

FEATURES

- Low Forward Voltage Drop
- Fast Switching

VOLTAGE RANGE

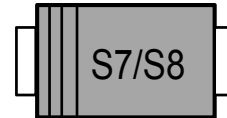
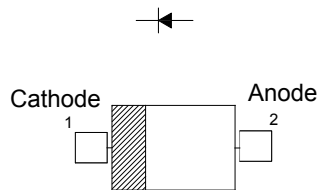
30 Volts

CURRENT

0.2 Ampere



SOD-323



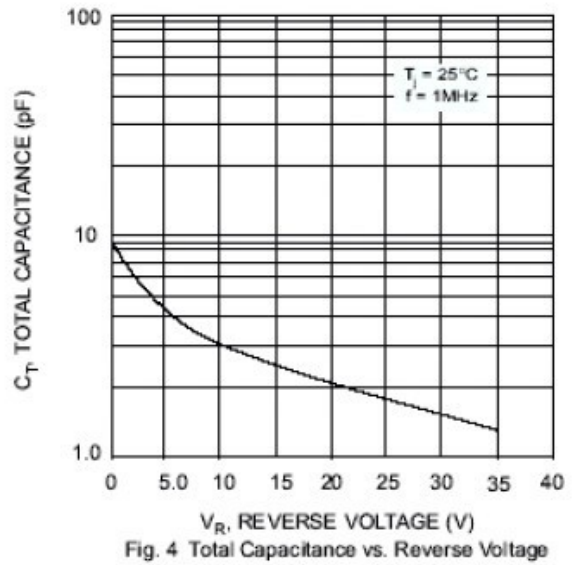
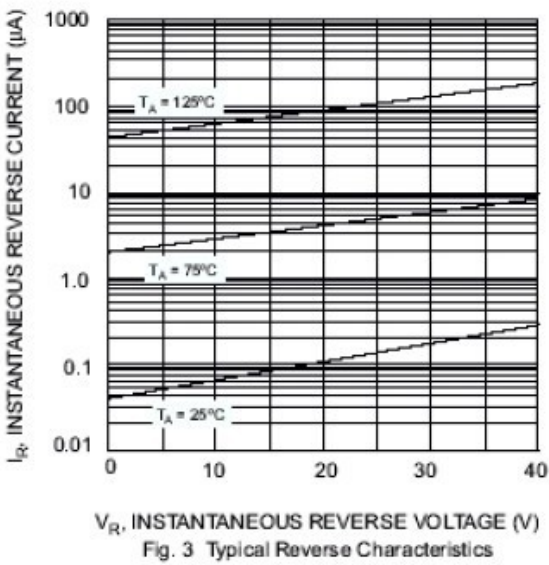
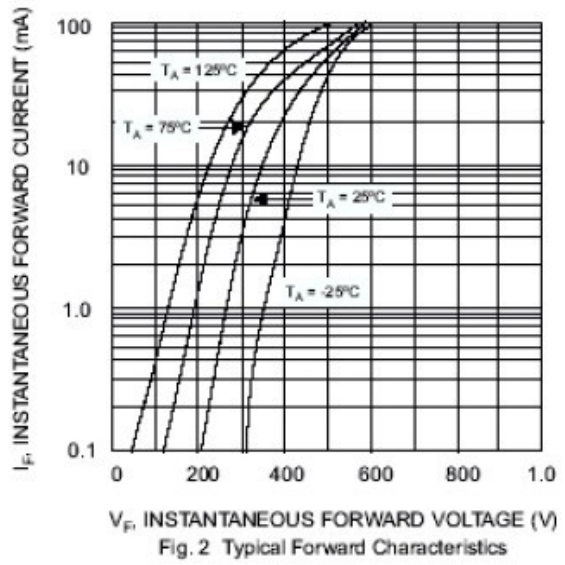
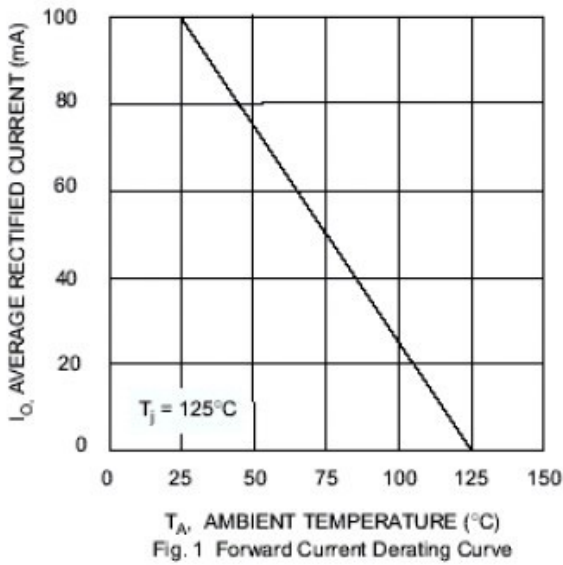
MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Rating 25°C ambient temperature unless otherwise specified.
Single phase half wave, 60Hz, resistive or inductive load.
For capacitive load, derate current by 20%.

