

### Features

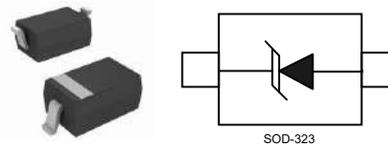
360Watts peak pulse power ( $t_p = 8/20\mu s$ )  
Unidirectional configurations  
Solid-state silicon-avalanche technology  
Low clamping voltage  
Low leakage current  
IEC 61000-4-2  $\pm 30kV$  contact  $\pm 30kV$  air  
IEC 61000-4-4 (EFT) 40A (5/50ns)  
IEC 61000-4-5 (Lightning) 30A (8/20 $\mu s$ )

### Mechanical Data

SOD323 package  
Molding compound flammability rating: UL 94V-0  
Packaging: Tape and Reel  
RoHS/WEEE Compliant

### Applications

USB Vbus,  
Power Line  
Power management



### Absolute Maximum Rating

Rating	Symbol	Value	Units
Peak Pulse Power ( $t_p = 8/20\mu s$ )	$P_{PP}$	360	Watts
Peak Pulse Current ( $t_p = 8/20\mu s$ ) (note1)	$I_{pp}$	30	A
ESD per IEC 61000-4-2 (Air) ESD per IEC 61000-4-2 (Contact)	$V_{ESD}$	30 30	kV
Lead Soldering Temperature	$T_L$	260(10seconds)	$^{\circ}C$
Junction Temperature	$T_J$	-55 to + 150	$^{\circ}C$
Storage Temperature	$T_{stg}$	-55 to + 150	$^{\circ}C$

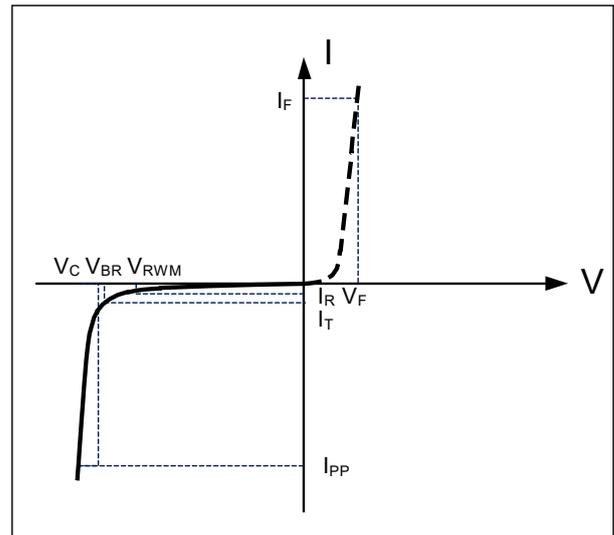
## Electrical Characteristics

Parameter	Symbol	Conditions	Min	Typical	Max	Units
Reverse Stand-Off Voltage	$V_{RWM}$				3.3	V
Reverse Breakdown Voltage	$V_{BR}$	$I_T=1mA$	5.0			V
Reverse Leakage Current	$I_R$	$V_{RWM}=3.3V, T=25^{\circ}C$			1.0	$\mu A$
Clamping Voltage	$V_C$	$I_{PP}=30A, t_p=8/20\mu s$		10		V
Junction Capacitance	$C_j$	$V_R = 0V, f = 1MHz$		300		pF

