

1.Description

The PSDxx and PSDxxC Series are transient voltage suppressor arrays designed for ESD protection of SMART phones, laptop computers and other portable electronics. These silicon based diodes offer superior clamping voltage and performance compared to other technologies such as MLVs.

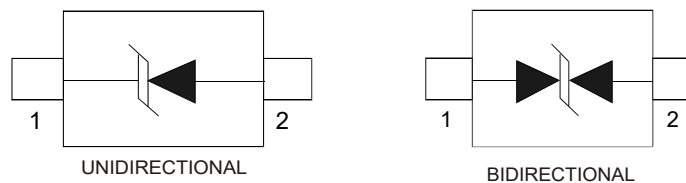
3.Features

- Compatible with IEC 61000-4-2 (ESD): Air -15kV, Contact - 8kV
- Compatible with IEC 61000-4-4 (EFT): 40A -5/50ns
- Compatible with IEC 61000-4-5 (Surge): 24A, 8/20 μ s Level 2(Line-Gnd) & Level 3 (Line-Line)
- Unidirectional: 500W Peak Pulse Power per Line (tp = 8/20 μ s)
- Bidirectional: 400W Peak Pulse Power per Line (tp = 8/20 μ s)

2.Applications

- Laptop Computers
- SMART Phones
- Portable Electronics
- Replacement for MLV (0805)
- Unidirectional & Bidirectional Configurations
- Protects One Power or I/O Port
- ESD Protection > 25kV
- Low Clamping Voltage
- Available in Multiple Voltages Ranging From 3V to 36V
- RoHS Compliant
- REACH Compliant

4.Pinning information



SOD-323



5. Maximum Ratings @ 25°C Unless Otherwise Specified

Parameter	Symbol	Value	Units
Unidirectional: Peak Pulse Power (tp = 8/20μs) - See Figure 1	P _{PP}	500	W
Bidirectional: Peak Pulse Power (tp = 8/20μs) - See Figure 1	P _{PP}	400	W
Operating Temperature	T _L	-55 to 150	°C
Storage Temperature	T _{STG}	-55 to 150	°C



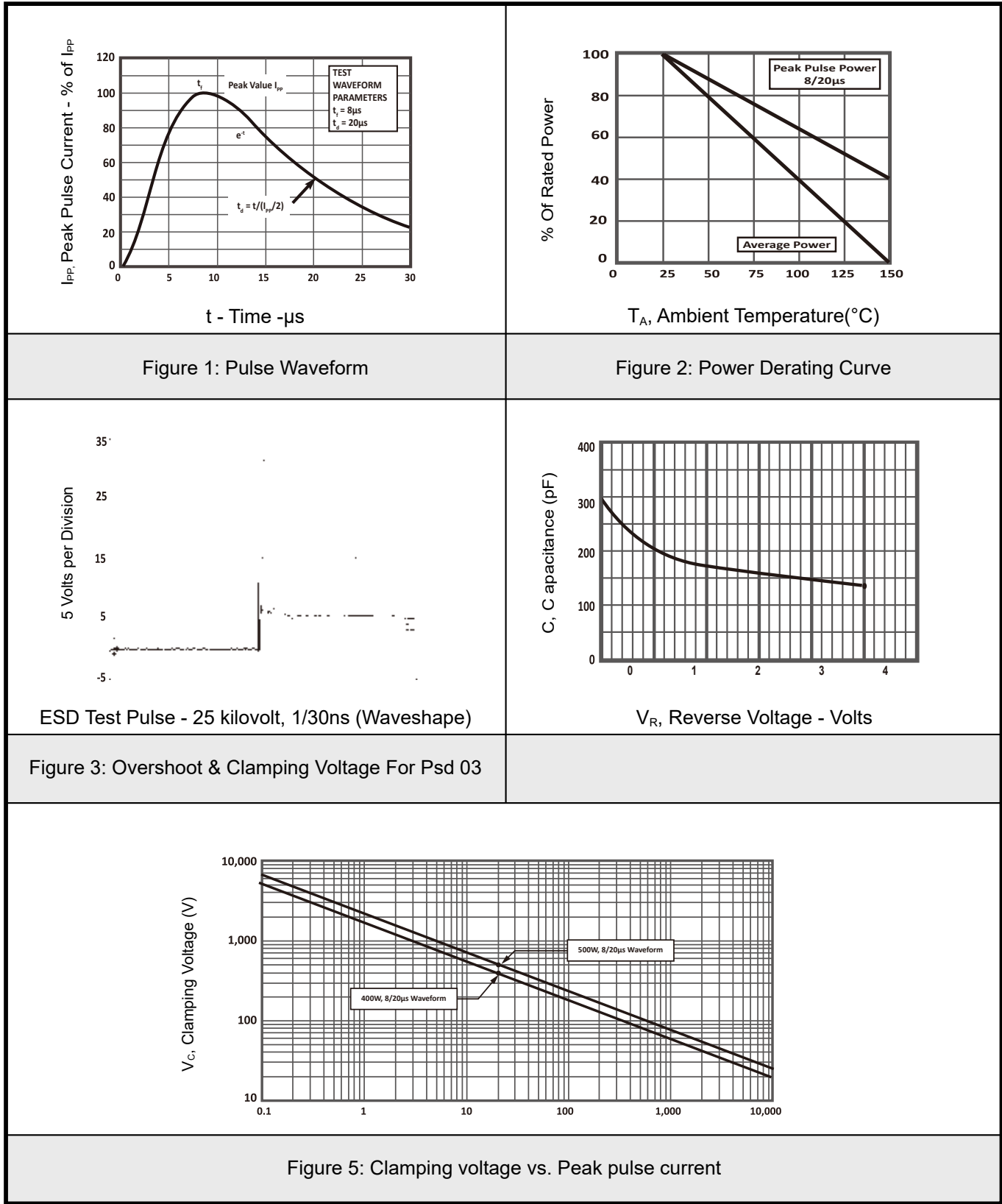
6. Electrical Characteristic ($T_A=25^\circ\text{C}$ unless otherwise noted)

