

**VOLTAGE RANGE: 6.8 - 440 V**  
**POWER: 600Watts**

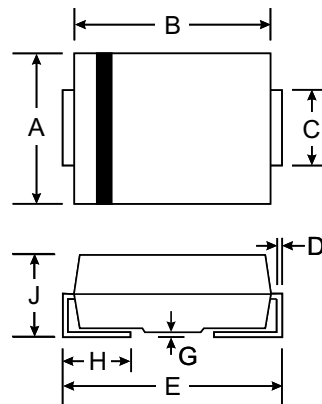


### Features

- Glass Passivated Die Construction
- Uni- and Bi-Directional Versions Available
- Excellent Clamping Capability
- Fast Response Time
- Plastic Material: UL Flammability Classification Rating 94V-0

### Mechanical Data

- Case: SMB/DO-214AA, Molded Plastic
- Terminals: Solder Plated, Solderable per MIL-STD-750, Method 2026
- Polarity: Cathode Band or Cathode Notch
- Marking: Type Number
- Weight: 0.093 grams (approx.)



SMB(DO-214AA)		
Dim	Min	Max
A	3.30	3.94
B	4.06	4.70
C	1.91	2.21
D	0.15	0.31
E	5.00	5.59
G	0.10	0.20
H	0.76	1.52
J	2.00	2.62
All Dimensions in mm		



### Maximum Ratings @ T<sub>A</sub> = 25°C unless otherwise specified

Characteristic	Symbol	Value	Unit
Peak Pulse Power Dissipation (Non repetitive current pulse derated above T <sub>A</sub> = 25°C) (Note 1)	P <sub>PK</sub>	600	W
Peak Forward Surge Current, 8.3ms Single Half Sine Wave Superimposed on Rated Load (JEDEC Method) (Notes 1, 2, & 3)	I <sub>FSM</sub>	100	A
Instantaneous Forward Voltage @ I <sub>PP</sub> = 35A (Notes 1, 2, & 3)	V <sub>F</sub>	3.5 5.0	V V
Operating and Storage Temperature Range	T <sub>J</sub> , T <sub>STG</sub>	-55 to +150	°C

- Notes:
1. Valid provided that terminals are kept at ambient temperature.
  2. Measured with 8.3ms single half sine-wave. Duty cycle = 4 pulses per minute maximum.
  3. Unidirectional units only.

