

ESD3Z...BWS Series

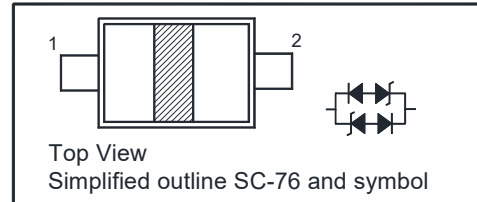
ESD Protection Diode

Features

- Low clamping voltage
- Low capacitance

PINNING

PIN	DESCRIPTION
1	Cathode
2	Cathode



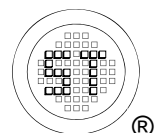
Absolute Maximum Ratings (T_a = 25°C)

Parameter	Symbol	Value	Unit
Peak Pulse Power (tp = 8/20 μs)	P _{pk}	350	W
IEC61000-4-2 (ESD) Air Contact	V _{ESD}	± 15 ± 8	KV
Operating Temperature Range	T _j	- 55 to + 125	°C
Storage Temperature Range	T _{stg}	- 55 to + 150	°C

Characteristics at T_a = 25°C

Type	Reverse Stand-off Voltage	Reverse Current	Breakdown Voltage		Clamping Voltage ¹⁾				Capacitance		
	V _{RWM}	I _R at V _{RWM}	V _{BR}	at I _{BR}	V _C	at I _{PP}	V _C	at I _{PP}	C _j	at f	at V _R
	Max. (V)	Max. (μA)	Min. (V)	mA	Max. (V)	A	Max. (V)	A	Max. (pF)	MHz	V
ESD3Z3V0BWS	3	20	3.3	1	7.5	1	20	20	3	1	0
ESD3Z5V0BWS	5	5	6.1	1	9.8	1	20	18	3	1	0
ESD3Z8V0BWS	8	1	8.6	1	13.4	1	24	18	3	1	0
ESD3Z12BWS	12	1	13.5	1	19	1	28.6	12	3	1	0
ESD3Z15BWS	15	1	17.39	1	24	1	31.8	10	3	1	0
ESD3Z24BWS	24	1	27.27	1	43	1	56	6	3	1	0

¹⁾ tp = 8/20 μs.



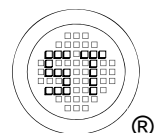
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Characteristics at $T_a = 25^\circ\text{C}$

Type	ESD Clamping Voltage		ESD Clamping Voltage		Dynamic Resistance ¹⁾
	V_{CL}	at $I_{TLP}^{2)}$	V_{CL}	at $I_{TLP}^{2)}$	R_{dyn}
	Typ.(V)	(A)	Typ.(V)	(A)	(Ω)
ESD3Z3V0BWS	8.5	4	12.5	16	0.33
ESD3Z5V0BWS	10.2	4	15.2	16	0.42
ESD3Z8V0BWS	12.5	4	17	16	0.38

¹⁾ Dynamic Resistance calculated from $I_{TLP} = 4\text{A}$ to $I_{TLP} = 16\text{A}$.

²⁾ $t_p = 0.2/100\text{ ns}$



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Electrical characteristics curves

