



3.DATA SHEET

3.0SMCJ SERIES

SURFACE MOUNT TRANSIENT VOLTAGE SUPPRESSOR

VOLTAGE - 5.0 to 220 Volts 3000 Watt Peak Power Pulse

FEATURES

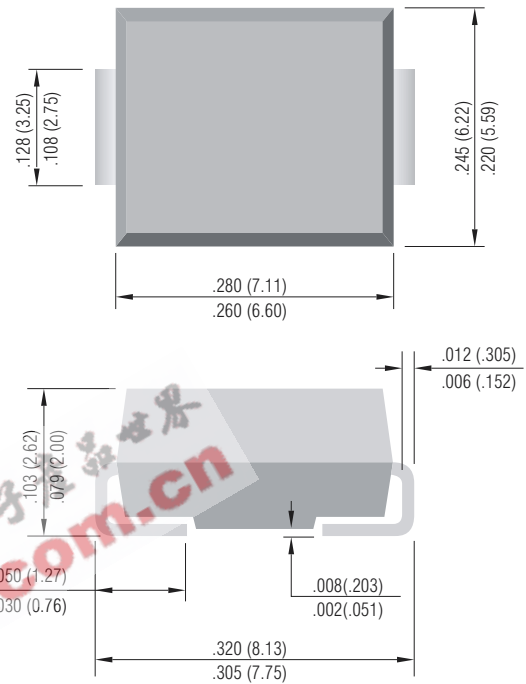
- For surface mounted applications in order to optimize board space.
- Low profile package
- Built-in strain relief
- Glass passivated junction
- Excellent clamping capability
- Low inductance
- Fast response time: typically less than 1.0 ps from 0 volts to BV min
- Typical IR less than 1μA above 10V
- High temperature soldering : 250°C/10 seconds at terminals.
- Plastic package has Underwriters Laboratory Flammability Classification 94V-O

MECHANICAL DATA

Case: JEDEC DO-214AB, Molded plastic over passivated junction
 Terminals: Solder plated , solderable per MIL-STD-750, Method 2026
 Polarity: Color band denotes positive end (cathode) except Bidirectional.
 Standard Packageing: 16mm tape per (EIA-481)
 Weight: 0.007 ounces, 0.21 gram

SMC / DO-214AB

Unit: inch (mm)



MAXIMUM RATINGS AND CHARACTERISTICS

Rating at 25°C ambient temperature unless otherwise specified. Resistive or inductive load, 60Hz.
 For Capacitive load derate current by 20%.

RATING	SYMBOL	VALUE	UNITS
Peak Power Dissipation at $T_A=25^\circ\text{C}$, $T_P=1\text{ms}$ (Note 1,2 ,Fig.1)	P_{PPM}	Minimum 1500	Watts
Peak Forward Surge Current, 8.3ms single half sine-wave superimposed on rated load (Note 2,3)	I_{FSM}	100.0	Amps
Peak Pulse Current Current on 10/1000μs waveform(Note 1, Fig.3)	I_{PPM}	See Table 1	Amps
Operating and Storage Temperature Range	T_J , T_{STG}	-55 to +150	$^\circ\text{C}$

NOTES:

- 1.Non-repetitive current pulse, per Fig. 3 and derated above $T_A=25^\circ\text{C}$ per Fig. 2.
- 2.Mounted on 5.0mm² (.013mm thick) land areas.
- 3.Measured on 8.3ms , single half sine-wave or equivalent square wave , duty cycle= 4 pulses per minutes maximum.



