

SuperTVS – 3000W Transient Voltage Suppressor

1. Features

- For surface mounted applications in order to optimize board space
- Low profile package
- Built-in strain relief
- Glass passivated junction
- Low inductance
- Excellent clamping capability
- Meets MSL level 1, per J-STD-020
- 3000W peak pulse power capability at 10/1000µs waveform, repetition rate (duty cycle): 0.01%
- Fast response time
- Typical IR less than 1µA above 10V
- Plastic package has underwriters laboratory flammability 94V-0
- High Temperature soldering: 260°C/10 seconds at terminals

2. Mechanical Data

- Case: JEDEC DO-214AB. Molded plastic over glass passivated junction
- Terminal: Solder plated, solderable per MIL-STD-750, Method 2026
- Polarity: Color band denotes cathode except bi-directional models
- Standard Packaging: 12mm tape
- Weight: 0.28g

3. Maximum Ratings and Characteristics

Ratings at 25° ambient temperature unless otherwise specified

Rating	Symbol	Value	Units
Peak pulse power dissipation at 10/1000us waveform(Note1,2)	P _{PPM}	3000	W
Peak pulse current of at 10/1000us waveform(Note1)	I _{PPM}	See Table	A
Steady state power dissipation at TA=50°C	P _{M(AV)}	6.5	W
Peak forward surge current, 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)(Note3)	I _{FSM}	300	A
Operating junction and Storage Temperature Range	T _J , T _{STG}	-65 to 150	°C
Typical thermal resistance junction to lead	R _{θJL}	15	°C/W
Typical thermal resistance junction to ambient	R _{θJA}	75	°C/W

SMDJ SERIES

Rev-1.1

Notes:

1. Non-repetitive current pulse, per Fig.3 and derated above TA=25°C per Fig.2.
2. Mounted on 8.0mm×8.0mm copper pads to each terminal.
3. 8.3ms single half sine-wave, or equivalent square wave, duty cycle=4 pulses per minutes maximum.

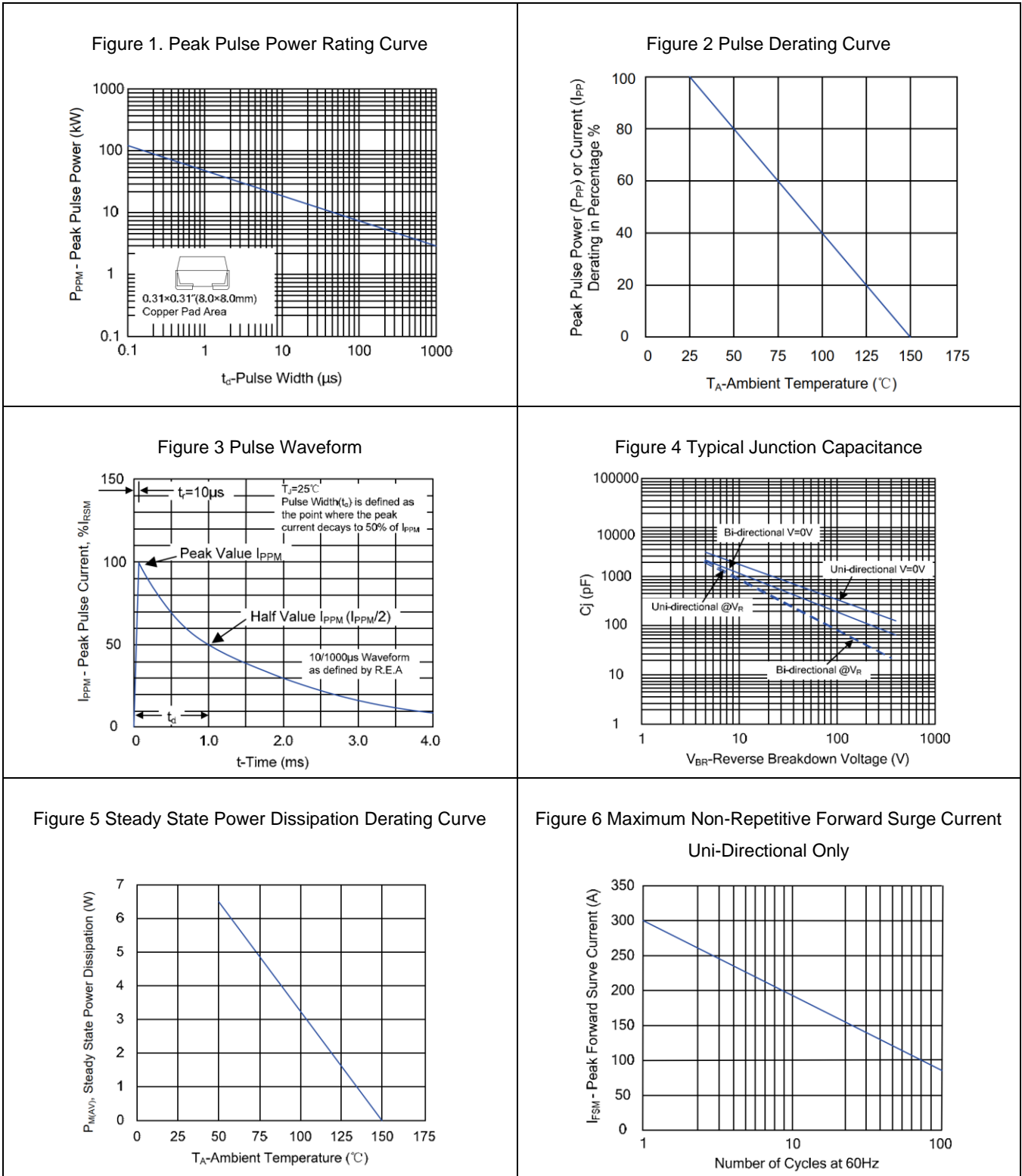
4. Electrical Characteristics (TA=25°C)