PART NUMBER (Note 1)	RATED STAND-OFF VOLTAGE	MINIMUM BREAKDOWN VOLTAGE	MAXIMUM CLAMPING VOLTAGE	MAXIMUM LEAKAGE CURRENT	TYPICAL CAPACITANCE
		@ 1mA	@ 1mA	@ 1mA	@ 1mA
	V_{WM}	$V_{(BR)}$	$V_{(BR)}$	$V_{(BR)}$	$V_{(BR)}$
	VOLTS	VOLTS	VOLTS	VOLTS	VOLTS
PSD03	3.3	4.0	6.5	125	500
PSD03C	3.3	4.0	7.0	125	200
PSD05	5.0	6.0	9.8	10	350
PSD05C	5.0	6.0	9.8	10	175
PSD08	8.0	8.5	13.4	10	250
PSD08C	8.0	8.5	13.4	10	150
PSD12	12.0	13.3	19.0	1	150
PSD12C	12.0	13.3	19.0	1	50
PSD15	15.0	16.7	24.0	1	100
PSD15C	15.0	16.7	24.0	1	40
PSD18	18.0	20.0	29.0	1	90
PSD18C	18.0	20.0	29.0	1	40
PSD24	24.0	26.7	43.0	1	88
PSD24C	24.0	26.7	43.0	1	40
PSD36	36.0	40.0	60.0	1	75
PSD36C	36.0	40.0	60.0	1	35

Notes: 1. Part numbers with an additional "C" suffix are bidirectional devices, i.e., PSD05 C.

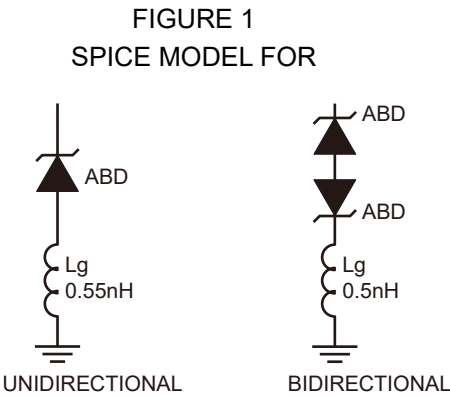


7. Typical characteristic





8.Spice Model



ABD - Avalanche Breakdown Diode (TVS)
Lg - Lead Inductance

TABLE 1 - SPICE PARAMETERS		
Parameter	Unit	ABD(TVS)
BV	V	See Table 2
IBV	μA	1
C _{Jo}	pF	See Table 2
I _s	A	See Table 2
VJ	V	0.6
M		0.33
N		1
R _s	Ohms	See Table 2
TT	s	1E-8
EG	eV	1.11

