



**DC COMPONENTS CO., LTD.**  
RECTIFIER SPECIALISTS

**5.0SMDJ11  
THRU  
5.0SMDJ440CA**

**TECHNICAL SPECIFICATIONS OF TRANSIENT VOLTAGE SUPPRESSOR**  
**VOLTAGE RANGE - 11 to 440Volts    PEAK PULAE POWER - 5000 Watts**

**FEATURES**

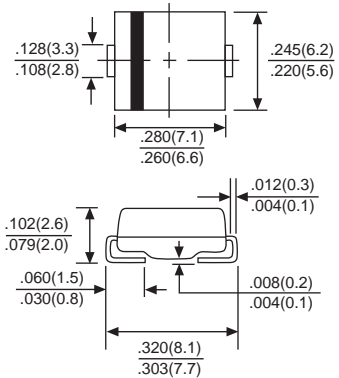
- \* Glass passivated junction
- \* 5000 Watts Peak Pulse Power capability on 10/1000  $\mu$ s waveform
- \* Excellent clamping capability
- \* Low zener impedance
- \* Fast response time

**MECHANICAL DATA**

- \* Case: Molded plastic
- \* Epoxy: UL 94V-0 rate flame retardant
- \* Terminals: Solder plated solderable per MIL-STD-750, Method 2026
- \* Polarity: As marked
- \* Mounting position: Any
- \* Weight: 0.24 gram



**SMC (DO-214AB)**



**MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS**

Ratings at 25°C ambient temperature unless otherwise specified.  
Single phase, half wave, 60 Hz, resistive or inductive load,  
For capacitive load, derate current by 20%.

**DEVICES FOR BIPOLAR APPLICATIONS**

For Bidirectional use C or CA suffix (e.g. 5.0SMDJ11C, 5.0SMDJ440CA).

Electrical characteristics apply in both directions

	SYMBOL	VALUE	UNITS
Peak Pulse Power Dissipation on 10/1000 $\mu$ s waveform (Note 1, FIG. 1)	PPPM	Minimum 5000	Watts
Steady State Power Dissipation at T = 75°C Lead Lengths .375"(9.5mm) (Note 2)	P <sub>M(AV)</sub>	6.5	Watts
Peak Forward Surge Current, 8.3ms single half sine-wave superimposed on rated load (JEDEC Method) (Note 3)	I <sub>FSM</sub>	300	Amps
Maximum Instantaneous Forward Voltage at 50A for Unidirectional only	V <sub>F</sub>	3.5	Volts
Operating and Storage Temperature Range	T <sub>J</sub> , T <sub>STG</sub>	-55 to + 175	°C

- NOTES : 1. Non-repetitive current pulse, per Fig.3 and derated above TA = 25°C per Fig. 2.  
2. Mounted on Copper Leaf area of 0.8 X 0.8" ( 20 X 20mm ) per Fig. 5  
3. 8.3ms single half sine-wave or equivalent square wave, duty cycle = 4 pulses per minute maximum.