Part Number	Part Number	Marking		Reverse Stand off Voltage V _R	Breakdown Voltage V _{BR} (Volts) @ I _T		Test Current I _T	Maximum Clamping Voltage V _C @ I _{PP}	Maximum Peak Pulse Current I _{PP}	Maximum Reverse Leakage I _R @ V _R	ROHS2.0
					MIN	MAX					
UNI	BI	UNI	BI	(V)			(mA)	(V)	(A)	(μA)	
SMDJ5.0A	SMDJ5.0CA	RDE	DDE	5	6.4	7	10	9.2	326.1	400	y
SMDJ6.0A	SMDJ6.0CA	RDG	DDG	6	6.67	7.37	10	10.3	291.3	400	y
SMDJ6.5A	SMDJ6.5CA	RDK	DDK	6.5	7.22	7.98	10	11.2	267.9	250	y
SMDJ7.0A	SMDJ7.0CA	PDM	DDM	7	7.78	8.6	10	12	250	100	y
SMDJ7.5A	SMDJ7.5CA	PDP	DDP	7.5	8.33	9.21	1	12.9	232.6	80	y
SMDJ8.0A	SMDJ8.0CA	PDR	DDR	8	8.89	9.83	1	13.6	220.6	50	y
SMDJ8.5A	SMDJ8.5CA	PDT	DDT	8.5	9.44	10.4	1	14.4	208.3	20	y
SMDJ9.0A	SMDJ9.0CA	PDV	DDV	9	10	11.1	1	15.4	194.8	10	y
SMDJ10A	SMDJ10CA	PDX	DDX	10	11.1	12.3	1	17	176.5	5	y
SMDJ11A	SMDJ11CA	PDZ	DDZ	11	12.2	13.5	1	18.2	164.8	2	y
SMDJ12A	SMDJ12CA	PEE	DEE	12	13.3	14.7	1	19.9	150.8	2	y
SMDJ13A	SMDJ13CA	PEG	DEG	13	14.4	15.9	1	21.5	139.5	2	y
SMDJ14A	SMDJ14CA	PEK	DEK	14	15.6	17.2	1	23.2	129.3	2	y
SMDJ15A	SMDJ15CA	PEM	DEM	15	16.7	18.5	1	24.4	123	2	y
SMDJ16A	SMDJ16CA	PEP	DEP	16	17.8	19.7	1	26	115.4	2	y
SMDJ17A	SMDJ17CA	PER	DER	17	18.9	20.9	1	27.6	108.7	2	y
SMDJ18A	SMDJ18CA	PET	DET	18	20	22.1	1	29.2	102.7	2	y
SMDJ20A	SMDJ20CA	PEV	DEV	20	22.2	24.5	1	32.4	92.6	2	y
SMDJ22A	SMDJ22CA	PEX	DEX	22	24.4	26.9	1	35.5	84.5	2	y
SMDJ24A	SMDJ24CA	PEZ	DEZ	24	26.7	29.5	1	38.9	77.1	2	y
SMDJ26A	SMDJ26CA	PFE	DFE	26	28.9	31.9	1	42.1	71.3	2	y
SMDJ28A	SMDJ28CA	PFG	DFG	28	31.1	34.4	1	45.4	66.1	2	y
SMDJ30A	SMDJ30CA	PFK	DFK	30	33.3	36.8	1	48.4	62	2	y
SMDJ33A	SMDJ33CA	PFM	DFM	33	36.7	40.6	1	53.3	56.3	2	y
SMDJ36A	SMDJ36CA	PFP	DFP	36	40	44.2	1	58.1	51.6	2	y
SMDJ40A	SMDJ40CA	PFR	DFR	40	44.4	49.1	1	64.5	46.5	2	y
SMDJ43A	SMDJ43CA	PFT	DFT	43	47.8	52.8	1	69.4	43.2	2	y

