

PRIMARY CHARACTERISTICS

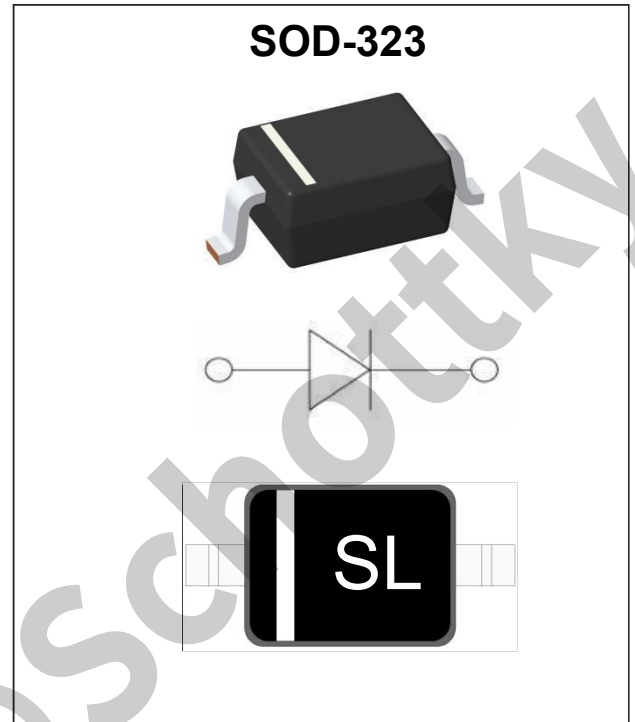
VRRM	IO	VF(type)	IFSM	Tj max
40V	1A	0.60V	9A	150°C

Features

- For use in low voltage, high frequency inverters
- Low forward voltage drop
- Suitable for free wheeling and polarity protection applications

Mechanical Data

- SOD-323 small outline plastic package
- Molded plastic body
- Plated leads solderable per MIL-STD-750, Method 2026
- Polarity symbols marked on case



Package Marking and Ordering Information

Product ID	Pack	Marking	Qty(PCS)
1N5819WS	SOD-323	SL	3000

Absolute Maximum Ratings (TC=25°C unless otherwise noted)

Parameters	Symbols	Limits	Units
Maximum repetitive peak reverse voltage	VRRM	40	V
Maximum RMS voltage	VRMS	28	V
Reverse Voltage	VR	40	V
Maximum DC blocking voltage	VDC	40	V
Peak forward surge current, 8.3ms single half sine-wave superimposed on rated load	IFSM	9	A
Average Rectified Current	IO	1000	mA
Power Dissipation	PD	250	mW
Typical junction capacitance (Note1)	CJ	120	pF
Typical thermal resistance (Note2)	RthJA	500	°C/W
Operating junction temperature range	TJ	-55~+150	°C
Storage temperature range	TSTG	-55~+150	°C

Electrical Characteristics (T_J=25°C , unless otherwise noted)

Parameter	Symbols	Test Conditions	Min	Type	Max	Units
Minimum reverse breakdown voltage	V(BR)	IR=1mA	40	-	-	V
Maximum instantaneous forward voltage	VF	IF=1A	-	-	0.60	V
		IF=3A	-	-	0.90	
Maximum DC reverse current at rated DC blocking voltage	IR	VR=40V	-	-	1	mA
Capacitance between terminals	CT	VR=4V, f=1.0MHz	-	-	120	pF

