

ESD1Z ... Series

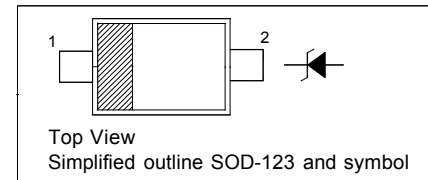
Transient Voltage Suppressors for ESD Protection

Features

- Small Body Outline Dimensions
- Suitable replacement for MLV's in ESD protection applications
- Protects one I/O or power line
- Low clamping voltage
- Low leakage current
- Solid-state silicon-avalanche technology

PINNING

PIN	DESCRIPTION
1	Cathode
2	Anode

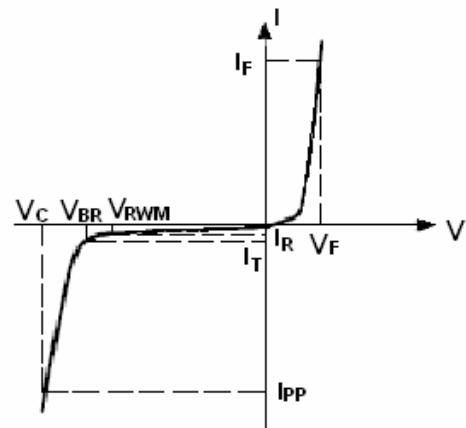


Absolute Maximum Ratings ($T_a = 25^\circ\text{C}$)

Parameter	Symbol	Value	Unit
IEC61000-4-2 (ESD) Air Contact	-	± 15 ± 8	KV
IEC61000-4-4 (EFT)	-	40	A
ESD Voltage	Per Human Body Model	25	KV
	Per Machine Model	400	V
Peak Pulse Power ($t_p = 8/20\mu\text{s}$)	P_{PK}	600	W
Junction Temperature	T_j	125	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	- 55 to + 150	$^\circ\text{C}$

Electrical 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}	Breakdown Voltage @ I_T
I_F	Forward Current
V_F	Forward Voltage @ I_F



Characteristics at $T_a = 25^\circ\text{C}$ ($V_F = 1.1\text{ V Max. at } I_F = 10\text{ mA}$)

Type	Marking Code	Reverse Stand-off Voltage	Reverse Current	Breakdown Voltage		Clamping Voltage			Reverse Peak Pulse Current	Peak Power Dissipation	Capacitance
		V_{RWM}	I_R at V_{RWM}	V_{BR}	at I_T	V_C	at I_{PP}	V_C at Max. I_{PP}	I_{PP}	P_{pk}	C_j
		Max. (V)	Max. (μA)	Min. (V)	(mA)	Typ. (V)	(A)	Max. (V)	Max. (A)	Max. (W)	Typ. (pF)
ESD1Z2V5	2-	2.5	3.0	4	1	6.5	5	10.9	11	120	145
ESD1Z3V3	3-	3.3	1.0	5	1	8.4	5	14.1	11.2	158	105
ESD1Z5V0	5-	5	1.0	6.2	1	11.6	5	18.6	9.4	174	80
ESD1Z6V0	6-	6	1.0	6.8	1	12.4	5	20.5	8.8	181	70
ESD1Z7V0	7-	7	1.0	7.5	1	13.5	5	22.7	8.8	200	65
ESD1Z12	12-	12	1.0	14.1	1	17	5	25	9.6	240	55