Fig 1. Pulse Waveform

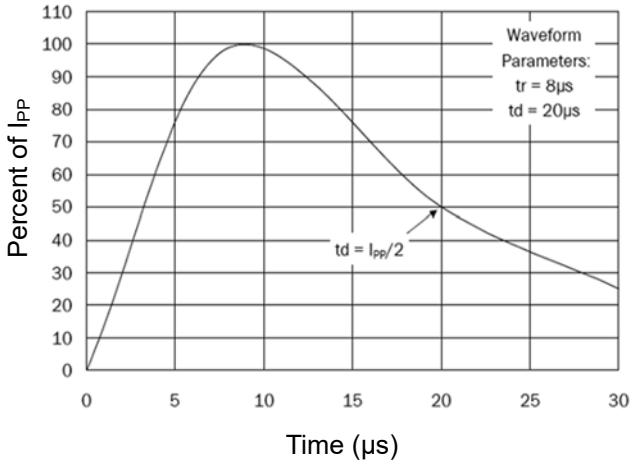


Fig 2. Power Derating Curve

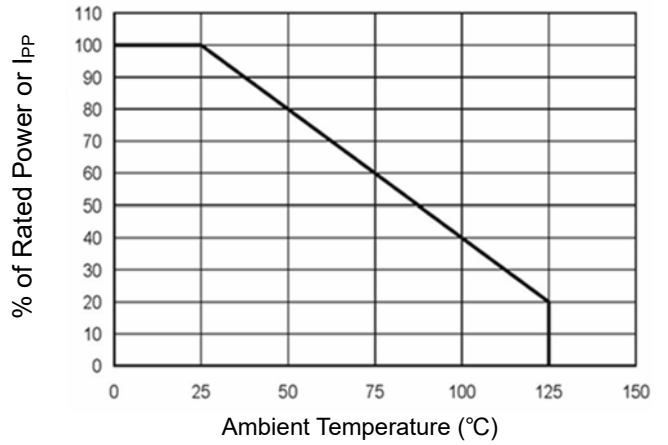


Fig 3. Clamping Voltage Curve

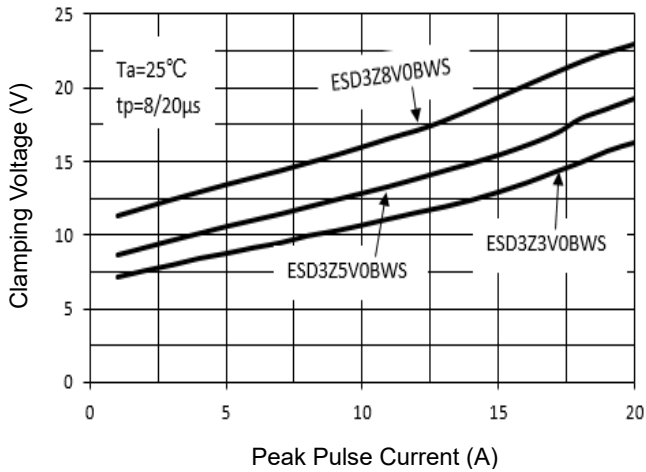


Fig 4. Junction Capacitance

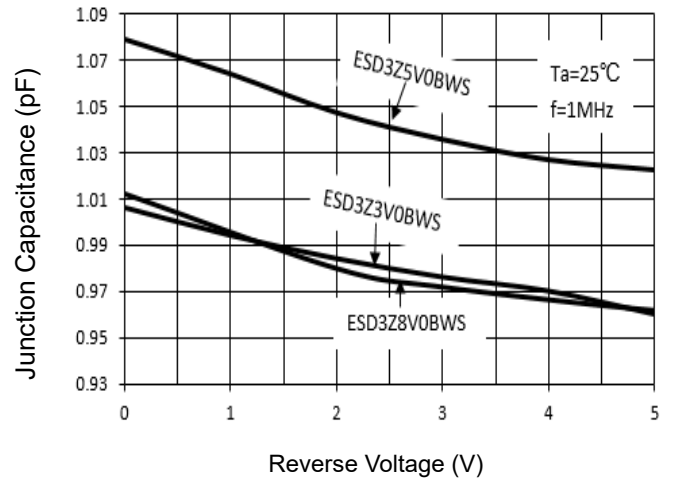


Fig 5. TLP Curve

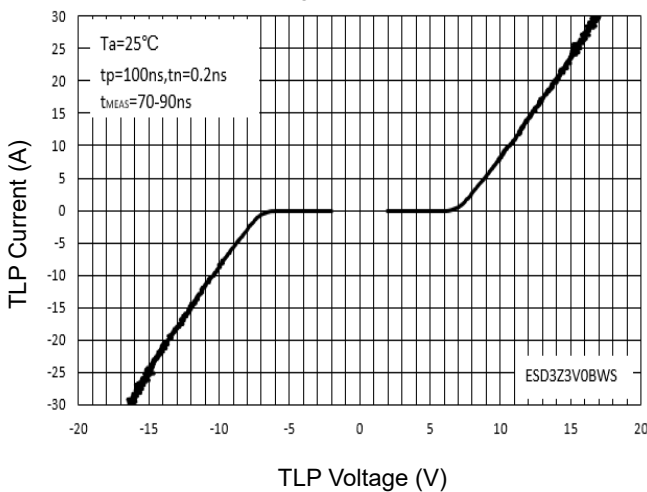
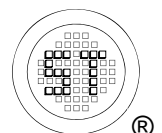
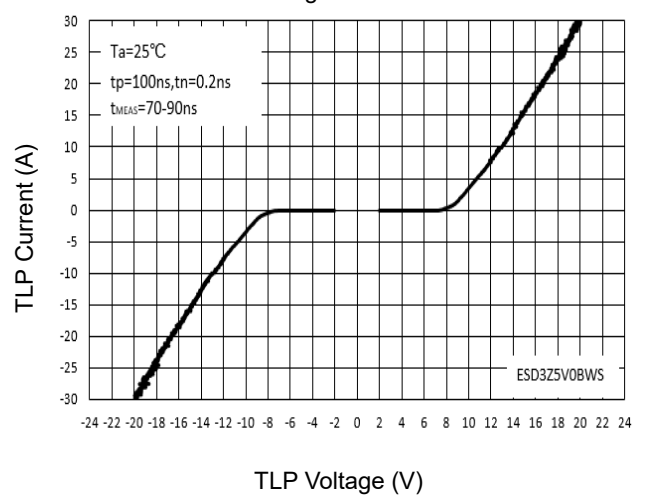


