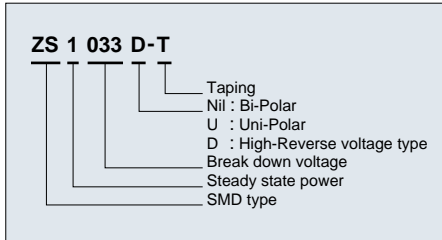
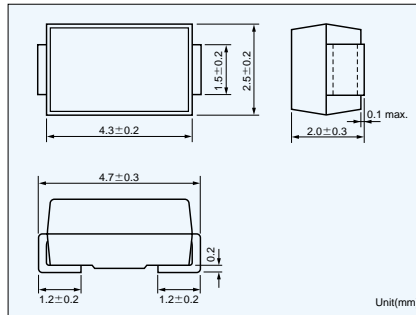


# SMD VRD

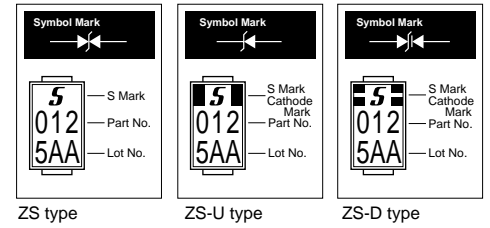
## Part number



## Dimensions

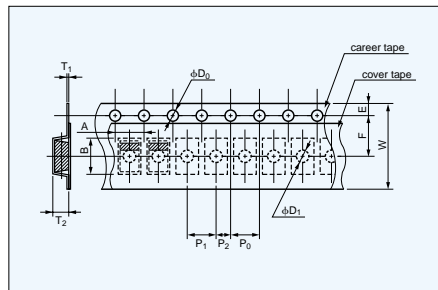


## Marking



	Maximum Rating
Steady state power dissipation	1.0W
Peak pulse power	300W(10/1000 $\mu$ s)
	1200W(1.2/50 $\mu$ s)
	2000W(8/20 $\mu$ s)
Storage temp. range	-40~150°C

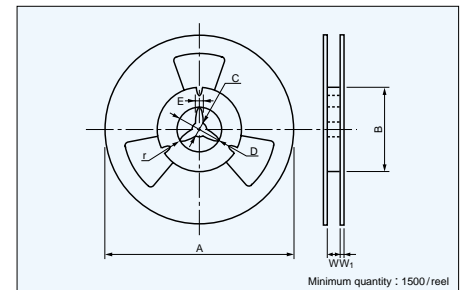
## Taping



A	B	W	F	E	P <sub>1</sub>	P <sub>2</sub>	P <sub>0</sub>	φD <sub>0</sub>	φD <sub>1</sub>	T <sub>1</sub>	T <sub>2</sub>
3.0 ±0.1	5.2 ±0.1	12.0 ±0.3	5.5 ±0.05	1.75 ±0.1	4.0 ±0.1	2.0 ±0.1	4.0 ±0.1	1.5 +0.1 -0	1.5 +0.2 -0	0.3 ±0.05	(2.6)

Unit (mm)

## Dimension of reel



A	B	C	D	E	W	W <sub>1</sub>	r
φ178 ±2.0	φ80 ±1.0	φ13 ±0.5	φ21 ±0.8	2.0 ±0.5	14.0 ±1.5	1.5 +0.5 -1.0	(1.0)

Unit (mm)