## Electrical Parameters (TA = 25°C unless otherwise noted)

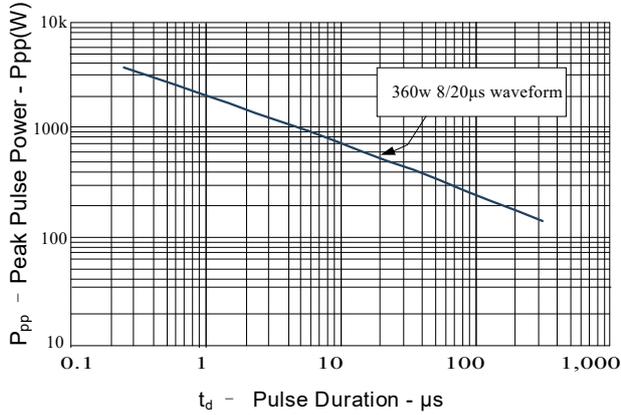
Symbol	Parameter
$I_{PP}$	Maximum Reverse Peak Pulse Current
$V_C$	Clamping Voltage @ $I_{PP}$
$V_{RWM}$	Working Peak Reverse Voltage
$I_R$	Maximum Reverse Leakage Current @ $V_{RWM}$
$V_{BR}$	Breakdown Voltage @ $I_T$
$I_T$	Test Current

Note.: 8/20 $\mu s$  pulse waveform.

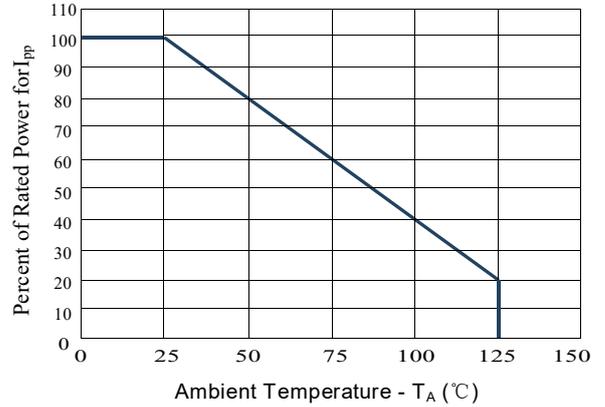


**RATING AND CHARACTERISTIC CURVES**

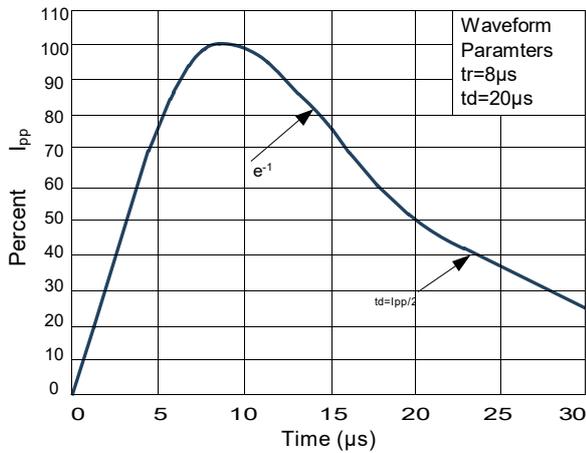
**Figure 1: Peak Pulse Power vs. Pulse Time**