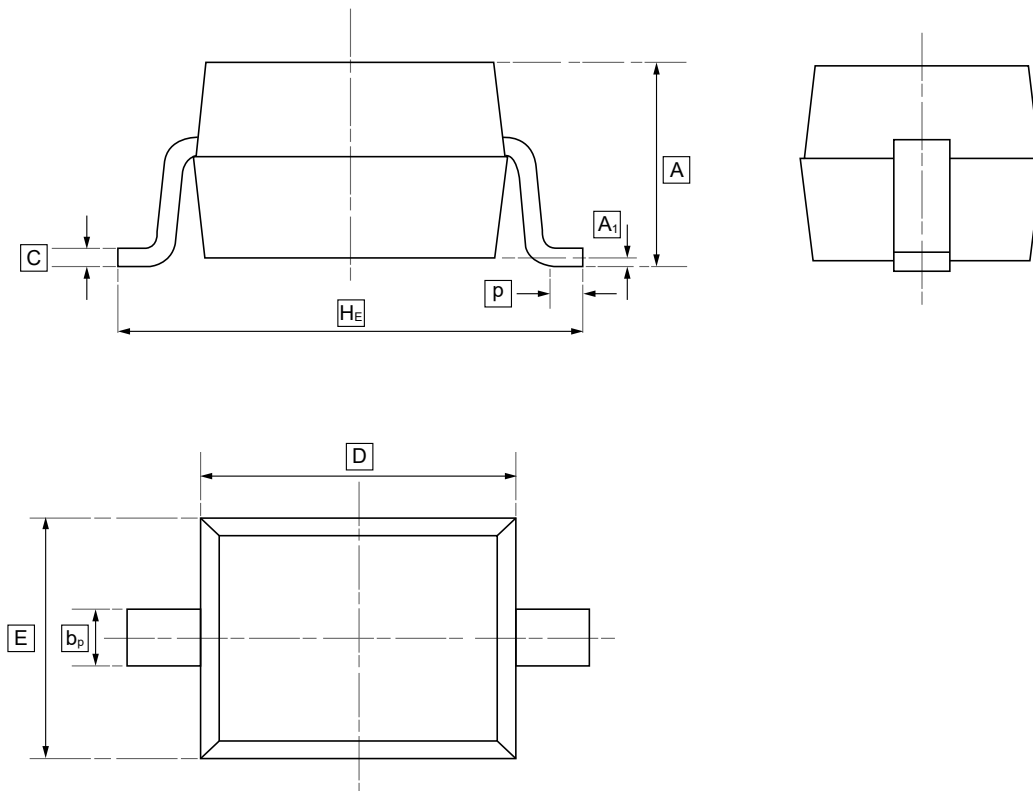


TABLE 2 - ABD SPECIFIC SPICE PARAMETERS

PART NUMBER	B _v (VOLTS)	C _{jo} (pF)	I _s (AMPS)	R _s (OHMS)
PSD03	4.0	438	1E-11	0.21
PSD05	6.0	284	1E-11	0.14
PSD08	8.5	146	1E-11	0.28
PSD12	13.3	123	1E-13	0.40
PSD15	16.7	102	1E-13	0.52
PSD24	26.7	61	1E-13	1.54
PSD03C	4.5	219	1E-11	0.21
PSD05C	6.0	142	1E-11	0.14
PSD08C	8.5	73	1E-11	0.28
PSD12C	13.3	62	1E-13	0.40
PSD15C	16.7	51	1E-13	0.52
PSD24C	26.7	30	1E-13	1.54



9.SOD-323 Package Outline Dimensions



DIMENSIONS (mm are the original dimensions)

Symbol	A	b_p	C	D	E	H_E	A_1	p
Min	0.90	0.25	0.10	1.60	1.15	2.30	0.01	0.20
Max	1.20	0.40	0.15	1.80	1.35	2.80	0.10	0.50



10. Ordering information



Order Code	Marking	Package	Base QTY	Delivery Mode
UMW PSD03-LF-T7	A	SOD-323	3000	Tape and reel
UMW PSD03C-LF-T7	G	SOD-323	3000	Tape and reel
UMW PSD05-LF-T7	B	SOD-323	3000	Tape and reel
UMW PSD05C-LF-T7	H	SOD-323	3000	Tape and reel
UMW PSD08-LF-T7	C	SOD-323	3000	Tape and reel
UMWPSD08C-LF-T7	J	SOD-323	3000	Tape and reel
UMW PSD12-LF-T7	D	SOD-323	3000	Tape and reel
UMW PSD12C-LF-T7	K	SOD-323	3000	Tape and reel
UMW PSD15-LF-T7	E	SOD-323	3000	Tape and reel
UMWPSD15C-LF-T7	L	SOD-323	3000	Tape and reel
UMWPSD18-LF-T7	18	SOD-323	3000	Tape and reel
UMW PSD18C-LF-T7	N	SOD-323	3000	Tape and reel
UMW PSD24-LF-T7	F	SOD-323	3000	Tape and reel
UMW PSD24C-LF-T7	M	SOD-323	3000	Tape and reel
UMW PSD36-LF-T7	R	SOD-323	3000	Tape and reel
UMW PSD36C-LF-T7	T	SOD-323	3000	Tape and reel



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