60Hz  
Resistive

# RATING AND CHARACTERISTIC CURVES (5.0SMDJ11 THRU 5.0SMDJ440CA)

FIG. 1 - PEAK PULSE POWER RATING CURVE

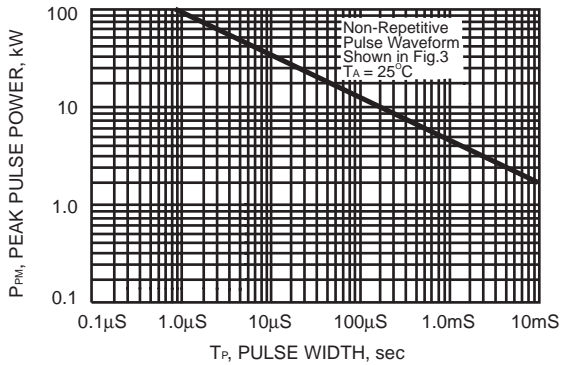


FIG. 2 - PULSE DERATING CURVE

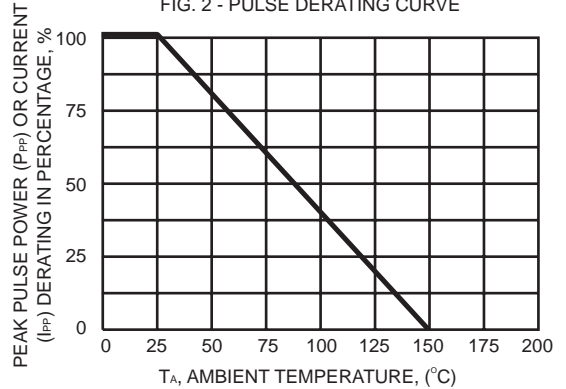


FIG. 3 - PULSE WAVEFORM

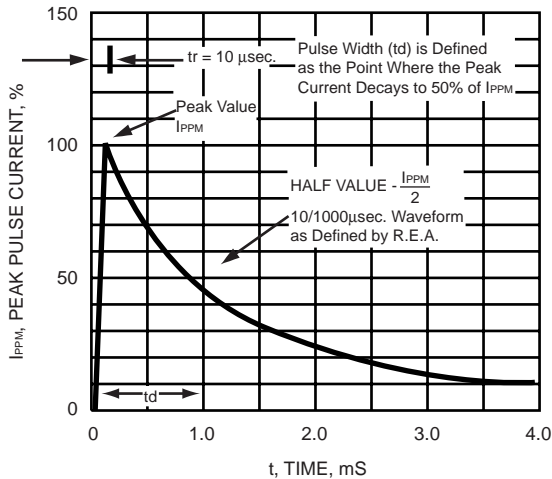


FIG. 4 - TYPICAL JUNCTION CAPACITANCE

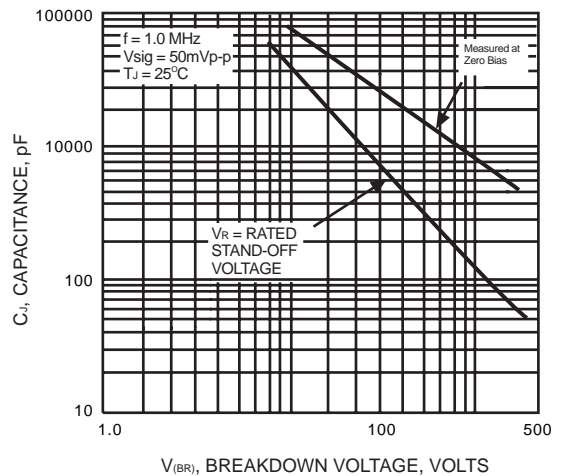


FIG. 5 - STEADY STATE POWER DERTING CURVE

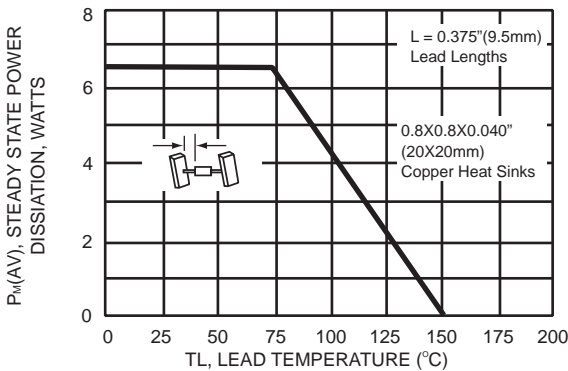
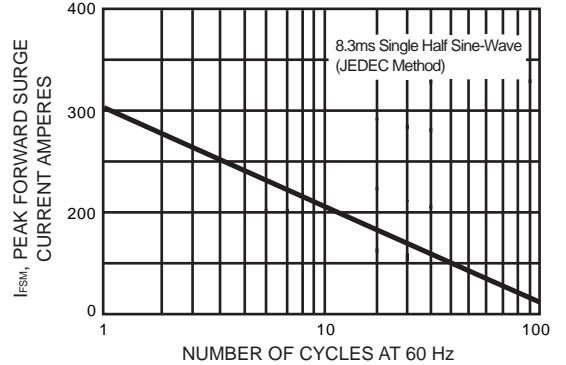


FIG. 6 - MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT UNIDIRECTIONAL



or Inductive Load



DC COMPONENTS CO., LTD.