## Specifications

### ZS type

Part No.	Breakdown voltage	Stand-off voltage	Maximum leakage current	Maximum clamping voltage & Maximum peak pulse current				Temperature coefficient	Capacitance (TYP)
	V <sub>B</sub>	V <sub>S</sub>	I <sub>L</sub> max	V <sub>C</sub> max/I <sub>PP</sub>				25°C~50°C	C
	It=1mA	D.C.	V <sub>S</sub>	10/1000 $\mu$ s		8/20 $\mu$ s			
	V	V	$\mu$ A	V	A	V	A		
ZS1012	12(10.8~13.2)	9.72	10	17.3	17.3	22.4	89.3	0.066	551
ZS1015	15(13.5~16.5)	12.1	5	22.0	13.6	28.5	70.2	0.075	465
ZS1018	18(16.2~19.8)	14.5	5	26.5	11.3	34.4	58.1	0.079	376
ZS1022	22(19.8~24.2)	17.8	5	31.9	9.40	41.4	48.3	0.082	299
ZS1027	27(24.3~29.7)	21.8	5	39.1	7.67	50.7	39.4	0.085	248
ZS1033	33(29.7~36.3)	26.8	5	47.7	6.29	61.8	32.4	0.087	198
ZS1039	39(35.1~42.9)	31.6	5	56.4	5.32	73.1	27.4	0.090	164
ZS1047	47(42.3~51.7)	38.1	5	67.8	4.42	88.0	22.7	0.092	137

### ZS-U type

Part No.	Breakdown voltage	Stand-off voltage	Maximum leakage current	Maximum clamping voltage & Maximum peak pulse current				Temperature coefficient	Capacitance (TYP)
	V <sub>B</sub>	V <sub>S</sub>	I <sub>L</sub> max	V <sub>C</sub> max/I <sub>PP</sub>				25°C~50°C	C
	It=1mA	D.C.	V <sub>S</sub>	10/1000 $\mu$ s		8/20 $\mu$ s			
	V	V	$\mu$ A	V	A	V	A		
ZS1012U	12(10.8~13.2)	9.72	10	17.3	17.3	22.4	89.3	0.066	1,102
ZS1015U	15(13.5~16.5)	12.1	5	22.0	13.6	28.5	70.2	0.075	929
ZS1018U	18(16.2~19.8)	14.5	5	26.5	11.3	34.4	58.1	0.079	751
ZS1022U	22(19.8~24.2)	17.8	5	31.9	9.40	41.4	48.3	0.082	598
ZS1027U	27(24.3~29.7)	21.8	5	39.1	7.67	50.7	39.4	0.085	497
ZS1033U	33(29.7~36.3)	26.8	5	47.7	6.29	61.8	32.4	0.087	395
ZS1039U	39(35.1~42.9)	31.6	5	56.4	5.32	73.1	27.4	0.090	328
ZS1047U	47(42.3~51.7)	38.1	5	67.8	4.42	88.0	22.7	0.092	274

### ZS-D type

Part No.	Breakdown voltage	Stand-off voltage	Maximum leakage current	Maximum clamping voltage & Maximum peak pulse current				Temperature coefficient	Capacitance (TYP)
	V <sub>B</sub>	V <sub>S</sub>	I <sub>L</sub> max	V <sub>C</sub> max/I <sub>PP</sub>				25°C~50°C	C
	It=1mA	D.C.	V <sub>S</sub>	10/1000 $\mu$ s		8/20 $\mu$ s			
	V	V	$\mu$ A	V	A	V	A		
ZS1012D	12(10.8~13.2)	9.72	10	17.3	17.3	22.4	89.3	0.066	30.2
ZS1015D	15(13.5~16.5)	12.1	5	22.0	13.6	28.5	70.2	0.075	29.1
ZS1018D	18(16.2~19.8)	14.5	5	26.5	11.3	34.4	58.1	0.079	28.2
ZS1022D	22(19.8~24.2)	17.8	5	31.9	9.40	41.4	48.3	0.082	27.3
ZS1027D	27(24.3~29.7)	21.8	5	39.1	7.67	50.7	39.4	0.085	26.4
ZS1033D	33(29.7~36.3)	26.8	5	47.7	6.29	61.8	32.4	0.087	25.5
ZS1039D	39(35.1~42.9)	31.6	5	56.4	5.32	73.1	27.4	0.090	24.8
ZS1047D	47(42.3~51.7)	38.1	5	67.8	4.42	88.0	22.7	0.092	24.0