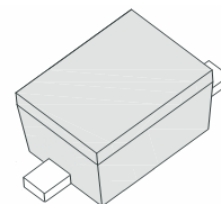


Bidirectional ESD TVS

Features

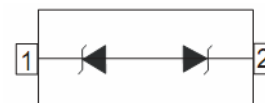
- IEC61000-4-2 (ESD) +15kV (air), +8kV (contact)
- IEC61000-4-5 (lightning) 24A (8/20 μ S)
- Small package for used in portable applications
- Low clamping voltage
- Solid-state silicon avalanche technology
- In compliance with EU RoHS 2002/95/EC directives



SOD-323F

Applications

- Mobile Phones and Accessories
- Universal Serial Bus (USB1.1 and 2.0) Applications
- Portable Consumer Electronics
- Instrumentation Equipment
- Ethernet 10, 100 and 1000 Base Port Protection



Mechanical Data

Case:	SOD-323F, Plastic
Terminals:	Solderable per MIL-STD-750, Method 2026
Weight:	0.0041 grams

Absolute Maximum Ratings

Symbol	Description	Value	Unit
PPP	Peak Pulse Power, 8/20 μ S Waveform	350	W
TJ	Operating Temperature Range	-55 to +125	$^{\circ}$ C
TSTG	Storage Temperature Range	-55 to +150	$^{\circ}$ C
TL	Lead Soldering Temperature (10 seconds)	260	$^{\circ}$ C

Electrical Characteristics ($T_J=25^{\circ}C$)

TVD05BWS

Symbol	Description	Min.	Typ.	Max.	Unit	Conditions
V_{RWM}	Reverse Stand-Off Voltage	-	-	5	V	-
V_{BR}	Reverse Breakdown Voltage	6.37	-	7.04	V	$I_t=1mA$
I_R	Reverse Leakage Current	-	-	5	μA	$V_{RWM}=5V$
V_c	Clamping Voltage (8/20 μS)	-	-	9.8	V	$I_{PP}=5A$
		-	-	14.5	V	$I_{PP}=24A$
C_o	Off-State Junction Capacitance	-	-	200	pF	$f=1MHz, V_R=0V$

TVD12BWS

Symbol	Description	Min.	Typ.	Max.	Unit	Conditions
V_{RWM}	Reverse Stand-Off Voltage	-	-	12	V	-
V_{BR}	Reverse Breakdown Voltage	13.3	-	14.7	V	$I_t=1mA$
I_R	Reverse Leakage Current	-	-	1	μA	$V_{RWM}=12V$
V_c	Clamping Voltage (8/20 μS)	-	-	19	V	$I_{PP}=5A$
		-	-	24	V	$I_{PP}=15A$
C_o	Off-State Junction Capacitance	-	-	100	pF	$f=1MHz, V_R=0V$

TVD15BWS

Symbol	Description	Min.	Typ.	Max.	Unit	Conditions
V_{RWM}	Reverse Stand-Off Voltage	-	-	15	V	-
V_{BR}	Reverse Breakdown Voltage	16.72	-	18.48	V	I _t =1mA
I_R	Reverse Leakage Current	-	-	1	μA	V _{RWM} =15V
V_c	Clamping Voltage (8/20μS)	-	-	24	V	I _{PP} =5A
		-	-	29	V	I _{PP} =10A
C_o	Off-State Junction Capacitance	-	-	75	pF	f=1MHz, V _R =0V

TVD24BWS

Symbol	Description	Min.	Typ.	Max.	Unit	Conditions
V_{RWM}	Reverse Stand-Off Voltage	-	-	24	V	-
V_{BR}	Reverse Breakdown Voltage	26.6	-	29.4	V	I _t =1mA
I_R	Reverse Leakage Current	-	-	1	μA	V _{RWM} =24V
V_c	Clamping Voltage (8/20μS)	-	-	36	V	I _{PP} =1A
		-	-	42	V	I _{PP} =4A
C_o	Off-State Junction Capacitance	-	-	50	pF	f=1MHz, V _R =0V