Parameter	Symbol	Value	Unit
Repetitive Peak Reverse Voltage	V_{RRM}	30	V
Reverse Voltage	V_R	30	V
Forward Continuous Current	I_{FM}	200	mA
Repetitive Peak Forward Current at $t < 1$ s	I_{FRM}	500	mA
Non-repetitive Peak Forward Surge Current at $t < 10$ ms	I_{FSM}	0.8	A
Power Dissipation	P_{tot}	200	mW
Thermal Resistance Junction to Ambient	$R_{\theta JA}$	500	°C/W
Operating and Storage Temperature Range	T_J, T_{Stg}	- 55 to + 125	°C

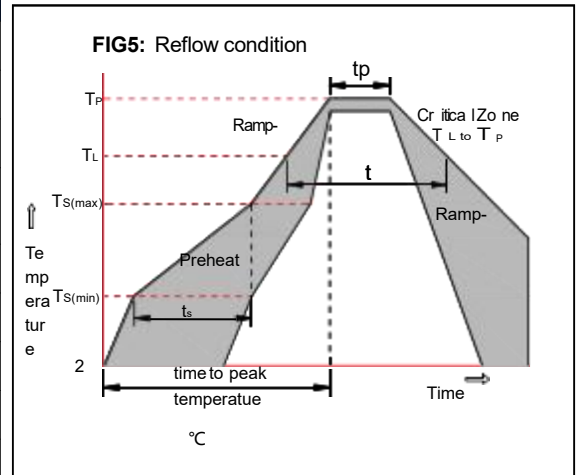
Parameter	Symbol	Min.	Max.	Unit	
Reverse Breakdown Voltage at $I_R = 100 \mu A$	$V_{(BR)R}$	30	-	V	
Reverse Current at $V_R = 25$ V	I_R	-	500	nA	
Forward Voltage at $I_F = 200$ mA	V_F	-	1	V	
at $I_F = 10$ mA		BAT42WS	-	0.4	V
at $I_F = 50$ mA		BAT42WS	-	0.65	V
at $I_F = 2$ mA		BAT43WS	0.26	0.33	V
at $I_F = 15$ mA		BAT43WS	-	0.45	V
Total Capacitance at $V_R = 1$ V, $f = 1$ MHz	C_T	-	10	pF	
Reverse Recovery Time at $I_F = I_R = 10$ mA, $I_{rr} = 0.1 \times I_R$, $R_L = 100 \Omega$	t_{rr}	-	5	ns	