TYPICAL RATINGS AND CHARACTERISTIC CURVES 1N5817WS - 1N5818WS - 1N5819WS

FIG. 1- FORWARD CURRENT DERATING CURVE

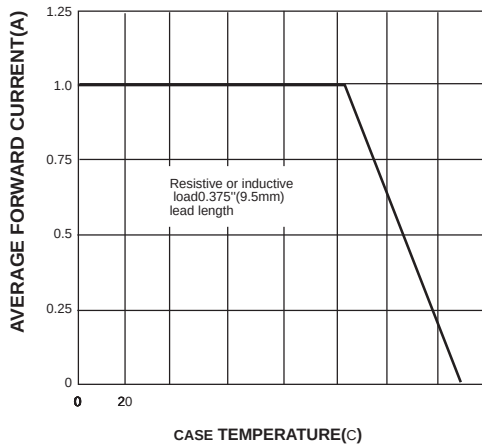


FIG. 2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

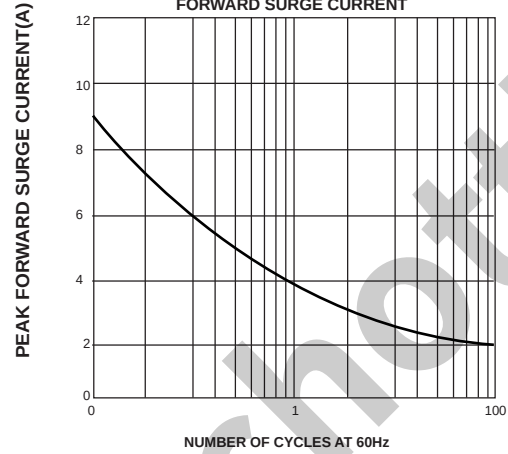


FIG. 3- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

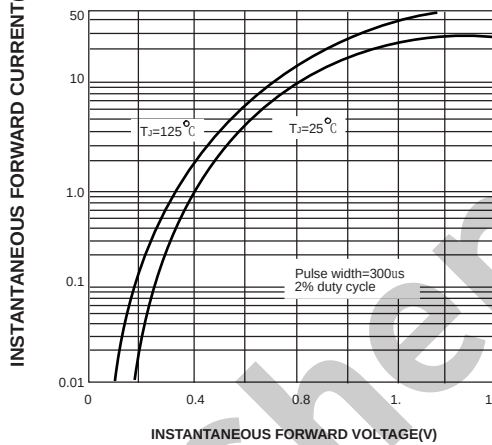


FIG. 4- TYPICAL REVERSE CHARACTERISTICS

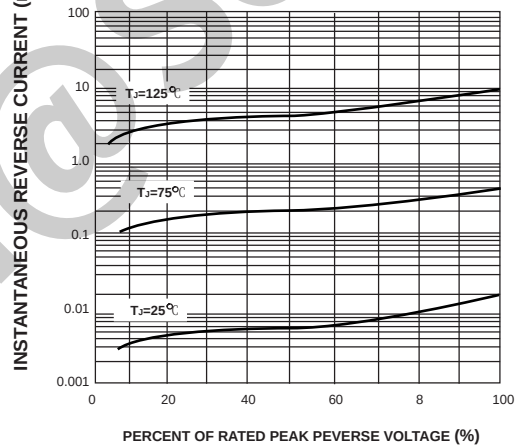


FIG. 5- TYPICAL JUNCTION CAPACITANCE

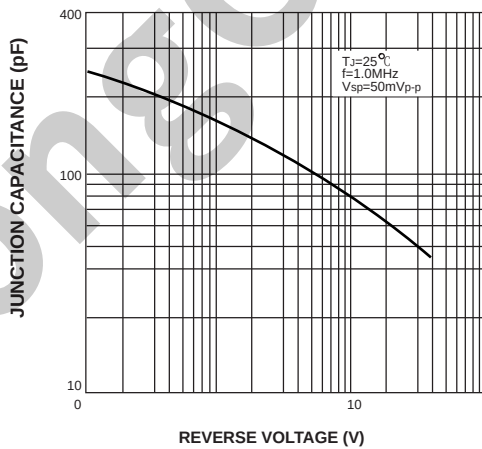
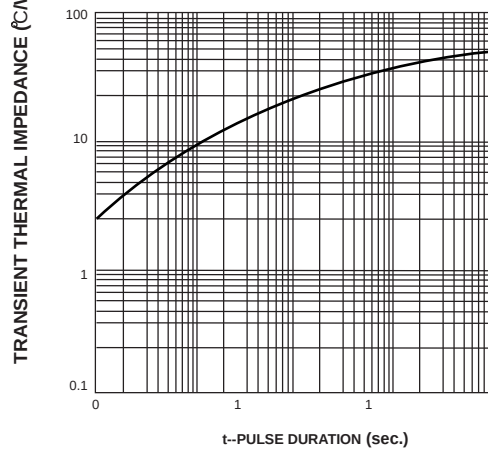
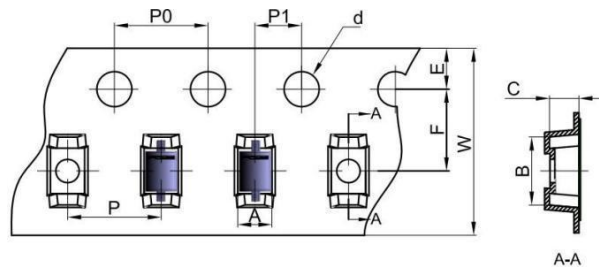