TVD36BWS

Symbol	Description	Min.	Typ.	Max.	Unit	Conditions
V_{RWM}	Reverse Stand-Off Voltage	-	-	36	V	-
V_{BR}	Reverse Breakdown Voltage	40.57	-	44.84	V	I _t =1mA
I_R	Reverse Leakage Current	-	-	1	μA	V _{RWM} =36V
V_c	Clamping Voltage (8/20μS)	-	-	58	V	I _{PP} =1A
		-	-	71	V	I _{PP} =3A
C_o	Off-State Junction Capacitance	-	-	45	pF	f=1MHz, V _R =0V

Typical Characteristics Curves

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

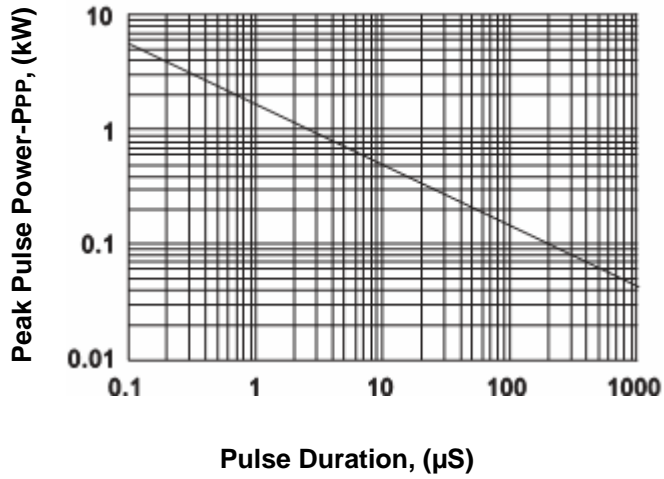


Fig.4-Power Derating Curve