RATING AND CHARACTERISTIC CURVES



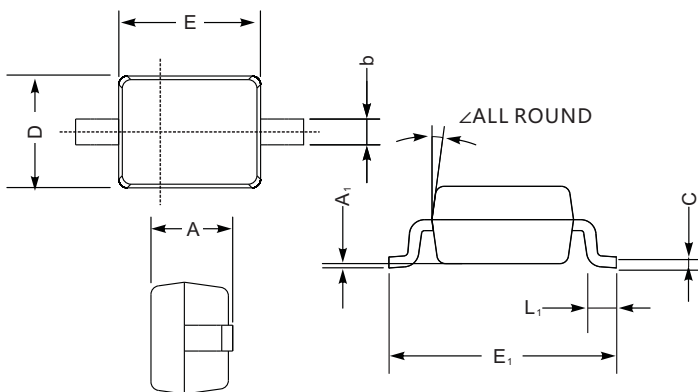
Soldering parameters

Reflow Condition		Pb-Free assembly (see as below)
Pre Heat	-Temperature Min ($T_{s(min)}$)	+150 °C
	-Temperature Max ($T_{s(max)}$)	+200 °C
	-Time (Min to Max) (ts)	60-180 secs.
Average ramp up rate (Liquid us Temp (T_L) to peak)		3 °C/sec. Max
$T_{s(max)}$ to T_L - Ramp-up Rate		3 °C/sec. Max
Reflow	-Temperature (T_L) (Liquid us)	+217 °C
	-Temperature (t_L)	60-150 secs.
Peak Temp (T_p)		+260(+0/-5) °C
Time within 5 °C of actual Peak Temp (t_p)		30 secs. Max
Ramp-down Rate		6 °C/sec. Max
Time 25 °C to Peak Temp (T_p)		8 min. Max
Do not exceed		+260 °C



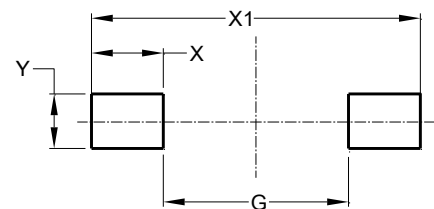
Package Dimensions & Suggested Pad Layout

SOD323



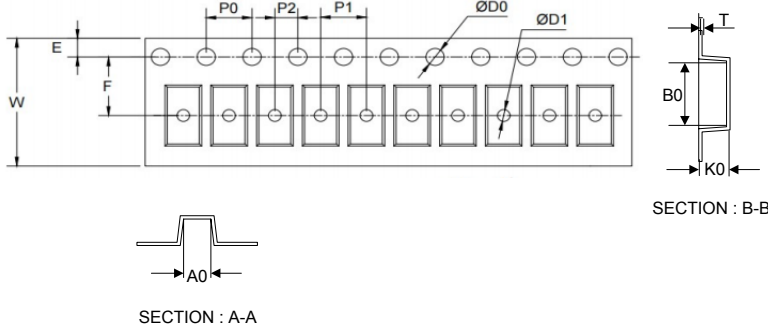
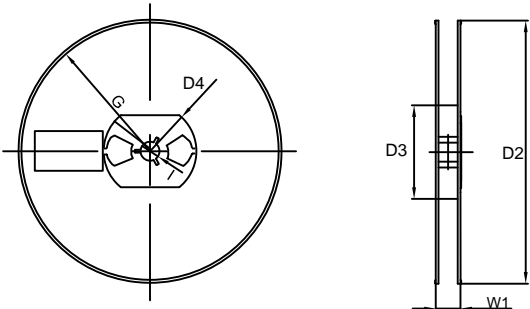
SOD-323 mechanical data

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	63	100	9.8	7.9	—	



Dimensions	Value (in mm)
G	1.40
X	1.20
X1	3.80
Y	1.00

Tape & reel specification

Tape	Symbol	Dimension (mm)	
	P0	4.00±0.20	
	P1	4.00±0.20	
	P2	2.00±0.20	
	D0	1.55±0.20	
	D1	1.00±0.20	
	E	1.55±0.25	
	F	3.60±0.20	
	W	8.00±0.20	
	A0	2.00±0.20	
	B0	3.25±0.20	
	K0	1.35±0.20	
	T	0.23±0.10	
	<p>7" Reel</p> 	D2	177.0±5.0
		D3	55Min.
		D4	R24.6±2.0
G		R82.0±2.0	
I		13.0±2.0	
W1		10.20±3.0	
Quantity: 3000PCS			