FIG. 6-TYPICAL TRANSIENT THERMAL IMPEDANCE

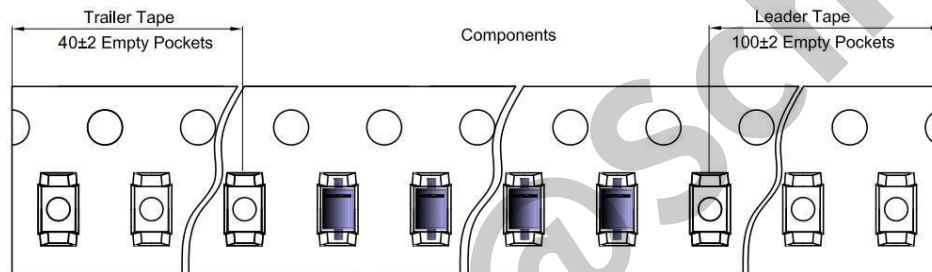


Carrier Dimension(mm)

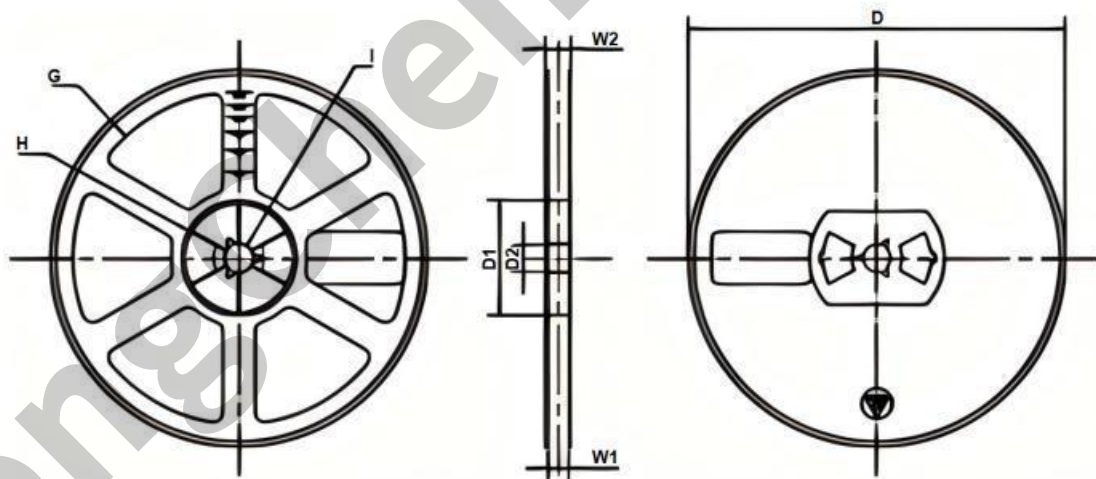


Dimensions are in millimeter

Pkg Type	A	B	C	d	E	F	P0	P	P1	W
SOD-323	1.46	2.90	1.25	Ø1.50	1.75	3.50	4.00	4.00	2.00	8.00
(Tolerance)	±0.05	±0.05	±0.05	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	+0.06/-0.1



Reel Dimension(mm)