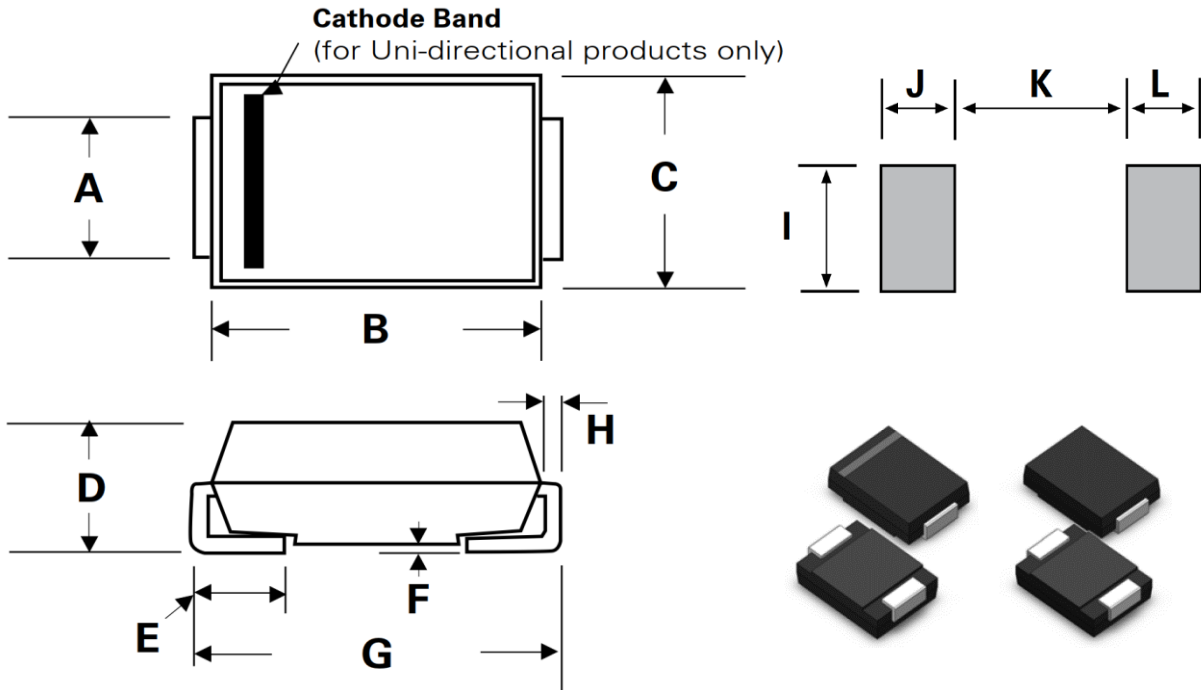
Part Number	Part Number	Marking		Reverse Stand off Voltage V_R	Breakdown Voltage V_{BR} (Volts) @ I_R		Test Current I_R	Maximum Clamping Voltage V_C @ I_{PP}	Maximum Peak Pulse Current I_{PP}	Maximum Reverse Leakage I_R @ V_R	ROHS2.0
					MIN	MAX					
UNI	BI	UNI	BI	(V)			(mA)	(V)	(A)	(μ A)	
SMDJ45A	SMDJ45CA	PFV	DFV	45	50	55.3	1	72.7	41.3	2	y
SMDJ48A	SMDJ48CA	PFX	DFX	48	53.3	58.9	1	77.4	38.8	2	y
SMDJ51A	SMDJ51CA	PFZ	DFZ	51	56.7	62.7	1	82.4	36.4	2	y
SMDJ54A	SMDJ54CA	RGE	DGE	54	60	66.3	1	87.1	34.4	2	y
SMDJ58A	SMDJ58CA	PGG	DGG	58	64.4	71.2	1	93.6	32.1	2	y
SMDJ60A	SMDJ60CA	PGK	DGK	60	66.7	73.7	1	96.8	31	2	y
SMDJ64A	SMDJ64CA	PGM	DGM	64	71.1	78.6	1	103	29.1	2	y
SMDJ70A	SMDJ70CA	PGP	DGP	70	77.8	86	1	113	26.5	2	y
SMDJ75A	SMDJ75CA	PGR	DGR	75	83.3	92.1	1	121	24.8	2	y
SMDJ78A	SMDJ78CA	PGT	DGT	78	86.7	95.8	1	126	23.8	2	y
SMDJ85A	SMDJ85CA	PGV	DGV	85	94.4	104	1	137	21.9	2	y
SMDJ90A	SMDJ90CA	PGX	DGX	90	100	111	1	146	20.5	2	y
SMDJ100A	SMDJ100CA	PGZ	DGZ	100	111	123	1	162	18.5	2	y
SMDJ110A	SMDJ110CA	PHE	DHE	110	122	135	1	177	16.9	2	y
SMDJ120A	SMDJ120CA	PHG	DHG	120	133	147	1	193	15.5	2	y
SMDJ130A	SMDJ130CA	PHK	DHK	130	144	159	1	209	14.4	2	y
SMDJ150A	SMDJ150CA	PHM	DHM	150	167	185	1	243	12.3	2	y
SMDJ160A	SMDJ160CA	PHP	DHP	160	178	197	1	259	11.6	2	y
SMDJ170A	SMDJ170CA	PHR	DHR	170	189	209	1	275	10.9	2	y
SMDJ180A	SMDJ180CA	PHT	DHT	180	200	221	1	292	10.3	2	y
SMDJ220A	SMDJ220CA	PKE	DKE	220	244	270	1	356	8.4	2	y

