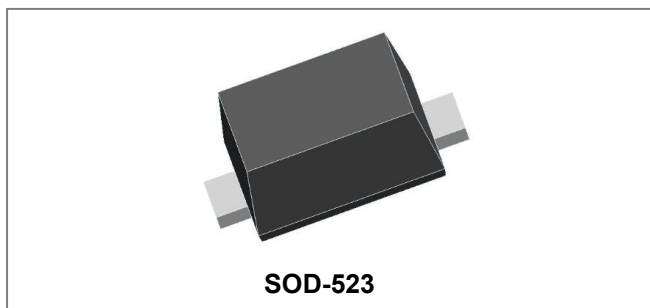


SD52303 ESD Protection Diodes



Description

The SD52303 is designed to protect voltage sensitive components from ESD. Excellent clamping capability, low leakage, and fast response time provide best in class protection on designs that are exposed to ESD. Because of its small size, it is suited for use in cellular phones, MP3 players, digital cameras and many other portable applications where board space is at a premium.

Schematic & Pin Configuration



Mechanical Data

- Stand-off Voltage: 3.3 V
- Low Leakage
- ESD Rating of Class 3 (> 16 kV) per Human Body Model
- IEC61000-4-2 Level 4 ESD Protection
- This is Pb-Free Device
- Terminals finish: 100% Pure Tin
- "-A" is an AEC-Q101 qualified device

Maximum Ratings @ $T_A=25^\circ\text{C}$ unless otherwise specified

Parameter	Symbol	Value	Units
ESD per IEC 61000-4-2 (Air)	V_{ESD}	± 17	kV
ESD per IEC 61000-4-2 (Contact)		± 12	
Peak Power Dissipation	P_{PK}	158	W
Power Dissipation	P_D	500	mW
Lead Solder Temperature – Maximum (10 Second Duration)	T_L	260	$^\circ\text{C}$
Junction Temperature Range	T_J	-55 to + 150	$^\circ\text{C}$
Storage Temperature Range	T_{STG}	-55 to + 150	$^\circ\text{C}$

Electrical Characteristics@25°C

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
C	Max. Capacitance @V _R =0 and f =1MHz

Ratings and Characteristics Curves

Device*	Device Marking	V _{RWM} (V)	I _R (μA) @V _{RWM}	V _{BR} (V)@ I _T	I _T	I _{pp} (A) t _p =8/20us	V _C (V) @Max I _{pp} t _p =8/20us	C(pF) V _R = 0V, f = 1MHz
		Max.	Max.	Min.	mA	Max.	Max.	Typ.
SD52303	KE	3.3	0.05	5.0	1.0	11.2	14.1	105

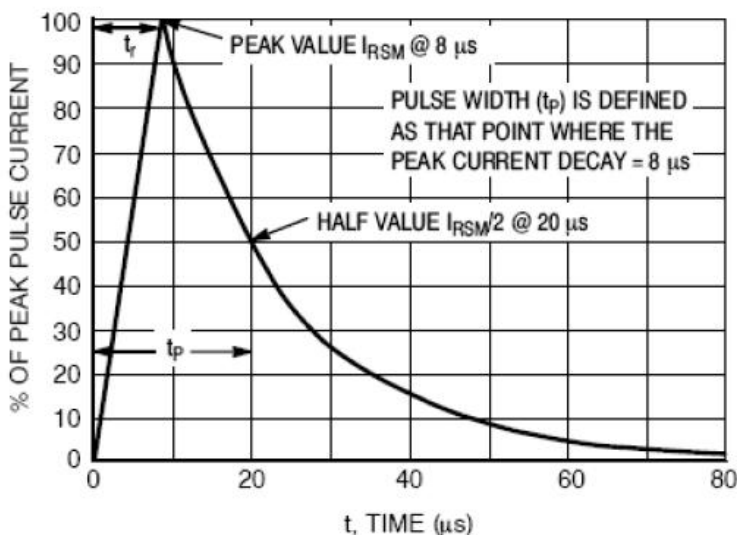


Figure 1. 8 x 20 μs Pulse Waveform

Ordering Information

Device	Package	Shipping
SD52303	SOD-523 (Pb-Free)	3000pcs / reel

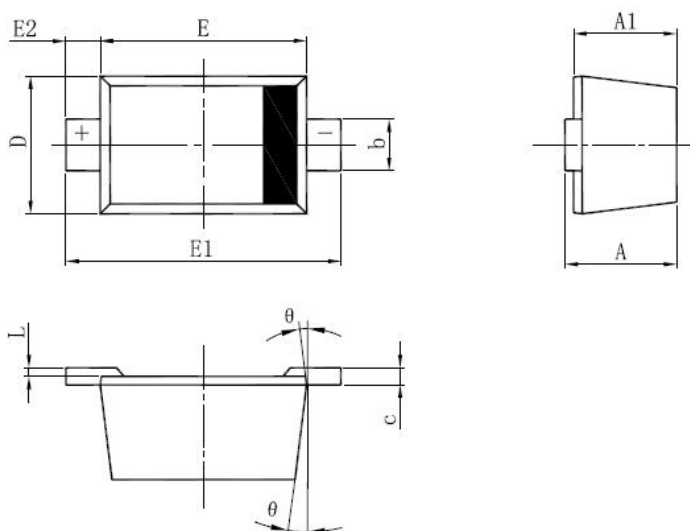
For information on tape and reel specifications, including part orientation and tape sizes, please refer to our tape and reel packaging specification.

Marking Diagram



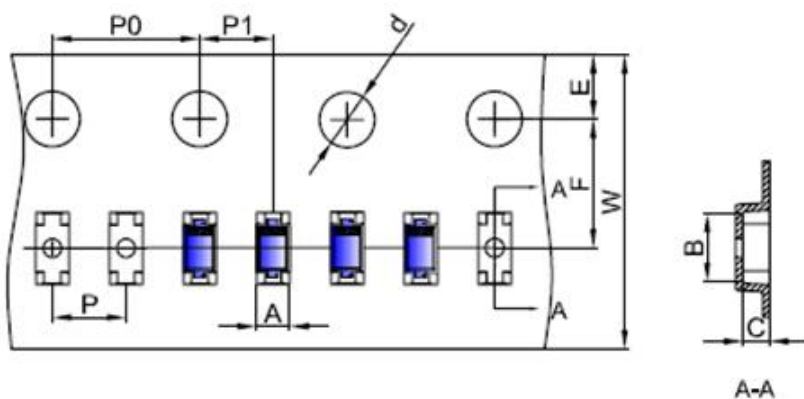
KE = Device Marking

Mechanical Dimensions SOD-523



SYMBOL	Millimeters		Inches	
	MIN.	MAX.	MIN.	MAX.
A	0.510	0.770	0.020	0.031
A1	0.500	0.700	0.020	0.028
b	0.250	0.350	0.010	0.014
c	0.080	0.150	0.003	0.006
D	0.750	0.850	0.030	0.033
E	1.100	1.300	0.043	0.051
E1	1.500	1.700	0.059	0.067
E2	0.200REF		0.08REF	
L	0.010	0.070	0.001	0.003
θ	7° REF		7° REF	

Carrier Tape Specification SOD-523



SYMBOL	Millimeters	
	Min.	Max.
A	0.85	0.95
B	1.89	1.99
C	0.68	0.78
d	1.40	1.60
E	1.65	1.85
F	3.40	3.60
P	1.90	2.10
P0	3.90	4.10
P1	1.90	2.10
W	7.90	8.30

Technical Data
Data Sheet N2324, REV. D



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