

## FEATURES

Extremely Fast Switching Speed  
Low Forward Voltage

**VOLTAGE RANGE**  
30 Volts  
**CURRENT**  
0.2 Ampere



## 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	Limit	Unit
<b>Non-Repetitive Peak Reverse Voltage</b>	$V_{RM}$	30	V
<b>DC Blocking Voltage</b>	$V_R$	21	V
<b>Average Rectified Output Current</b>	$I_O$	100	mA
<b>Forward Continuous Current</b>	$I_F$	200	mA
<b>Repetitive Peak Forward Current</b>	$I_{FRM}$	300	mA
<b>Non-repetitive Peak Forward Surge Current @t=8.3ms</b>	$I_{FSM}$	600	mA
<b>Power Dissipation</b>	$P_D$	200	mW
<b>Thermal Resistance Junction to Ambient</b>	$R_{\theta JA}$	500	°C/W
<b>Operating Junction Temperature Range</b>	$T_J$	-40 ~ +125	°C
<b>Storage Temperature Range</b>	$T_{STG}$	-55 ~ +150	°C

## Electrical Characteristics @Ta=25°C

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Reverse breakdown voltage	$V_{(BR)}$	$I_R=100\mu A$	30			V
Forward voltage	$V_{F1}$	$I_F=0.1mA$			240	mV
	$V_{F2}$	$I_F=1.0mA$			320	mV
	$V_{F3}$	$I_F=10mA$			400	mV
	$V_{F4}$	$I_F=30mA$			500	mV
	$V_{F5}$	$I_F=100mA$			1000	mV
Reverse current	$I_R$	$V_R=25V$			2.0	$\mu A$
Reverse recovery time	$t_{rr}$	$I_F=10mA, I_R=10mA$ to 1mA , $R_L=100\Omega$			5.0	ns
Capacitance between terminals	$C_T$	$V_R=1V, f=1MHz$			10	pF