Part Number	Marking Code		VRWM	VBR @ IT			IR @ VRWM		VC @ IPP		PACKAGE
				Min.	Max.	IT	UNI-	BI-			
	UNI-	BI-		V	V	V	mA	uA	uA	V	
3000W Transient Voltage Suppressor											
3.0SMCJ5.0(C)	HDD	IDD	5.0	6.40	7.55	10	1000	2000	9.6	312.5	SMC/DO-214AB
3.0SMCJ5.0(C)A	HDE	IDE	5.0	6.40	7.25	10	1000	2000	9.2	326.0	SMC/DO-214AB
3.0SMCJ6.0(C)	HDF	IDF	6.0	6.67	8.45	10	1000	2000	11.4	263.2	SMC/DO-214AB
3.0SMCJ6.0(C)A	HDG	IDG	6.0	6.67	7.67	10	1000	2000	10.3	291.3	SMC/DO-214AB
3.0SMCJ6.5(C)	HDH	IDH	6.5	7.22	9.14	10	500	1000	12.3	243.9	SMC/DO-214AB
3.0SMCJ6.5(C)A	HDK	IDK	6.5	7.22	8.30	10	500	1000	11.2	267.9	SMC/DO-214AB
3.0SMCJ7.0(C)	HDL	IDL	7.0	7.78	9.86	10	200	400	13.3	225.6	SMC/DO-214AB
3.0SMCJ7.0(C)A	HDM	IDM	7.0	7.78	8.95	10	200	400	12.0	250.0	SMC/DO-214AB
3.0SMCJ7.5(C)	HDN	IDN	7.5	8.33	10.67	1.0	100	200	14.3	209.8	SMC/DO-214AB
3.0SMCJ7.5(C)A	HDP	IDP	7.5	8.33	9.58	1.0	100	200	12.9	232.6	SMC/DO-214AB
3.0SMCJ8.0(C)	HDQ	IDQ	8.0	8.89	11.30	1.0	50	100	15.0	200.0	SMC/DO-214AB
3.0SMCJ8.0(C)A	HDR	IDR	8.0	8.89	10.23	1.0	50	100	13.6	220.6	SMC/DO-214AB
3.0SMCJ8.5(C)	HDS	IDS	8.5	9.44	11.92	1.0	10	20	15.9	188.8	SMC/DO-214AB
3.0SMCJ8.5(C)A	HDT	IDT	8.5	9.44	10.82	1.0	10	20	14.4	208.4	SMC/DO-214AB
3.0SMCJ9.0(C)	HDU	IDU	9.0	10.0	12.6	1.0	5	10	16.9	177.4	SMC/DO-214AB
3.0SMCJ9.0(C)A	HDV	IDV	9.0	10.0	11.5	1.0	5	10	15.4	194.8	SMC/DO-214AB
3.0SMCJ10(C)	HDW	IDW	10	11.1	14.1	1.0	5	5	18.8	159.6	SMC/DO-214AB
3.0SMCJ10(C)A	HDX	IDX	10	11.1	12.8	1.0	5	5	17.0	176.4	SMC/DO-214AB
3.0SMCJ11(C)	HDY	IDY	11	12.2	15.4	1.0	5	5	20.1	149.2	SMC/DO-214AB
3.0SMCJ11(C)A	HDZ	IDZ	11	12.2	14.0	1.0	5	5	18.2	184.8	SMC/DO-214AB
3.0SMCJ12(C)	HED	IED	12	13.3	16.9	1.0	5	5	22.0	136.4	SMC/DO-214AB
3.0SMCJ12(C)A	HEE	IEE	12	13.3	15.3	1.0	5	5	19.9	150.6	SMC/DO-214AB
3.0SMCJ13(C)	HEF	IEF	13	14.4	18.2	1.0	5	5	23.8	126.0	SMC/DO-214AB
3.0SMCJ13(C)A	HEG	IEG	13	14.4	16.5	1.0	5	5	21.5	139.4	SMC/DO-214AB