TYPE		Reverse Stand-Off Voltage	Breakdown Voltage Min. @I <sub>T</sub>	Breakdown Voltage Max. @ I <sub>T</sub>	Test Current	Maximum Clamping Voltage @I <sub>PP</sub>	Peak Pulse Current	Reverse Leakage @V <sub>RWM</sub>
(UNI)	(BI)	V <sub>RWM</sub> (V)	V <sub>BR MIN</sub> (V)	V <sub>BR MAX</sub> (V)	I <sub>T</sub> (mA)	V <sub>c</sub> (V)	I <sub>PP</sub> (A)	I <sub>R</sub> (uA)
1KSMBJ6.8	1KSMBJ6.8C	5.50	6.12	7.48	10.0	10.8	55.6	1000.0
1KSMBJ6.8A	1KSMBJ6.8CA	5.80	6.45	7.14	10.0	10.5	57.1	1000.0
1KSMBJ7.5	1KSMBJ7.5C	6.05	6.75	8.25	10.0	11.7	51.3	500.0
1KSMBJ7.5A	1KSMBJ7.5CA	6.40	7.13	7.88	10.0	11.3	53.1	500.0
1KSMBJ8.2	1KSMBJ8.2C	6.63	7.38	9.02	10.0	12.5	48.0	200.0
1KSMBJ8.2A	1KSMBJ8.2CA	7.02	7.79	8.61	10.0	12.1	49.6	200.0
1KSMBJ9.1	1KSMBJ9.1C	7.37	8.19	10.0	1.0	13.8	43.5	50.0
1KSMBJ9.1A	1KSMBJ9.1CA	7.78	8.65	9.55	1.0	13.4	44.8	50.0
1KSMBJ10	1KSMBJ10C	8.10	9.00	11.0	1.0	15.0	40.0	10.0
1KSMBJ10A	1KSMBJ10CA	8.55	9.50	10.5	1.0	14.5	41.4	10.0
1KSMBJ11	1KSMBJ11C	8.92	9.90	12.1	1.0	16.2	37.0	5.0
1KSMBJ11A	1KSMBJ11CA	9.40	10.5	11.6	1.0	15.6	38.5	5.0
1KSMBJ12	1KSMBJ12C	9.72	10.8	13.2	1.0	17.3	34.7	5.0
1KSMBJ12A	1KSMBJ12CA	10.2	11.4	12.6	1.0	16.7	35.9	5.0
1KSMBJ13	1KSMBJ13C	10.5	11.7	14.3	1.0	19.0	31.6	5.0
1KSMBJ13A	1KSMBJ13CA	11.1	12.4	13.7	1.0	18.2	33.0	5.0
1KSMBJ15	1KSMBJ15C	12.1	13.5	16.5	1.0	22.0	27.3	5.0
1KSMBJ15A	1KSMBJ15CA	12.8	14.3	15.8	1.0	21.2	28.3	5.0
1KSMBJ16	1KSMBJ16C	12.9	14.4	17.6	1.0	23.5	25.5	5.0
1KSMBJ16A	1KSMBJ16CA	13.6	15.2	16.8	1.0	22.5	26.7	5.0
1KSMBJ18	1KSMBJ18C	14.5	16.2	19.8	1.0	26.5	22.6	5.0
1KSMBJ18A	1KSMBJ18CA	15.3	17.1	18.9	1.0	25.2	23.8	5.0
1KSMBJ20	1KSMBJ20C	16.2	18.0	22.0	1.0	29.1	20.6	5.0
1KSMBJ20A	1KSMBJ20CA	17.1	19.0	21.0	1.0	27.7	21.7	5.0
1KSMBJ22	1KSMBJ22C	17.8	19.8	24.2	1.0	31.9	18.8	5.0
1KSMBJ22A	1KSMBJ22CA	18.8	20.9	23.1	1.0	30.6	19.6	5.0
1KSMBJ24	1KSMBJ24C	19.4	21.6	26.4	1.0	34.7	17.3	5.0
1KSMBJ24A	1KSMBJ24CA	20.5	22.8	25.2	1.0	33.2	18.1	5.0
1KSMBJ27	1KSMBJ27C	21.8	24.3	29.7	1.0	39.1	15.3	5.0
1KSMBJ27A	1KSMBJ27CA	23.1	25.7	28.4	1.0	37.5	16.0	5.0
1KSMBJ30	1KSMBJ30C	24.3	27.0	33.0	1.0	43.5	13.8	5.0
1KSMBJ30A	1KSMBJ30CA	25.6	28.5	31.5	1.0	41.4	14.5	5.0
1KSMBJ33	1KSMBJ33C	26.8	29.7	36.3	1.0	47.7	12.6	5.0
1KSMBJ33A	1KSMBJ33CA	28.2	31.4	34.7	1.0	45.7	13.1	5.0
1KSMBJ36	1KSMBJ36C	29.1	32.4	39.6	1.0	52.0	11.5	5.0
1KSMBJ36A	1KSMBJ36CA	30.8	34.2	37.8	1.0	49.9	12.0	5.0
1KSMBJ39	1KSMBJ39C	31.6	35.1	42.9	1.0	56.4	10.6	5.0
1KSMBJ39A	1KSMBJ39CA	33.3	37.1	41.0	1.0	53.9	11.1	5.0
1KSMBJ43	1KSMBJ43C	34.8	38.7	47.3	1.0	61.9	9.7	5.0
1KSMBJ43A	1KSMBJ43CA	36.8	40.9	45.2	1.0	59.3	10.1	5.0
1KSMBJ47	1KSMBJ47C	38.1	42.3	51.7	1.0	67.8	8.8	5.0
1KSMBJ47A	1KSMBJ47CA	40.2	44.7	49.4	1.0	64.8	9.3	5.0
1KSMBJ51	1KSMBJ51C	41.3	45.9	56.1	1.0	73.5	8.2	5.0

