

General description

The ESD5Z24CS is designed to protect voltage sensitive components from ESD and transient voltage events. Excellent clamping capability, low leakage, and fast response time , make these parts ideal for ESD protection on designs where board space is at a premium.

Features and benefits

- Bidirectional ESD protection of one line
- Femtofarad capacitance: $C_j = 10\text{pF}$ (Typ)
- Response time is typically $< 1\text{ ns}$
- Low clamping voltage $V_C = 40\text{ V}$
- Ultra Low Leakage: nA Level
- IEC 61000-4-2; level 4 (ESD)
- IEC 61000-4-5 (surge); IPPM = 4 A



SOD523

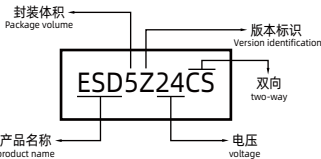
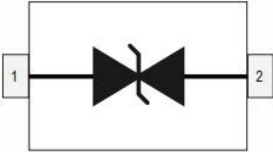
Application information

- Cell phones
- Audio equipment
- Portable devices
- Digital cameras
- Power supplies

Ordering information

Device	Package	Reel Size	Qty(PCS)
ESD5Z24CS	SOD523	7 Inch	3000

Ordering information

Marking	Naming rule	Graphic symbol
24C		

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

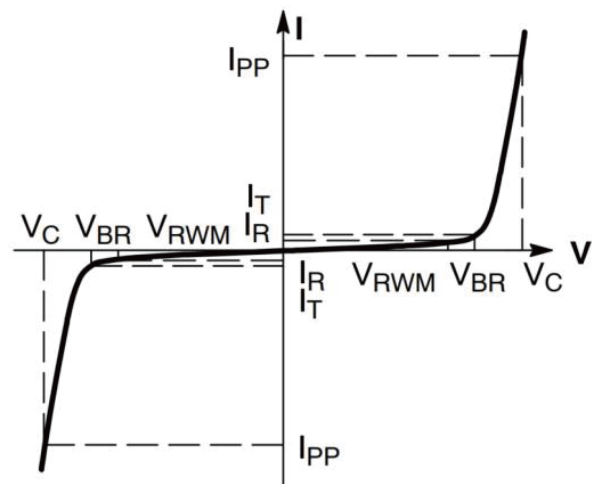
Parameter	Symbol	Value	Unit
Peak Pulse Power ($t_p = 8/20\mu\text{s}$)	P_{PPM}	160	W
Peak Pulse Current ($t_p = 8/20\mu\text{s}$)	I_{PPM}	4	A
Maximum lead temperature for soldering during 10s	T_L	260	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	-55 to +150	$^\circ\text{C}$
Operating Temperature Range	T_{OP}	-40 to +125	$^\circ\text{C}$
Maximum junction temperature	T_j	150	$^\circ\text{C}$
ESD voltage IEC 61000-4-2 (air discharge)	V_{ESD}	20	kV
ESD voltage IEC 61000-4-2 (contact discharge)	V_{ESD}	15	kV

Electrical Characteristics ($T_A = 25^\circ\text{C}$, unless otherwise specified)

Parameter	Symbol	Min	Typ	Max	Unit	Condition
Reverse Working Voltage	V_{RWM}	--	--	24.0	V	
Breakdown Voltage	V_{BR}	26.0	--	30.0	V	$I_T = 1\text{mA}$
Leakage Current I_{Leak}	I_R	--	--	100	nA	$V_{RWM} = 24\text{V}$
Clamping Voltage	V_C	--	28	30.0	V	$I_{PP} = 1.0\text{A}, t_p = 8/20\mu\text{s}$
Clamping Voltage	V_C	--	39	40.0	V	$I_{PP} = 4.0\text{A}, t_p = 8/20\mu\text{s}$
Junction Capacitance	C_J	--	10	12	pF	$V_R = 0\text{V}, f = 1\text{MHz}$

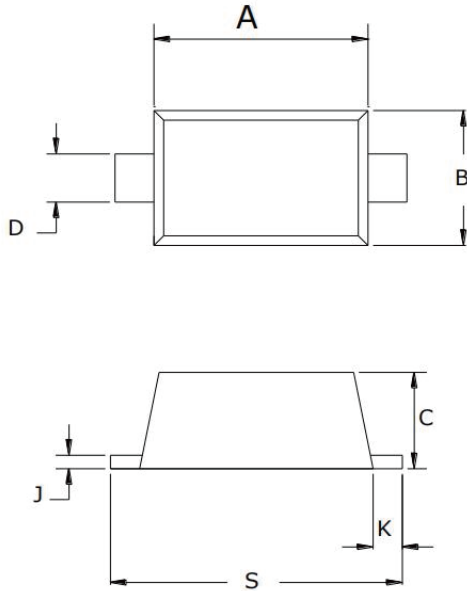
Portion Electronics Parameter

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



Package Outline Dimensions

SOD523



SYMBOL	MILLIMETERS	
	MIN	MAX
A	1.10	1.30
B	0.70	0.90
C	0.50	0.70
D	0.25	0.35
J	0.07	0.20
K	0.15	0.25
S	1.50	1.70

Soldering Footprint (mm)