3.0SMCJ14(C)	HEH	IEH	14	15.6	19.8	1.0	5	5	25.8	116.2	SMC/DO-214AB
3.0SMCJ14(C)A	HEK	IEK	14	15.6	17.9	1.0	5	5	23.2	129.4	SMC/DO-214AB
3.0SMCJ15(C)	HEL	IEL	15	16.7	21.1	1.0	5	5	26.9	111.6	SMC/DO-214AB
3.0SMCJ15(C)A	HEM	IEM	15	16.7	19.2	1.0	5	5	24.4	123.0	SMC/DO-214AB
3.0SMCJ16(C)	HEN	IEN	16	17.8	22.6	1.0	5	5	28.8	104.2	SMC/DO-214AB
3.0SMCJ16(C)A	HEP	IEP	16	17.8	20.5	1.0	5	5	26.0	115.4	SMC/DO-214AB
3.0SMCJ17(C)	HEQ	IEQ	17	18.9	23.9	1.0	5	5	30.5	98.4	SMC/DO-214AB
3.0SMCJ17(C)A	HER	IER	17	18.9	21.7	1.0	5	5	27.6	106.6	SMC/DO-214AB
3.0SMCJ18(C)	HES	IES	18	20.0	25.3	1.0	5	5	32.2	93.2	SMC/DO-214AB
3.0SMCJ18(C)A	HET	IET	18	20.0	23.3	1.0	5	5	29.2	102.8	SMC/DO-214AB
3.0SMCJ20(C)	HEU	IEU	20	22.2	28.1	1.0	5	5	35.8	83.8	SMC/DO-214AB
3.0SMCJ20(C)A	HEV	IEV	20	22.2	25.5	1.0	5	5	32.4	92.6	SMC/DO-214AB
3.0SMCJ22(C)	HEW	IEW	22	24.4	30.9	1.0	5	5	39.4	76.2	SMC/DO-214AB
3.0SMCJ22(C)A	HEX	IEX	22	24.4	28.0	1.0	5	5	35.5	84.4	SMC/DO-214AB
3.0SMCJ24(C)	HEZ	IEZ	24	26.7	33.8	1.0	5	5	43.0	69.8	SMC/DO-214AB
3.0SMCJ24(C)A	HEY	IEY	24	26.7	30.7	1.0	5	5	38.9	77.2	SMC/DO-214AB
3.0SMCJ26(C)	HFD	IFD	26	28.9	36.6	1.0	5	5	46.6	64.4	SMC/DO-214AB
3.0SMCJ26(C)A	HFE	IFE	26	28.9	33.2	1.0	5	5	42.1	71.2	SMC/DO-214AB
3.0SMCJ28(C)	HFF	IFF	28	31.1	39.4	1.0	5	5	50.0	60.0	SMC/DO-214AB
3.0SMCJ28(C)A	HFG	IFG	28	31.1	35.8	1.0	5	5	45.4	66.0	SMC/DO-214AB
3.0SMCJ30(C)	HFH	IFH	30	33.3	42.2	1.0	5	5	53.5	56.0	SMC/DO-214AB
3.0SMCJ30(C)A	HFK	IFK	30	33.3	38.3	1.0	5	5	48.4	62.0	SMC/DO-214AB
3.0SMCJ33(C)	HFL	IFL	33	36.7	46.5	1.0	5	5	59.0	50.4	SMC/DO-214AB
3.0SMCJ33(C)A	HFM	IFM	33	36.7	42.2	1.0	5	5	53.3	56.2	SMC/DO-214AB
3.0SMCJ36(C)	HFN	IFN	36	40.0	50.7	1.0	5	5	64.3	46.6	SMC/DO-214AB
3.0SMCJ36(C)A	HFP	IFP	36	40.0	46.0	1.0	5	5	58.1	51.6	SMC/DO-214AB
3.0SMCJ40(C)	HFQ	IFQ	40	44.4	56.3	1.0	5	5	71.4	42.0	SMC/DO-214AB
3.0SMCJ40(C)A	HFR	IFR	40	44.4	51.1	1.0	5	5	64.5	46.4	SMC/DO-214AB



