

Features

- Small body outline dimensions
- Low body height
- Stand-off voltage: 3.3V-5.0V
- Low leakage
- Response time is typically < 1ns
- Provide transient protection:
IEC 61000-4-2 (ESD) level 4
IEC 61000-4-4 (EFT) 40A (5/50ns)
IEC 61000-4-5 (Surge) (8/20us)
- Lead-free parts meet environmental standards of MIL-STD-19500 /228
- Suffix "-H" indicates Halogen-free parts

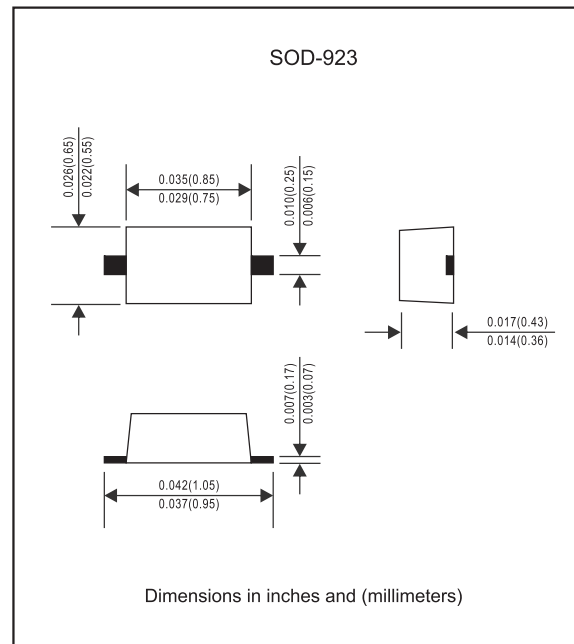
Mechanical data

- Epoxy : UL94-V0 rated flame retardant
- Case : Molded plastic, SOD-923
- Terminals :Plated terminals, solderable per MIL-STD-750, Method 2026
- Mounting Position : Any
- Weight : Approximated 0.00044 gram

Applications

- Cellular phones
- Portable devices
- Digital cameras
- Power supplies

Package outline



Maximum ratings (at T_A=25°C unless otherwise noted)

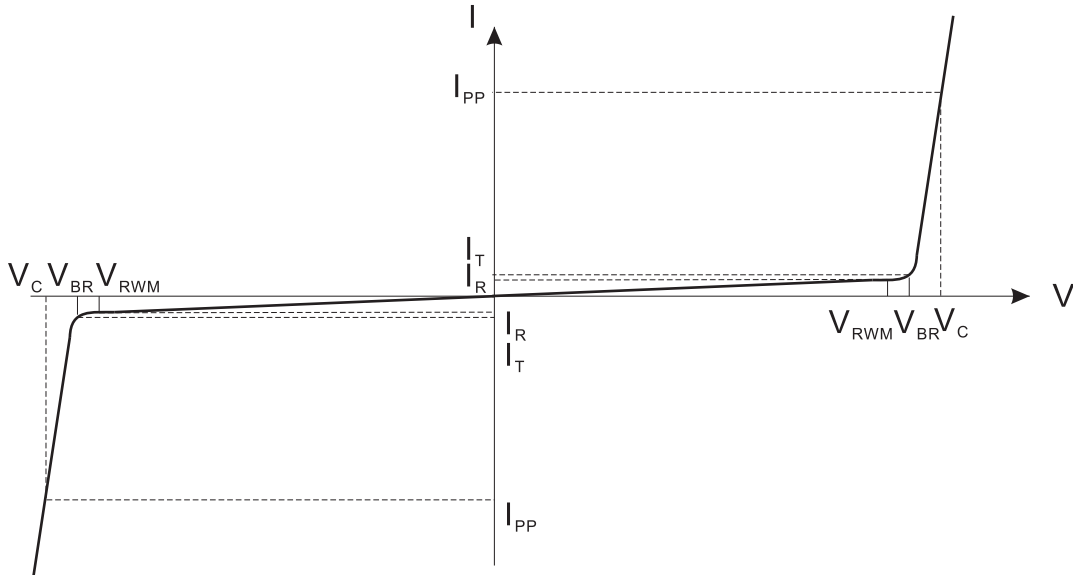
PARAMETER	CONDITIONS	Symbol	Value	UNIT
Peak power dissipation	tp = 8/20 us	P _{PP}	60	W
IEC61000-4-2(ESD)	air discharge contact discharge	E _{SD}	±15 ±8.0	kV
IEC61000-4-4(EFT)		E _{FT}	40	A
ESD voltage	per human body model	E _{SD}	16	kV
Lead solder temperature-maximum	10 second duration	T _L	260	°C
Operating temperature range		T _{OP}	-40~ +125	°C
Maximum junction temperature		T _J	150	°C
Storage temperature range		T _{STG}	-55~+155	°C