## 5.0SMDJ (5000W) SERIES TRANSIENT VOLTAGE SUPPRESSORS

TYPE	Reverse Stand-off Voltage	Breakdown Voltage @ I <sub>T</sub>		Test Current	Maximum Reverse Leakage @ V <sub>RWM</sub>		Maximum Clamping Voltage @ I <sub>PP</sub>	Maximum Peak Pulse Current
		V <sub>BR</sub>			I <sub>T</sub>	I <sub>R</sub>		
	V <sub>RWM</sub>	Min.	Max.	UNI- μA		BI- μA	V <sub>c</sub>	I <sub>PP</sub>
		V	V		mA			
5.0SMDJ11	11	12.2	14.9	1	800	20.1	251.24	
5.0SMDJ11A	11	12.2	13.5	1	800	18.2	277.47	
5.0SMDJ12	12	13.3	16.3	1	800	22.0	229.55	
5.0SMDJ12A	12	13.3	14.7	1	800	19.9	253.77	
5.0SMDJ13	13	14.4	17.6	1	500	23.8	212.18	
5.0SMDJ13A	13	14.4	15.9	1	500	21.5	234.88	
5.0SMDJ14	14	15.6	19.1	1	200	25.8	195.74	
5.0SMDJ14A	14	15.6	17.2	1	200	23.2	217.67	
5.0SMDJ15	15	16.7	20.4	1	100	26.9	187.73	
5.0SMDJ15A	15	16.7	18.5	1	100	24.4	206.97	
5.0SMDJ16	16	17.8	21.8	1	50	28.8	175.35	
5.0SMDJ16A	16	17.8	19.7	1	50	26.0	194.23	
5.0SMDJ17	17	18.9	23.1	1	20	30.5	165.57	
5.0SMDJ17A	17	18.9	20.9	1	20	27.6	182.97	
5.0SMDJ18	18	20.0	24.4	1	10	32.2	156.83	
5.0SMDJ18A	18	20.0	22.1	1	10	29.2	172.95	
5.0SMDJ19	19	21.13	25.76	1	10	34.0	148.49	
5.0SMDJ19A	19	21.13	23.3	1	10	30.8	164.07	
5.0SMDJ20	20	22.2	27.1	1	5	35.8	141.06	
5.0SMDJ20A	20	22.2	24.5	1	5	32.4	155.86	
5.0SMDJ22	22	24.4	29.8	1	5	39.4	128.17	
5.0SMDJ22A	22	24.4	26.9	1	5	35.5	142.25	
5.0SMDJ24	24	26.7	32.6	1	5	43.0	117.44	
5.0SMDJ24A	24	26.7	29.5	1	5	38.9	129.82	
5.0SMDJ26	26	28.9	35.3	1	5	46.6	108.37	
5.0SMDJ26A	26	28.9	31.9	1	5	42.1	119.95	
5.0SMDJ28	28	31.1	38.0	1	5	50.0	101.00	
5.0SMDJ28A	28	31.1	34.4	1	5	45.4	111.23	
5.0SMDJ30	30	33.3	40.7	1	5	53.5	94.39	
5.0SMDJ30A	30	33.3	36.8	1	5	48.4	104.34	
5.0SMDJ33	33	36.7	44.9	1	5	59.0	85.59	
5.0SMDJ33A	33	36.7	40.6	1	5	53.3	94.75	
5.0SMDJ36	36	40.0	48.9	1	5	64.3	78.54	
5.0SMDJ36A	36	40.0	44.2	1	5	58.1	86.92	
5.0SMDJ40	40	44.4	54.3	1	5	71.4	70.73	
5.0SMDJ40A	40	44.4	49.1	1	5	64.5	78.29	
5.0SMDJ43	43	47.8	58.4	1	5	76.7	65.84	
5.0SMDJ43A	43	47.8	52.8	1	5	69.4	72.77	
5.0SMDJ45	45	50.0	61.1	1	5	80.3	62.89	
5.0SMDJ45A	45	50.0	55.3	1	5	72.7	69.46	
5.0SMDJ48	48	53.3	65.1	1	5	85.5	59.06	
5.0SMDJ48A	48	53.3	58.9	1	5	77.4	65.25	
5.0SMDJ51	51	56.7	69.3	1	5	91.1	55.43	
5.0SMDJ51A	51	56.7	62.7	1	5	82.4	61.29	
5.0SMDJ54	54	60.0	73.3	1	5	96.3	52.44	
5.0SMDJ54A	54	60.0	66.3	1	5	87.1	57.98	
5.0SMDJ58	58	64.4	78.7	1	5	103	49.03	
5.0SMDJ58A	58	64.4	71.2	1	5	93.6	53.95	
5.0SMDJ60	60	66.7	81.5	1	5	107	47.20	
5.0SMDJ60A	60	66.7	73.7	1	5	96.8	52.17	