TYPE		Reverse Stand-Off Voltage	Breakdown Voltage Min. @I <sub>T</sub>	Breakdown Voltage Max. @ I <sub>T</sub>	Test Current	Maximum Clamping Voltage @I <sub>PP</sub>	Peak Pulse Current	Reverse Leakage @V <sub>RWM</sub>
(UNI)	(BI)	V <sub>RWM</sub> (V)	V <sub>BR MIN</sub> (V)	V <sub>BR MAX</sub> (V)	I <sub>T</sub> (mA)	V <sub>C</sub> (V)	I <sub>PP</sub> (A)	I <sub>R</sub> (uA)
1KSMBJ51A	1KSMBJ51CA	43.6	48.5	53.6	1.0	70.1	8.6	5.0
1KSMBJ56	1KSMBJ56C	45.4	50.4	61.6	1.0	80.5	7.5	5.0
1KSMBJ56A	1KSMBJ56CA	47.8	53.2	58.8	1.0	77.0	7.8	5.0
1KSMBJ62	1KSMBJ62C	50.2	55.8	68.2	1.0	89.0	6.7	5.0
1KSMBJ62A	1KSMBJ62CA	53.0	58.9	65.1	1.0	85.0	7.1	5.0
1KSMBJ68	1KSMBJ68C	55.1	61.2	74.8	1.0	98.0	6.1	5.0
1KSMBJ68A	1KSMBJ68CA	58.1	64.6	71.4	1.0	92.0	6.5	5.0
1KSMBJ75	1KSMBJ75C	60.7	67.5	82.5	1.0	108	5.6	5.0
1KSMBJ75A	1KSMBJ75CA	64.1	71.3	78.8	1.0	103	5.8	5.0
1KSMBJ82	1KSMBJ82C	66.4	73.8	90.2	1.0	118	5.1	5.0
1KSMBJ82A	1KSMBJ82CA	70.1	77.9	86.1	1.0	113	5.3	5.0
1KSMBJ91	1KSMBJ91C	73.7	81.9	100	1.0	131	4.6	5.0
1KSMBJ91A	1KSMBJ91CA	77.8	86.5	95.5	1.0	125	4.8	5.0
1KSMBJ100	1KSMBJ100C	81.0	90.0	110	1.0	144	4.2	5.0
1KSMBJ100A	1KSMBJ100CA	85.5	95.0	105	1.0	137	4.4	5.0
1KSMBJ110	1KSMBJ110C	89.2	99.0	121	1.0	158	3.8	5.0
1KSMBJ110A	1KSMBJ110CA	94.0	105	116	1.0	152	3.9	5.0
1KSMBJ120	1KSMBJ120C	97.2	108	132	1.0	173	3.5	5.0
1KSMBJ120A	1KSMBJ120CA	102	114	126	1.0	165	3.6	5.0
1KSMBJ130	1KSMBJ130C	105	117	143	1.0	187	3.2	5.0
1KSMBJ130A	1KSMBJ130CA	111	124	137	1.0	179	3.4	5.0
1KSMBJ150	1KSMBJ150C	121	135	165	1.0	215	2.8	5.0
1KSMBJ150A	1KSMBJ150CA	128	143	158	1.0	207	2.9	5.0
1KSMBJ160	1KSMBJ160C	130	144	176	1.0	230	2.6	5.0
1KSMBJ160A	1KSMBJ160CA	136	152	168	1.0	219	2.7	5.0
1KSMBJ170	1KSMBJ170C	138	153	187	1.0	244	2.5	5.0
1KSMBJ170A	1KSMBJ170CA	145	162	179	1.0	234	2.6	5.0
1KSMBJ180	1KSMBJ180C	146	162	198	1.0	258	2.3	5.0
1KSMBJ180A	1KSMBJ180CA	154	171	189	1.0	246	2.4	5.0
1KSMBJ200	1KSMBJ200C	162	180	220	1.0	287	2.1	5.0
1KSMBJ200A	1KSMBJ200CA	171	190	210	1.0	274	2.2	5.0
1KSMBJ220	1KSMBJ220C	175	198	242	1.0	344	1.7	5.0
1KSMBJ220A	1KSMBJ220CA	185	209	231	1.0	328	1.8	5.0
1KSMBJ250	1KSMBJ250C	202	225	275	1.0	360	1.7	5.0
1KSMBJ250A	1KSMBJ250CA	214	237	263	1.0	344	1.7	5.0
1KSMBJ300	1KSMBJ300C	243	270	330	1.0	430	1.4	5.0
1KSMBJ300A	1KSMBJ300CA	256	285	315	1.0	414	1.4	5.0
1KSMBJ350	1KSMBJ350C	284	315	385	1.0	504	1.2	5.0
1KSMBJ350A	1KSMBJ350CA	300	333	368	1.0	482	1.2	5.0
1KSMBJ400	1KSMBJ400C	324	360	440	1.0	574	1.0	5.0
1KSMBJ400A	1KSMBJ400CA	342	380	420	1.0	548	1.1	5.0
1KSMBJ440	1KSMBJ440C	356	396	484	1.0	631	0.95	5.0
1KSMBJ440A	1KSMBJ440CA	376	418	462	1.0	602	1.0	5.0