Part Number	Marking Code		V _{RWM}	V _{BR} @ I _T			I _R @ V _{RWM}		V _C @ I _{PP}		PACKAGE
				Min.	Max.	I _T	UNI-	BI-			
	UNI-	BI-	V	V	mA	uA	uA	V	A		
3000W Transient Voltage Suppressor											
3.0SMCJ43(C)	HFS	IFS	43	47.8	60.5	1.0	5	5	76.7	39.2	SMC/DO-214AB
3.0SMCJ43(C)A	HFT	IFT	43	47.8	54.9	1.0	5	5	69.4	43.2	SMC/DO-214AB
3.0SMCJ45(C)	HFU	IFU	45	50.0	63.3	1.0	5	5	80.3	37.4	SMC/DO-214AB
3.0SMCJ45(C)A	HFV	IFV	45	50.0	57.5	1.0	5	5	72.7	41.2	SMC/DO-214AB
3.0SMCJ48(C)	HFW	IFW	48	53.3	67.5	1.0	5	5	85.5	35.0	SMC/DO-214AB
3.0SMCJ48(C)A	HFX	IFX	48	53.3	61.3	1.0	5	5	77.4	38.8	SMC/DO-214A
3.0SMCJ51(C)	HFY	IFY	51	56.7	71.8	1.0	5	5	91.1	37.0	SMC/DO-214AB
3.0SMCJ51(C)A	HFZ	IFZ	51	56.7	65.2	1.0	5	5	82.4	36.4	SMC/DO-214AB
3.0SMCJ54(C)	HGD	IGD	54	60.0	76.0	1.0	5	5	96.3	31.2	SMC/DO-214AB
3.0SMCJ54(C)A	HGE	IGE	54	60.0	69.0	1.0	5	5	87.1	34.4	SMC/DO-214AB
3.0SMCJ58(C)	HGF	IGF	58	64.4	81.6	1.0	5	5	103	39.2	SMC/DO-214AB
3.0SMCJ58(C)A	HGG	IGG	58	64.4	74.1	1.0	5	5	93.6	32.0	SMC/DO-214AB
3.0SMCJ60(C)	HGH	IGH	60	66.7	84.5	1.0	5	5	107	28.0	SMC/DO-214AB
3.0SMCJ60(C)A	HGK	IGK	60	66.7	76.7	1.0	5	5	96.8	31.0	SMC/DO-214AB
3.0SMCJ64(C)	HGL	IGL	64	71.1	90.1	1.0	5	5	114	26.4	SMC/DO-214AB
3.0SMCJ64(C)A	HGM	IGM	64	71.1	81.8	1.0	5	5	103	29.2	SMC/DO-214AB
3.0SMCJ70(C)	HGN	IGN	70	77.8	98.6	1.0	5	5	125	24.0	SMC/DO-214AB
3.0SMCJ70(C)A	HGP	IGP	70	77.8	89.5	1.0	5	5	113	26.6	SMC/DO-214AB
3.0SMCJ75(C)	HGQ	IGQ	75	83.3	105.7	1.0	5	5	134	22.4	SMC/DO-214AB
3.0SMCJ75(C)A	HGR	IGR	75	83.3	95.8	1.0	5	5	121	24.8	SMC/DO-214AB
3.0SMCJ78(C)	HGS	IGS	78	86.7	109.8	1.0	5	5	139	21.6	SMC/DO-214AB
3.0SMCJ78(C)A	HGT	IGT	78	86.7	99.7	1.0	5	5	126	22.8	SMC/DO-214AB
3.0SMCJ85(C)	HGU	IGU	85	94.4	119.2	1.0	5	5	151	19.8	SMC/DO-214AB
3.0SMCJ85(C)A	HGV	IGV	85	94.4	108.2	1.0	5	5	137	20.8	SMC/DO-214AB