## 5.0SMDJ (5000W) SERIES TRANSIENT VOLTAGE SUPPRESSORS

TYPE	Reverse Stand-off Voltage	Breakdown Voltage @ $I_T$		Test Current	Maximum Reverse Leakage @ $V_{RWM}$		Maximum Clamping Voltage @ $I_{PP}$	Maximum Peak Pulse Current
		$V_{BR}$			$I_R$			
	$V_{RWM}$	Min. V	Max. V	$I_T$ mA	UNI- $\mu A$	BI- $\mu A$	$V_C$ V	$I_{PP}$ A
5.0SMDJ64	64	71.1	86.9	1	5		114	44.30
5.0SMDJ64A	64	71.1	78.6	1	5		103	49.03
5.0SMDJ70	70	77.8	95.1	1	5		125	40.40
5.0SMDJ70A	70	77.8	86.0	1	5		113	44.69
5.0SMDJ75	75	83.3	102	1	5		134	37.69
5.0SMDJ75A	75	83.3	92.1	1	5		121	41.74
5.0SMDJ78	78	86.7	106	1	5		139	36.33
5.0SMDJ78A	78	86.7	95.8	1	5		126	40.08
5.0SMDJ80	80	88.8	108.8	1	5		143.2	35.27
5.0SMDJ80A	80	88.8	97.6	1	5		129.6	38.97
5.0SMDJ85	85	94.4	115	1	5		151	33.44
5.0SMDJ85A	85	94.4	104	1	5		137	36.86
5.0SMDJ90	90	100	122	1	5		160	31.56
5.0SMDJ90A	90	100	111	1	5		146	34.59
5.0SMDJ100	100	111	136	1	5		179	28.21
5.0SMDJ100A	100	111	123	1	5		162	31.17
5.0SMDJ110	110	122	149	1	5		196	25.77
5.0SMDJ110A	110	122	135	1	5		177	28.53
5.0SMDJ120	120	133	163	1	5		214	23.60
5.0SMDJ120A	120	133	147	1	5		193	26.17
5.0SMDJ130	130	144	176	1	5		231	21.86
5.0SMDJ130A	130	144	159	1	5		209	24.16
5.0SMDJ140	140	155	190.4	1	5		250.6	20.15
5.0SMDJ140A	140	155	171	1	5		226.8	22.27
5.0SMDJ150	150	167	204	1	5		268	18.84
5.0SMDJ150A	150	167	185	1	5		243	20.78
5.0SMDJ160	160	178	218	1	5		287	17.60
5.0SMDJ160A	160	178	197	1	5		259	19.50
5.0SMDJ170	170	189	231	1	5		304	16.61
5.0SMDJ170A	170	189	209	1	5		275	18.36
5.0SMDJ180	180	200	244.8	1	5		322.2	15.67
5.0SMDJ180A	180	200	220	1	5		291.6	17.32
5.0SMDJ190	190	211	258.4	1	5		340.1	14.85
5.0SMDJ190A	190	211	232	1	5		307.8	16.41
5.0SMDJ200A	200	224	247	1	5		324	9.26
5.0SMDJ220A	220	246	272	1	5		356	8.43
5.0SMDJ250A	250	279	309	1	5		405	7.41
5.0SMDJ300A	300	335	371	1	5		486	6.17
5.0SMDJ350A	350	391	432	1	5		567	5.29
5.0SMDJ400A	400	447	494	1	5		648	4.63
5.0SMDJ440A	440	492	543	1	5		713	4.21

- NOTES: 1.  $V_{BR}$  measured after  $I_T$  applied for 300 $\mu s$ .  $I_T$ = Square Wave Pulse or equivalent.  
 2. For bidirectional use "C" or "CA" suffixes for all types (e.g.: 5.0SMDJ5.0C, 5.0SMDJ5.0CA, 5.0SMDJ440C, 5.0SMDJ440CA). Electrical characteristics apply in both directions.  
 3. For bidirectional types having  $V_{RWM}$  of 10 volts and less, the  $I_D$  limit is doubled.