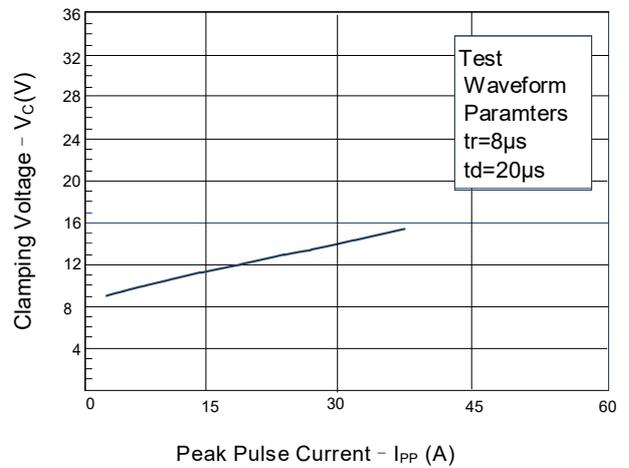
**Figure 2: Power Derating Curve**



**Figure 3: Pulse Waveform**

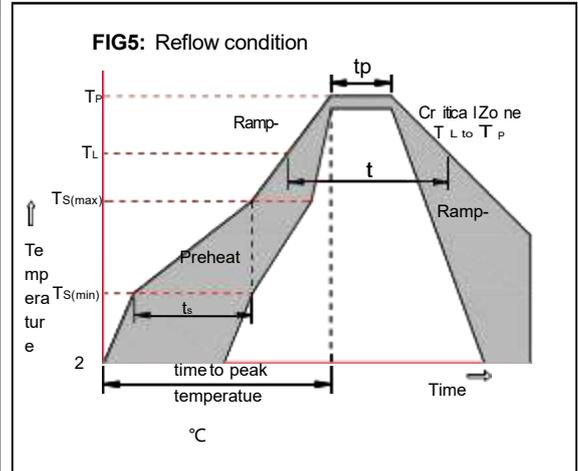


**Figure 4: Clamping Voltage vs. I\_pp**



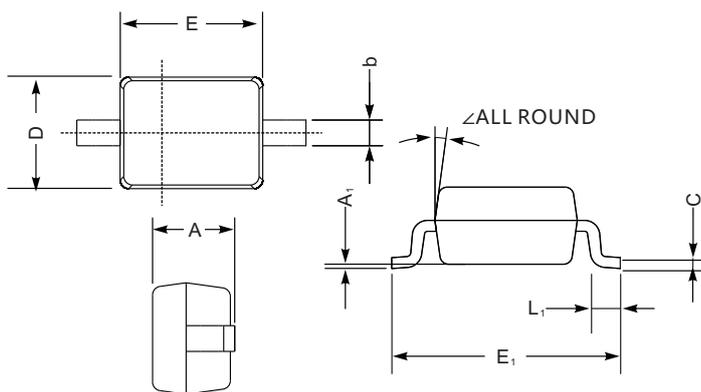
Soldering parameters

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



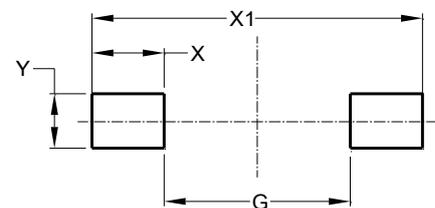
Package Dimensions & Suggested Pad Layout

SOD323



SOD-323 mechanical data

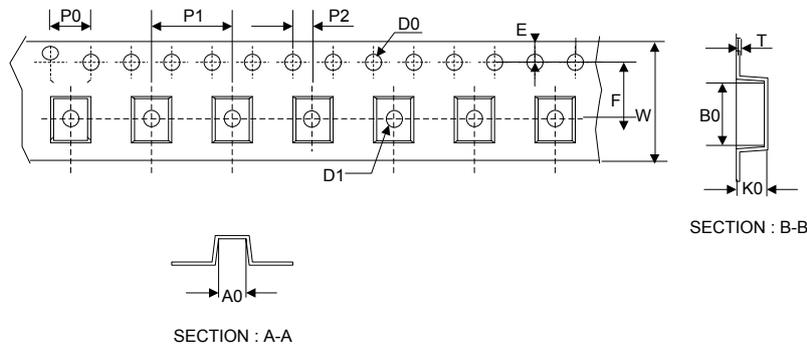
UNIT		A	C	D	E	E <sub>1</sub>	b	L <sub>1</sub>	A <sub>1</sub>	∠
mm	max	1.1	0.15	1.4	1.8	2.75	0.4	0.45	0.2	9°
	min	0.8	0.08	1.2	1.4	2.55	0.25	0.2	—	
mil	max	43	5.9	55	70	108	16	16	8	
	min	32	3.1	47	63	100	9.8	7.9	—	



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

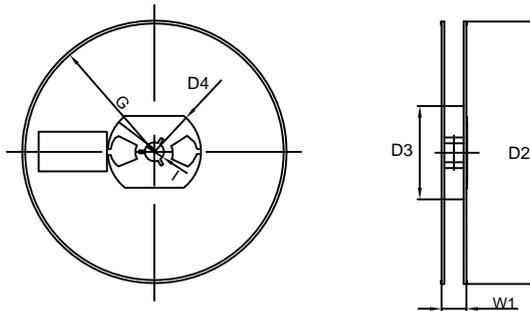
Tape & reel specification

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
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

7" Reel



Quantity: 3000PCS