RATING AND CHARACTERISTIC CURVES

FIG.1-Forward Characteristics

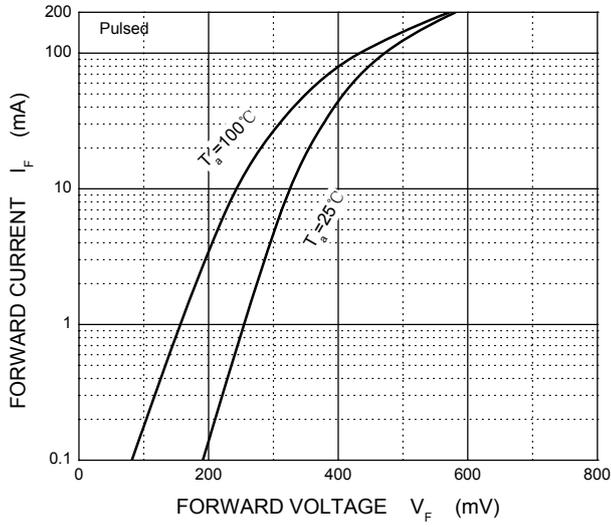


FIG.2-TYPICAL FORWARD CHARACTERISTICS

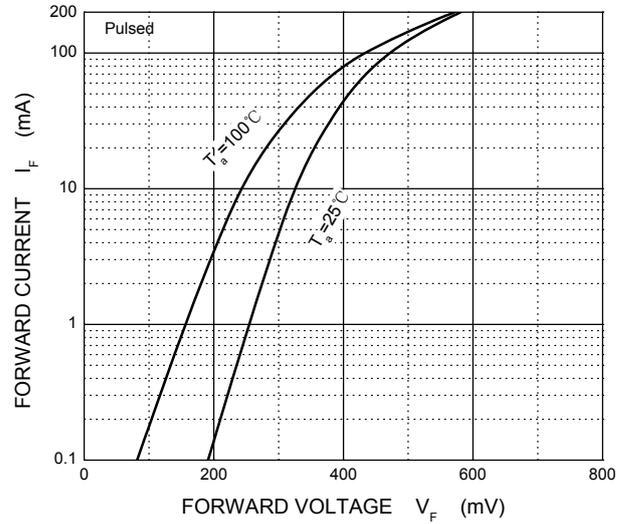


FIG.3 - TYPICAL REVERSE CHARACTERISTICS

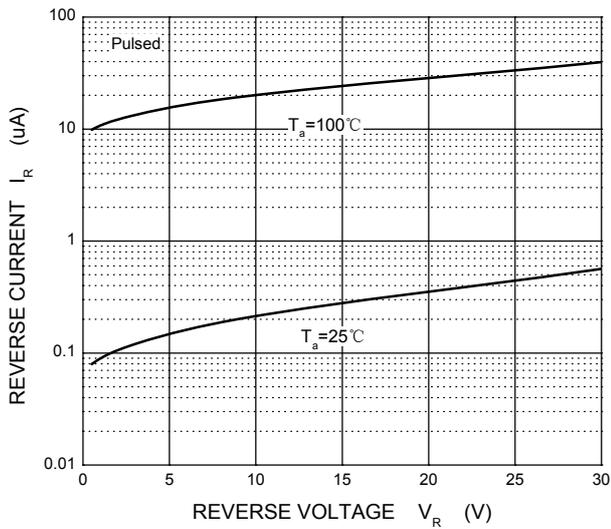
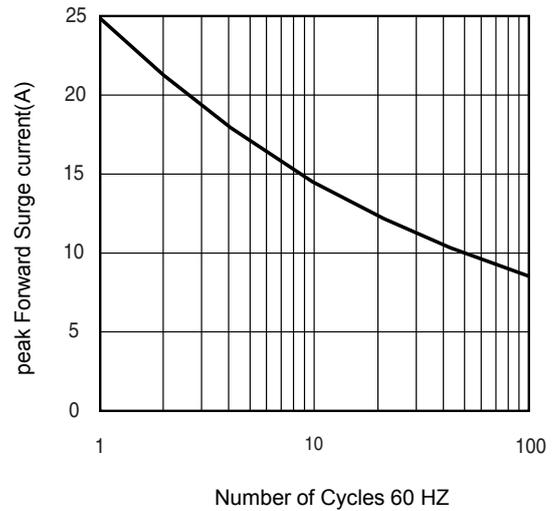
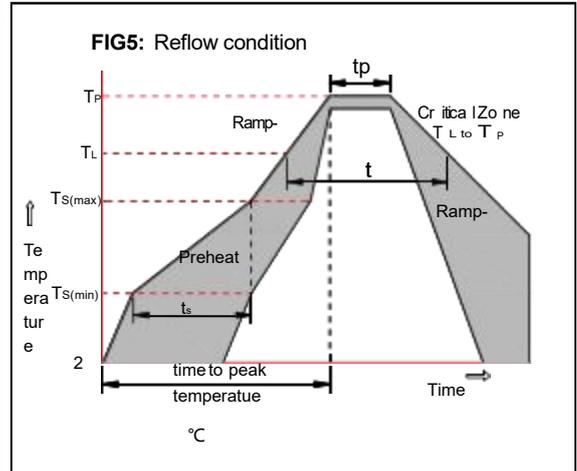


FIG.4-Power Derating Curve



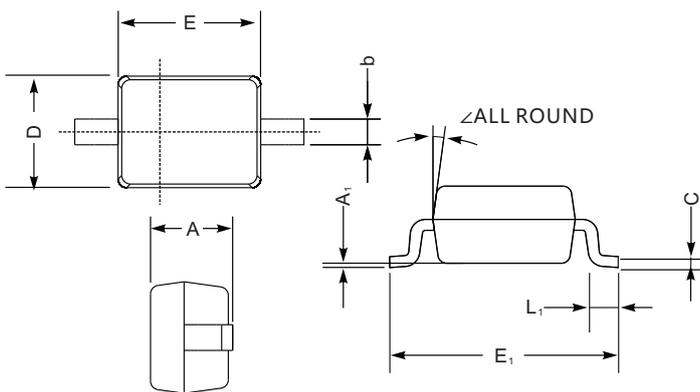
Soldering parameters

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



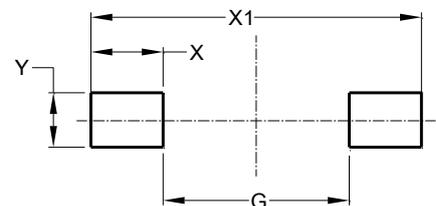
Package Dimensions & Suggested Pad Layout

SOD323



SOD-323 mechanical data

UNIT		A	C	D	E	E <sub>1</sub>	b	L <sub>1</sub>	A <sub>1</sub>	∠
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)
<b>G</b>	1.40
<b>X</b>	1.20
<b>X1</b>	3.80
<b>Y</b>	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
		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			

7" Reel	