1-Line Bidirectional ESD Protection Diode

General description

The SLESD5Z24CS 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 = 10pF (Typ)
- Response time is typically < 1 ns
- Low clamping voltage V_C = 40 V
- Ultra Low Leakage: nA Level
- IEC 61000-4-2; level 4 (ESD)
- IEC 61000-4-5 (surge); I_{PPM} = 4 A

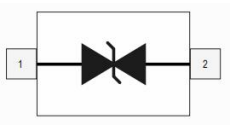
Application information

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

Ordering information

Device	Package	Packaging	Reel Size
SLESD5Z24CS	SOD523	3000/Tape & Reel	7 inch

Schematic & Pin configuration

Simplified outline	Graphic symbol
	

Maximum Ratings (T_{OP} = 25 °C, unless otherwise specified)

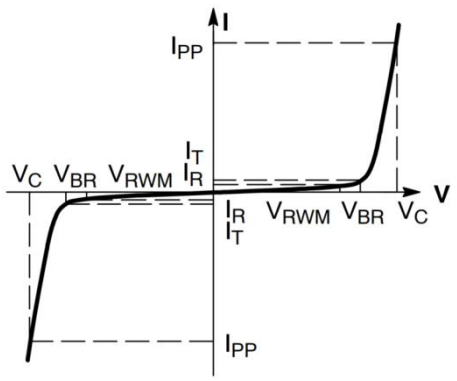
Parameter	Symbol	Value	Unit
Peak Pulse Power (Tp = 8/20us)	P_{PPM}	160	W
Rated Peak Pulse Current (Tp = 8/20us)	I_{PPM}	4	A
Maximum lead temperature for soldering during 10s	T_L	260	°C
Storage Temperature Range	T_{stg}	-55 to +150	°C
Operating Temperature Range	T_{OP}	-40 to +125	°C
Maximum junction temperature	T_j	150	°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_{OP} = 25 °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=1mA
Leakage Current ILeak	I_R	--	--	100	nA	V_{RWM}=24V
Clamping Voltage	V_C	--	28	30.0	V	I_{PP}=1.0A,Tp=8/20μs
Clamping Voltage	V_C	--	39	40.0	V	I_{PP}=4.0A,Tp=8/20μs
Junction Capacitance	C_j	--	10	12	pF	V_R=0V, f=1MHz

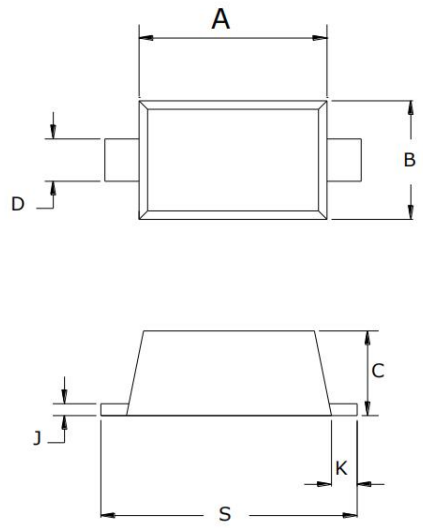
Portion Electronics Parameter

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}
I_T	Test Current
V_{BR}	VBR Breakdown Voltage @ I_T



Package Outline Dimensions

SOD523



SYMBOL	Dimensions In Millimet	
	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)