Typical Characteristics

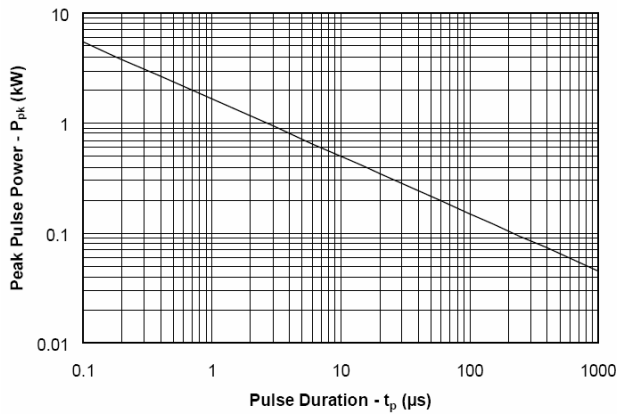


Fig.1 Non-Repetitive Peak Pulse Power vs. Pulse Time

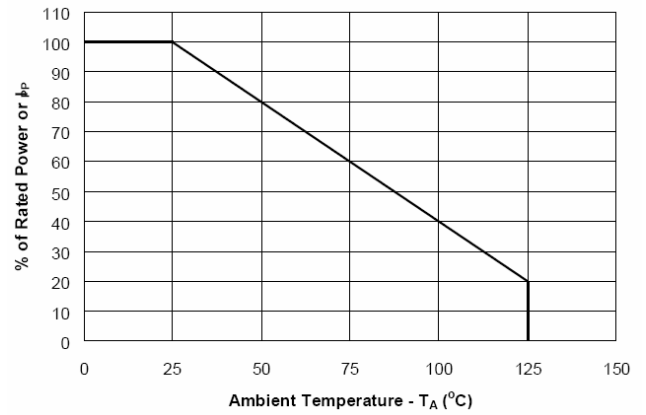


Fig.2 Power Derating Curve

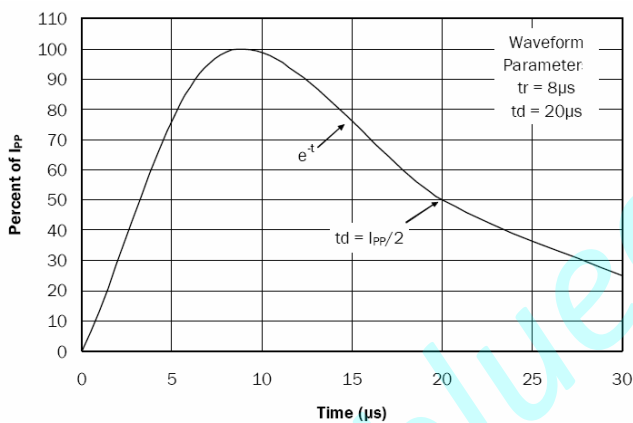


Fig.3 Waveform

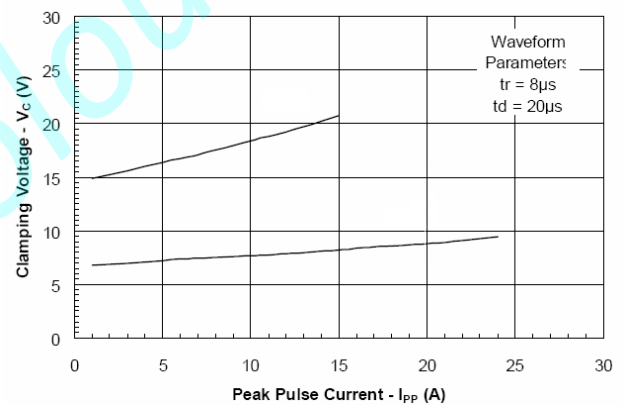


Fig.4 Clamping Voltage vs. Peak Pulse Current

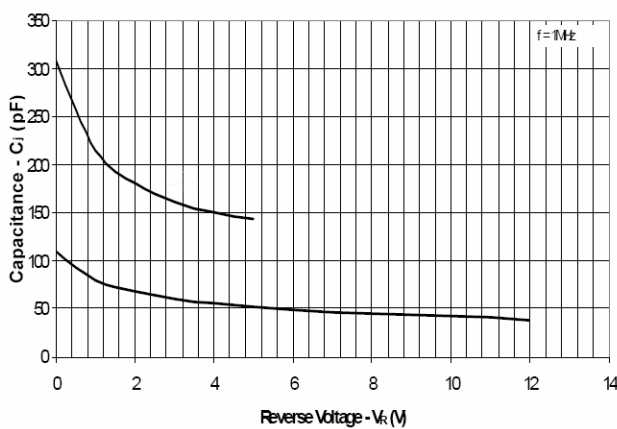


Fig.5 Capacitance vs. Reverse Voltage

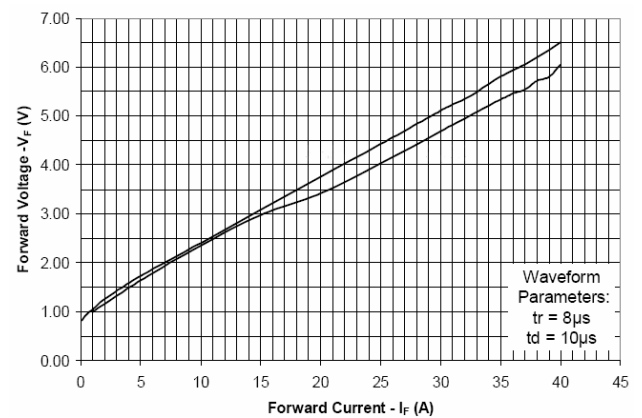


Fig.6 Forward Voltage vs. Forward Current

PACKAGE OUTLINE

Plastic surface mounted package; 2 leads

SOD-123