For bidirectional type having V_{RWM} of 10 volts and less, the IR limit is double.

5. Ratings and Characteristic Curves (TA =25°C unless otherwise noted)

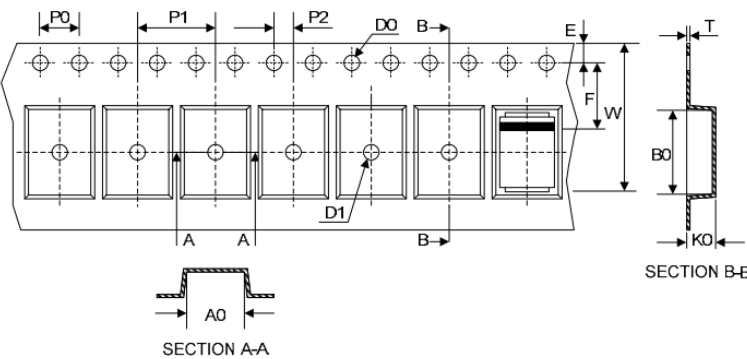
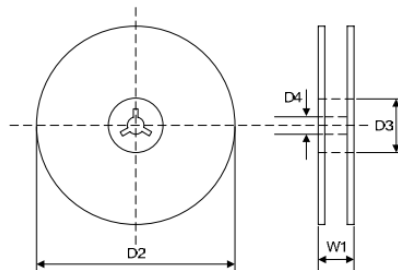
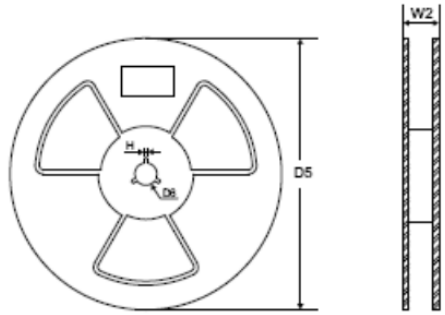


6. Dimension (SMC/DO-214AB)



Dimensions	Inches		Millimeters	
	Min	Max	Min	Max
A	0.114	0.126	2.9	3.2
B	0.26	0.28	6.6	7.11
C	0.22	0.245	5.59	6.22
D	0.079	0.103	2.06	2.62
E	0.03	0.06	0.76	1.52
F	-	0.008	-	0.203
G	0.305	0.32	7.75	8.13
H	0.006	0.012	0.152	0.305
I	0.129	-	3.3	-
J	0.094	-	2.4	-
K	-	0.165	-	4.2
L	0.094	-	2.4	-

7. Packaging

Tape	Symbol	Dimension (mm)
	W	16.00±0.20
	P0	4.00±0.10
	P1	8.00±0.10
	P2	2.00±0.10
	D0	Φ1.5±0.10
	D1	Φ1.5±0.10
	E	1.75±0.10
	F	7.50±0.10
	A0	6.27±0.10
	B0	8.30±0.10
	K0	3.15±0.15
	T	0.30±0.05
	7" Reel	D2
	D3	Φ50.0Min.
	D4	Φ13.0±0.5
	W1	20.0±2.0
	Quantity: 500PCS	
13" Reel	D5	Φ330.0±2.0
	D6	Φ13.5±0.5
	H	2.5±1.0
	W2	20.0±2.0
	Quantity: 3000PCS	

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