
	
	SOD-323

Marking Code

1N4007WS	T7
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Fig.1 Power Derating Curve

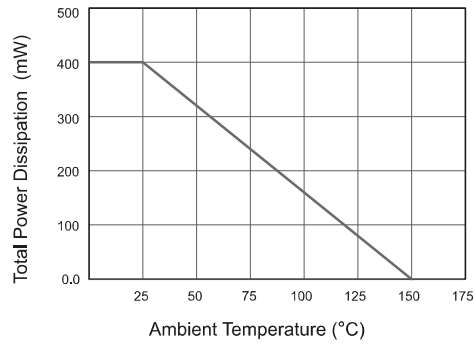


Fig.2 Typical Reverse Characteristics

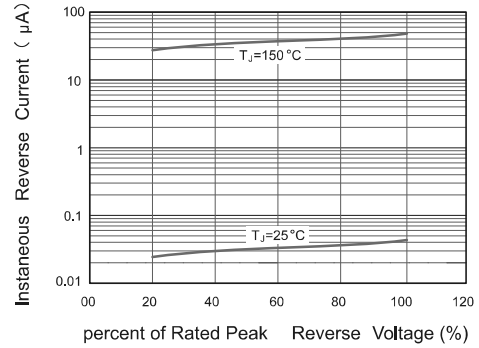


Fig.3 Typical Instantaneous Forward Characteristics

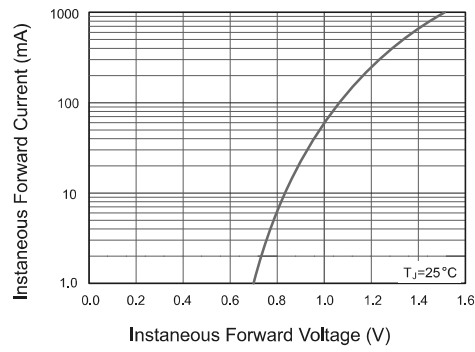
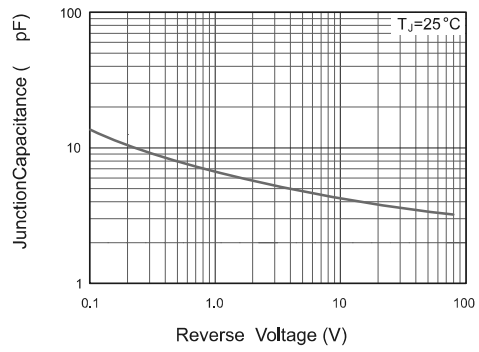
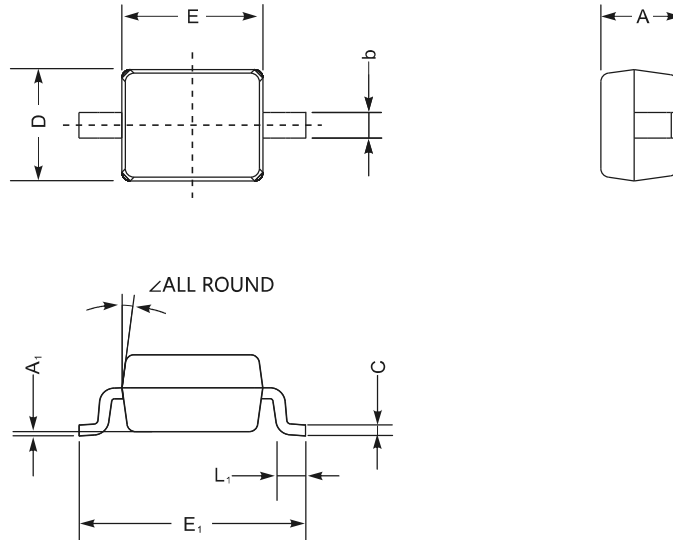


Fig.4 Typical Junction Capacitance



Package Outline SOD-323

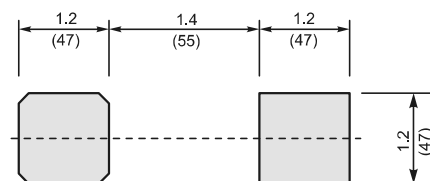
Plastic surface mounted package; 2 leads



SOD-323W mechanical data

UNIT		A	C	D	E	E ₁	b	L ₁	A ₁	∠
mm	max	1.1	0.15	1.4	1.8	2.75	0.4	0.45	0.2	9°
	min	0.8	0.08	1.2	1.4	2.55	0.25	0.2	—	
mil	max	43	5.9	55	70	108	16	16	8	
	min	32	3.1	47	55	100	9.8	7.9	—	

The recommended mounting pad size



Unit: $\frac{\text{mm}}{(\text{mil})}$

Summary of Packing Options

Package	Packing Description	Packing Quantity	Industry Standard
SOD-323	Tape/Reel, 7" reel	3000	EIA-481-1