3.0SMCJ90(C)	HGW	IGW	90	100	126.5	1.0	5	5	160	18.8	SMC/DO-214AB
3.0SMCJ90(C)A	HGX	IGX	90	100	115.5	1.0	5	5	146	20.6	SMC/DO-214AB
3.0SMCJ100(C)	HGZ	IGZ	100	111	141.0	1.0	5	5	179	16.6	SMC/DO-214AB
3.0SMCJ100(C)A	HGY	IGY	100	111	128.0	1.0	5	5	162	18.6	SMC/DO-214AB
3.0SMCJ110(C)	HHD	IHD	110	122	154.5	1.0	5	5	196	15.4	SMC/DO-214AB
3.0SMCJ110(C)A	HHE	IHE	110	122	140.5	1.0	5	5	177	16.8	SMC/DO-214AB
3.0SMCJ120(C)	HHF	IHF	120	133	169.0	1.0	5	5	214	14.0	SMC/DO-214AB
3.0SMCJ120(C)A	HHG	IHG	120	133	153.0	1.0	5	5	193	15.6	SMC/DO-214AB
3.0SMCJ130(C)	HHH	IHH	130	144	182.5	1.0	5	5	231	13.0	SMC/DO-214AB
3.0SMCJ130(C)A	HHK	IHK	130	144	165.5	1.0	5	5	209	14.4	SMC/DO-214AB
3.0SMCJ150(C)	HHL	IHL	150	167	211.5	1.0	5	5	268	11.2	SMC/DO-214AB
3.0SMCJ150(C)A	HHM	IHM	150	167	192.5	1.0	5	5	243	12.4	SMC/DO-214AB
3.0SMCJ160(C)	HHN	IHN	160	178	226.0	1.0	5	5	287	10.4	SMC/DO-214AB
3.0SMCJ160(C)A	HHP	IHP	160	178	205.0	1.0	5	5	259	11.6	SMC/DO-214AB
3.0SMCJ170(C)	HHQ	IHQ	170	189	239.5	1.0	5	5	304	9.8	SMC/DO-214AB
3.0SMCJ170(C)A	HHR	IHR	170	189	217.5	1.0	5	5	275	11.0	SMC/DO-214AB
3.0SMCJ180(C)	HHS	IHS	180	198	253.8	1.0	5	5	322	9.3	SMC/DO-214AB
3.0SMCJ180(C)A	HHT	IHT	180	198	230.4	1.0	5	5	292	10.3	SMC/DO-214AB
3.0SMCJ190(C)	HHU	IHU	190	209	267.9	1.0	5	5	340	8.8	SMC/DO-214AB
3.0SMCJ190(C)A	HHV	IHV	190	209	243.2	1.0	5	5	308	9.7	SMC/DO-214AB
3.0SMCJ200(C)	HHW	IHW	200	220	282.0	1.0	5	5	358	8.4	SMC/DO-214AB
3.0SMCJ200(C)A	HHX	IHX	200	220	256.0	1.0	5	5	324	9.3	SMC/DO-214AB
3.0SMCJ210(C)	HHY	IHY	210	231	296.1	1.0	5	5	376	7.8	SMC/DO-214AB
3.0SMCJ210(C)A	HHZ	IHZ	210	231	268.8	1.0	5	5	340	8.8	SMC/DO-214AB
3.0SMCJ220(C)	HID	IID	220	242	310.2	1.0	5	5	394	7.6	SMC/DO-214AB
3.0SMCJ220(C)A	HIE	IIE	220	242	281.6	1.0	5	5	356	8.4	SMC/DO-214AB