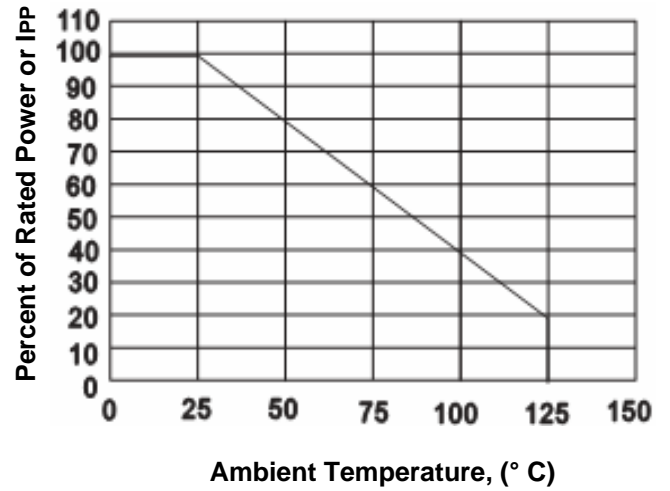
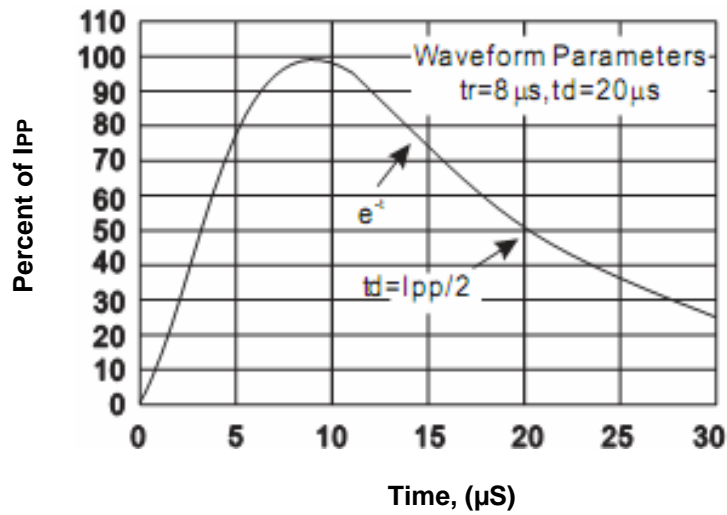
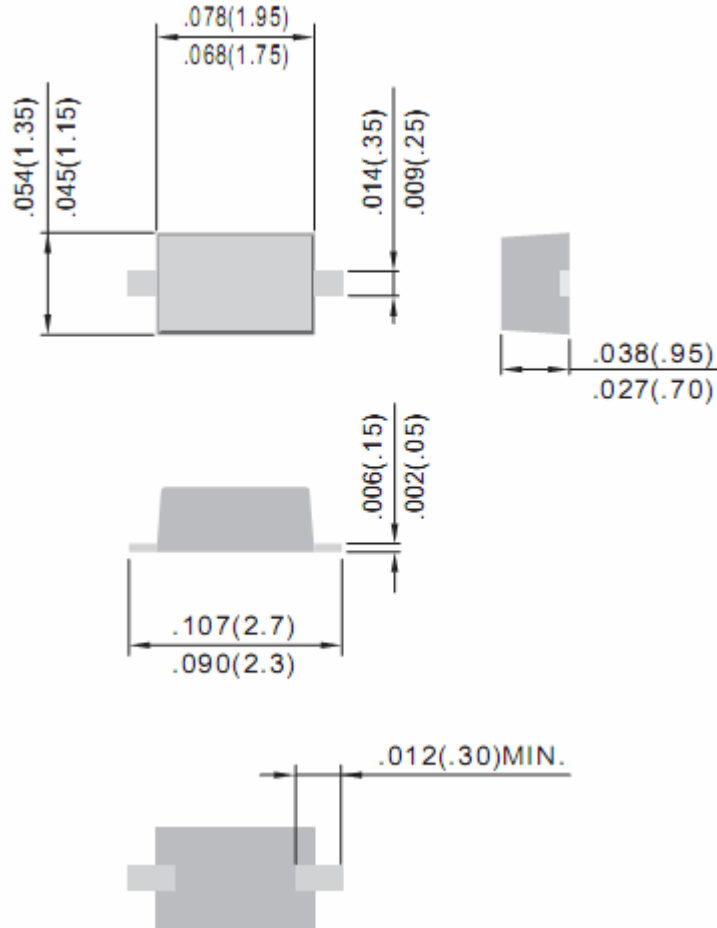


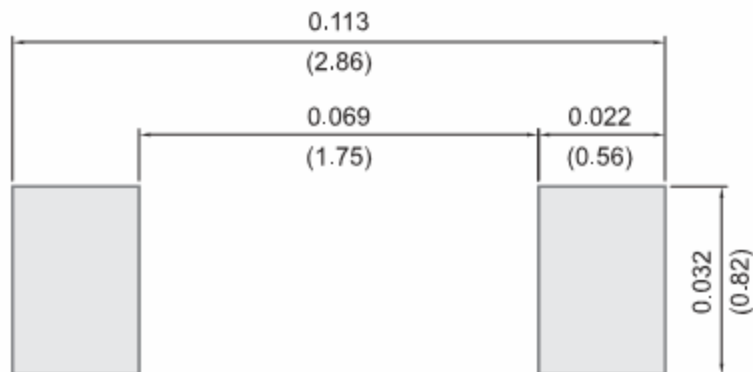
Fig.3-Pulse Waveform



Dimensions in inch (mm)



Mounting Pad Layout inch (mm)



Marking Information

PN	Marking	PN	Marking	PN	Marking
TVD05BWS	EZB	TVD15BWS	EZE	TVD36BWS	EZG
TVD12BWS	EZD	TVD24BWS	EZF	-	-

Packing Information

Tape and Reel: 12K per 13" plastic reel

5K per 7" plastic reel

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