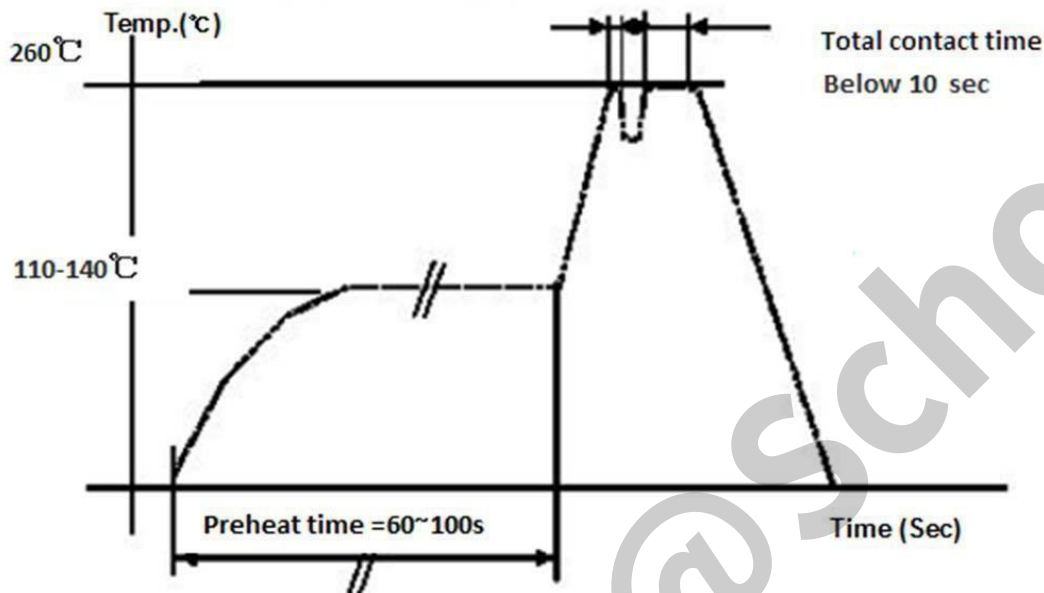
Reel Option	D	D1	D2	G	H	I	W1	W2
7"Dia	Φ178.00	54.40	13.00	R78.00	R25.60	R6.50	9.50	12.30
Tolerance	±2	±1	±1	±1	±1	±1	±1	±1

Package Specifications

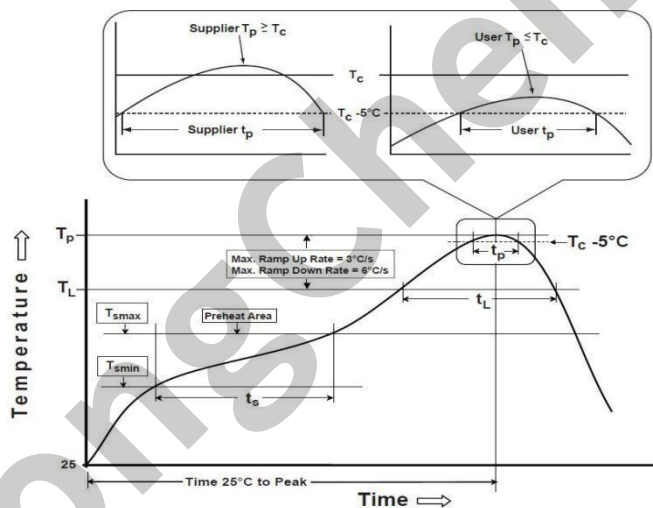
Package	Reel Size	Reel DIA. (mm)	Q'TY/Reel (Kpcs)	Box Size (mm)	QTY/Box (Kpcs)	Carton Size (mm)	Q'TY/Carton (Kpcs)
SOD-323	7'	178	3	210*208*203	45	440*400*230	180