Electrical characteristics (at T_A=25°C unless otherwise noted)

Part No.	V _{RWM} (V)	I _R (uA) @V _{RWM}	V _{BR} (V)@I _T (Note 1)		I _T (mA)	V _C (V)(Note 1) @I _{PP} =1.0A*	V _C (V)(Note 1) @Max I _{PP} *	I _{PP} (A)*	P _{PK} (W)*	C _J (pF) V _R =0V and f=1MHz Typ.
	Max	Max	Min	Max		Typ	Max	Max	Max	
ESD9Z3.3C	3.3	2.5	5.0	7.0	1.0	8.4	19.0	2.3	40	18
ESD9Z5.0C	5.0	1.0	6.0	8.0	1.0	8.6	9.0	7.0	60	13

Note *Surge current waveform per Figure 1.
1. VBR is measured with a pulse test current I_T at an ambient temperature of 25°C

Typical characteristics (at $T_A=25^\circ\text{C}$ unless otherwise noted)



Bi-Directional TVS

- V_C : Clamping Voltage @ I_{PP}
- I_{PP} : Maximum Reverse Peak Pulse Current
- V_{RWM} : Maximum Working Peak Reverse voltage
- I_R : Maximum Reverse Leakage Current @ V_{RWM}
- V_{BR} : Breakdown voltage @ I_T
- I_T : Test Current
- C_J : Capacitance @ $V_R = 0\text{V}$ and $f = 1\text{MHz}$

Rating and characteristic curves (ESD9ZxxC SERIES)

FIG.1- PULSE WAVEFORM

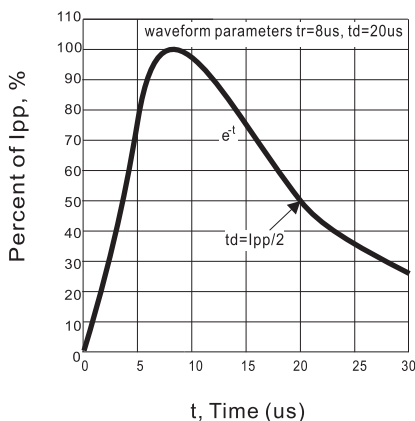
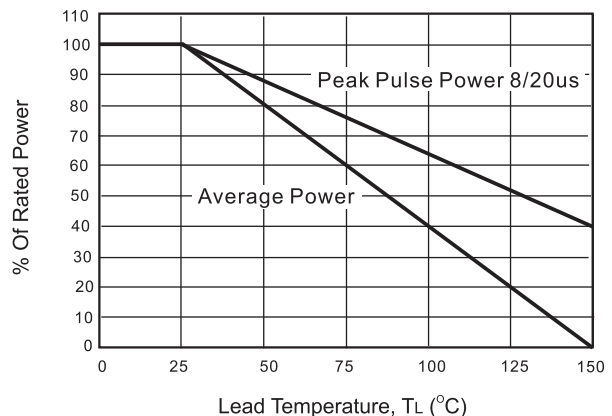



Fig.2- POWER RATING CURVE



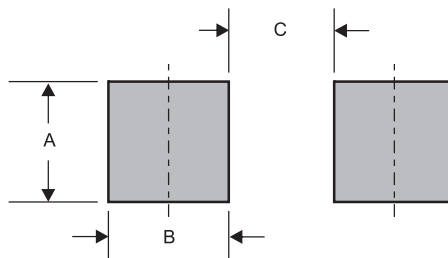
Pinning information

Pin	Symbol
Bi-Directional	

Marking

Type number	Marking code
ESD9Z3.3C	B/E4
ESD9Z5.0C	9C/EA

Suggested solder pad layout



Dimensions in inches and (millimeters)

PACKAGE	A	B	C
SOD-923	0.016 (0.40)	0.012 (0.30)	0.024 (0.60)

Reel packing

PACKAGE	REEL SIZE	REEL (pcs)	COMPONENT SPACING (m/m)	BOX (pcs)	INNER BOX (m/m)	REEL DIA, (m/m)	CARTON SIZE (m/m)	CARTON (pcs)	APPROX. GROSS WEIGHT (kg)
SOD-923	7"	8,000	2.0	80,000	183*123*183	178	382*257*387	640,000	9.50

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