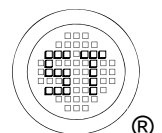
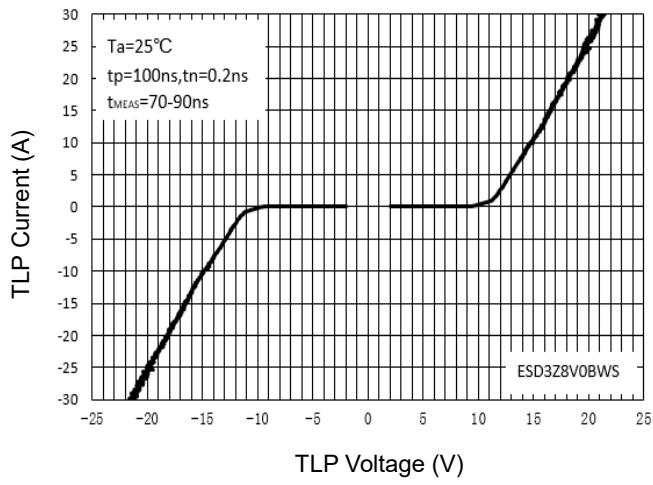
Fig 6. TLP Curve



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Electrical characteristics curves

Fig 7. TLP Curve

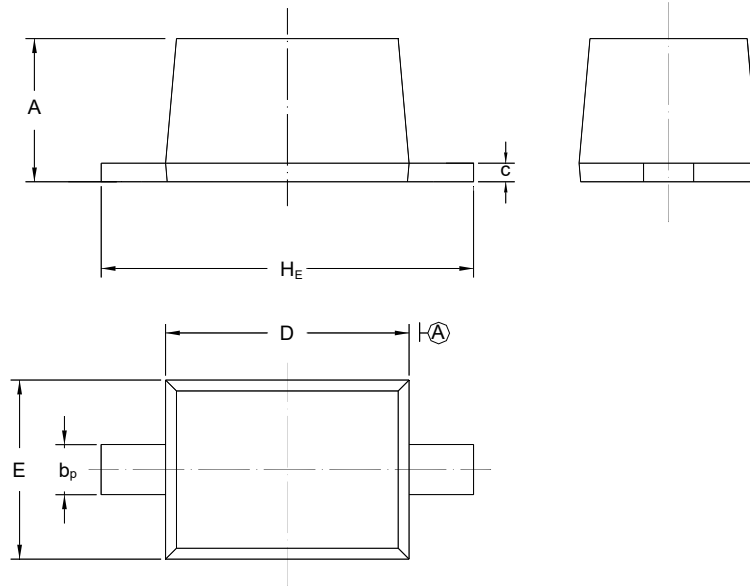


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PACKAGE OUTLINE

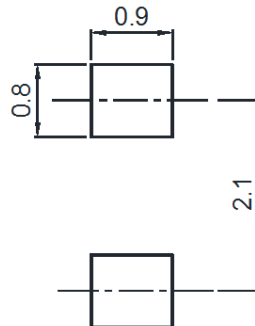
Plastic surface mounted package; 2 leads

SC-76



UNIT	A	b _p	C	D	E	H _E
mm	1.10 0.80	0.40 0.25	0.15 0.10	1.80 1.60	1.35 1.15	2.80 2.30

Recommended Soldering Footprint



Packing information

Package	Tape Width (mm)	Pitch		Reel Size		Per Reel Packing Quantity
		mm	inch	mm	inch	
SC-76	8	4 ± 0.1	0.157 ± 0.004	178	7	3,000

Marking information

" III ": Polarity marking