Recommended Soldering Profile for Rectifier Diodes (Pb Free)

a) Wave Soldering Profile



b) Reflow Soldering Profile (Pb Free Application), refer to IPC/JEDEC J-STD-020

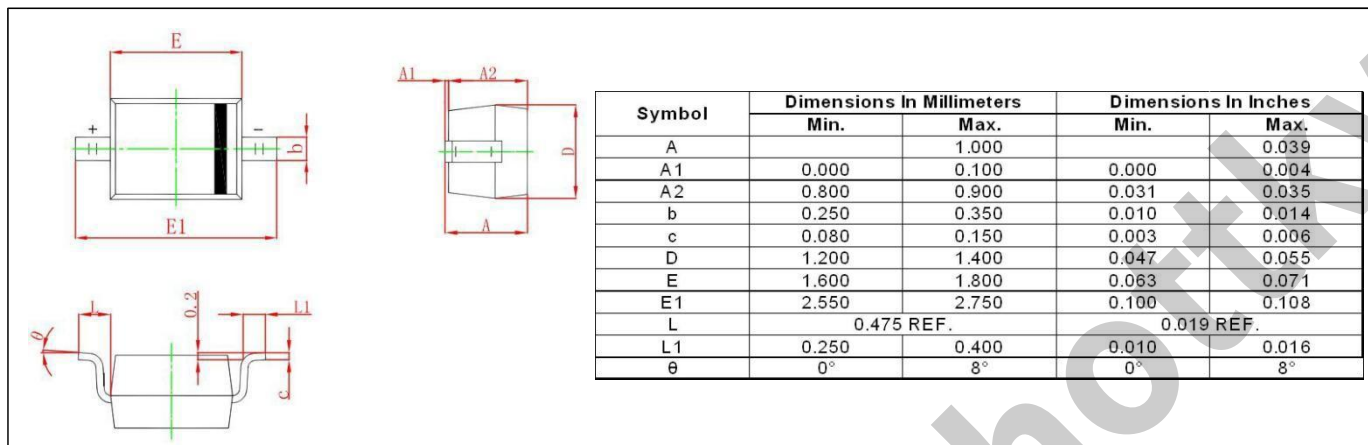


Preheat/Soak Temperature Min (T _{min}) Temperature Max (T _{max}) Time (ts) from (T _{min} to T _{max})	50 °C 200 °C 60-120 seconds
Melting Point of Solder (Sn Ag Cu)	217°C
Ramp-up Rate to 217°C(Melting Point of Solder)	3°C/sec
Time at Temp.>217°C (Melting Point of Solder)	60~150 Sec
Peak Temperature	255±5°C
Time within 5°Cbelow Peak Temp.	20~40 Sec
Cooling Rate	6°C/sec (max)
Time from 25°C to Peak Temp.	8min (max)

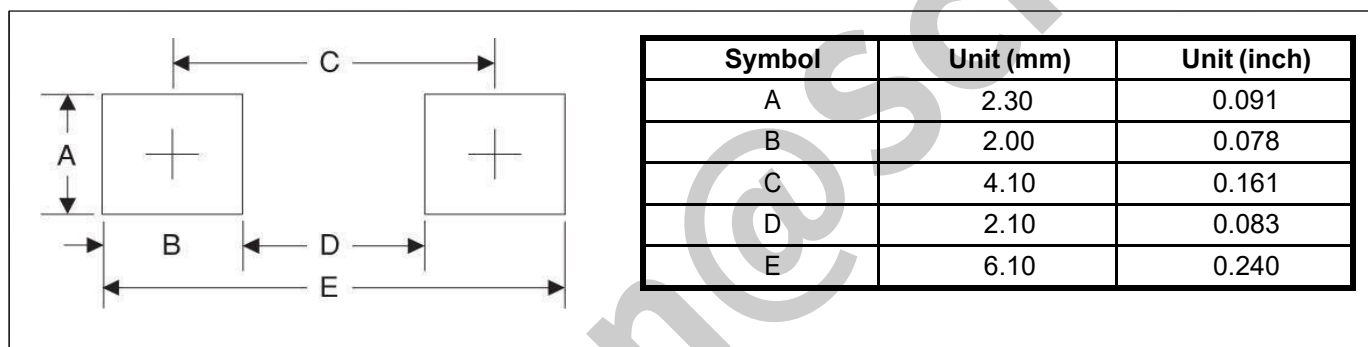
c) Manual Soldering

When using an electric soldering iron for manual soldering, it is recommended that the temperature does not exceed 300°C and the soldering time is less than 10 seconds.

Package Dimensions



Pad Dimensions



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