## Ratings and Characteristic Curves $T_A=25^\circ\text{C}$ unless otherwise noted

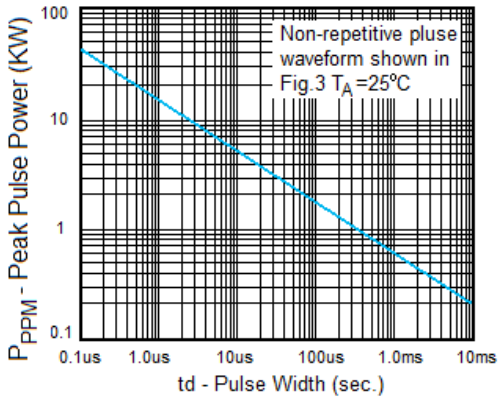


Fig. 1 Peak Pulse Power Rating

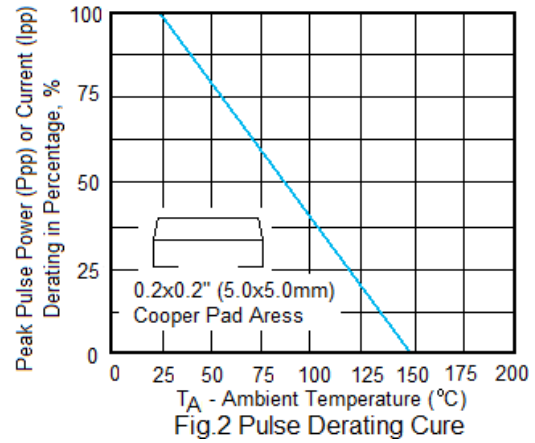


Fig. 2 Pulse Derating Curve

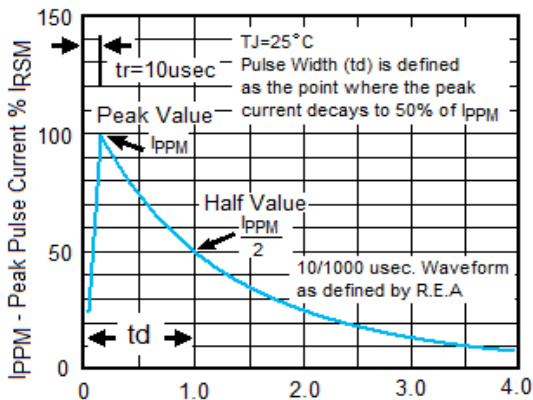


Fig. 3 Pulse Waveform

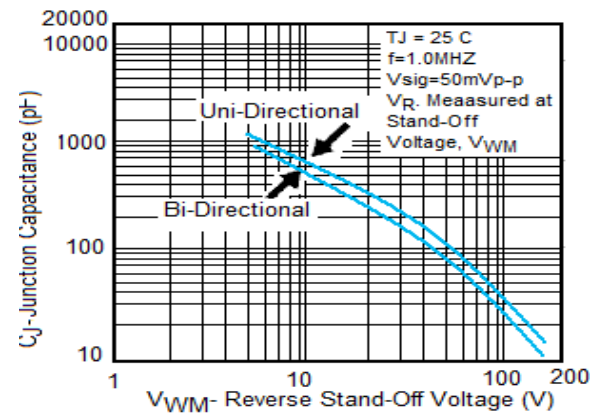


Fig. 4- Typical Junction Capacitance