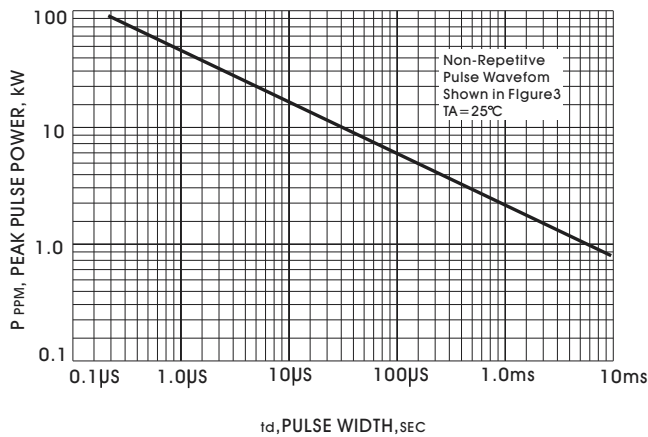


FIGURE 1-PEAK PULSE POWER RATING CURVE

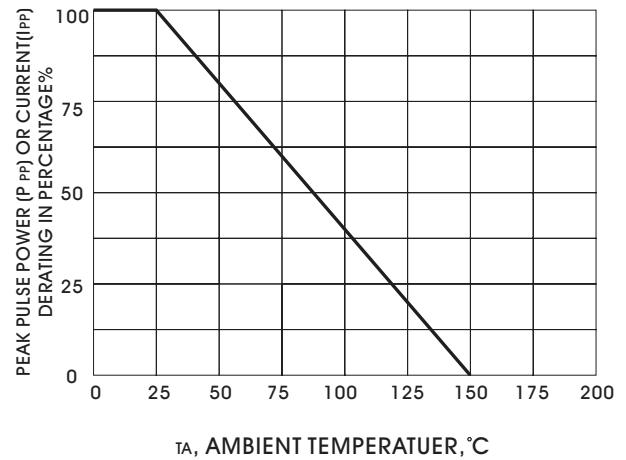


FIGURE 2 DERATING CURVE

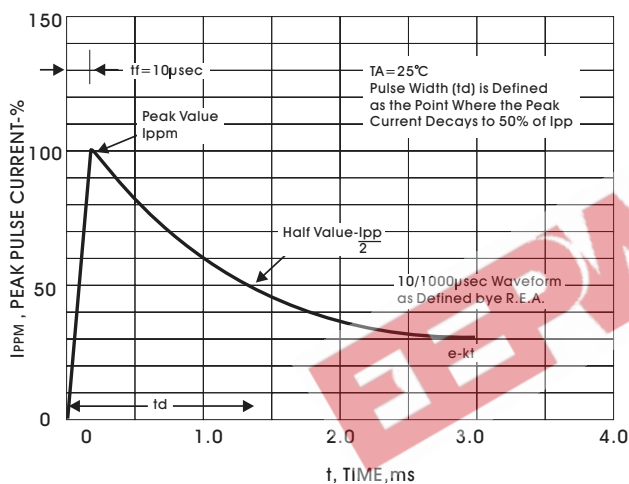


FIGURE 3-PULSE WAVEFORM

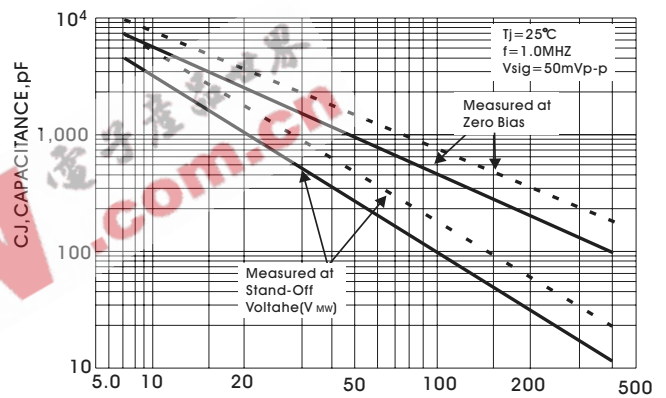


FIGURE 4 TYPICAL CAPACITANCE

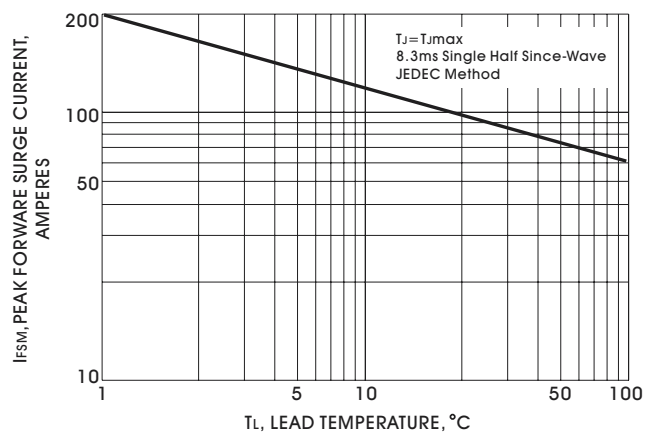


FIG. 5-MAXIMUM NON-REPETITIVE PEAK FOWARD SURGE CURRENT UNIDIRECTIONAL