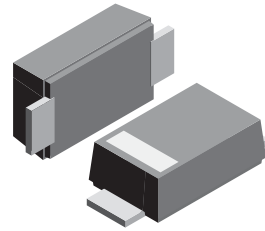


**VOLTAGE RANGE: 5.0 - 440 V**  
**POWER: 600Watts**

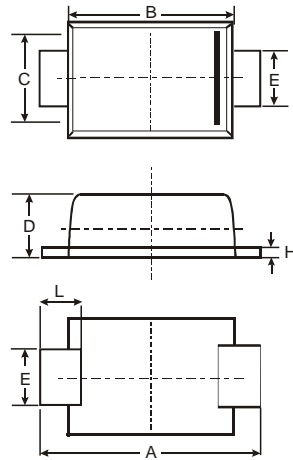


### Features

- 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: SMBF , Molded Plastic
- Terminals: Solder Plated, Solderable per MIL-STD-750, Method 2026
- Polarity: Cathode Band or Cathode Notch  
Marking: Date Code and Marking Code
- See Page 2
- Weight: 0.0018 ounces, 0.05grams



SMBF			
Dim	Min	Max	Typ
A	5.45	5.55	5.50
B	4.27	4.33	4.30
C	3.57	3.63	3.60
D	1.32	1.38	1.35
E	1.96	2.00	1.98
H	0.019	0.021	0.20
L	0.73	0.77	0.75
All Dimensions in mm			

### Maximum Ratings @ $T_A = 25^\circ\text{C}$ unless otherwise specified

Characteristic	Symbol	Value	Unit
Peak Pulse Power Dissipation (Non repetitive current pulse derated above $T_A = 25^\circ\text{C}$ ) (Note 1)	$P_{PK}$	600	W
Peak Forward Surge Current, 8.3ms Single Half Sine Wave Superimposed on Rated Load (JEDEC Method) (Notes 1, 2, & 3)	$I_{FSM}$	100	A
Instantaneous Forward Voltage @ $I_{PP} = 35\text{A}$ (Notes 1, 2, & 3)	$V_F$	3.5 5.0	V V
Operating and Storage Temperature Range	$T_j, T_{STG}$	-55 to +150	$^\circ\text{C}$

- 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		Marking		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)	(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)
SMBFJ5.0	SMBFJ5.0C	K6D	A6D	5.0	6.40	7.55	10	9.6	62.5	800.0
SMBFJ5.0A	SMBFJ5.0CA	K6E	A6E	5.0	6.40	7.25	10	9.2	65.2	800.0
SMBFJ6.0	SMBFJ6.0C	K6F	A6F	6.0	6.67	8.45	10	11.4	52.6	800.0
SMBFJ6.0A	SMBFJ6.0CA	K6G	A6G	6.0	6.67	7.67	10	10.3	58.3	800.0
SMBFJ6.5	SMBFJ6.5C	K6H	A6H	6.5	7.22	9.14	10	12.3	48.8	500.0
SMBFJ6.5A	SMBFJ6.5CA	K6K	A6K	6.5	7.22	8.30	10	11.2	53.6	500.0
SMBFJ7.0	SMBFJ7.0C	K6L	A6L	7.0	7.78	9.86	10	13.3	45.1	200.0
SMBFJ7.0A	SMBFJ7.0CA	K6M	A6M	7.0	7.78	8.95	10	12.0	50.0	200.0
SMBFJ7.5	SMBFJ7.5C	K6N	A6N	7.5	8.33	10.67	1.0	14.3	42.0	100.0
SMBFJ7.5A	SMBFJ7.5CA	K6P	A6P	7.5	8.33	9.58	1.0	12.9	46.5	100.0
SMBFJ8.0	SMBFJ8.0C	K6Q	A6Q	8.0	8.89	11.3	1.0	15.0	40.0	50.0
SMBFJ8.0A	SMBFJ8.0CA	K6R	A6R	8.0	8.89	10.23	1.0	13.6	44.1	50.0
SMBFJ8.5	SMBFJ8.5C	K6S	A6S	8.5	9.44	11.92	1.0	15.9	37.7	20.0
SMBFJ8.5A	SMBFJ8.5CA	K6T	A6T	8.5	9.44	10.82	1.0	14.4	41.7	20.0
SMBFJ9.0	SMBFJ9.0C	K6U	A6U	9.0	10.0	12.6	1.0	16.9	35.5	10.0
SMBFJ9.0A	SMBFJ9.0CA	K6V	A6V	9.0	10.0	11.5	1.0	15.4	39.0	10.0
SMBFJ10	SMBFJ10C	K6W	A6W	10	11.1	14.1	1.0	18.8	31.9	5.0
SMBFJ10A	SMBFJ10CA	K6X	A6X	10	11.1	12.8	1.0	17.0	35.3	5.0
SMBFJ11	SMBFJ11C	K6Y	A6Y	11	12.2	15.4	1.0	20.1	29.9	5.0
SMBFJ11A	SMBFJ11CA	K6Z	A6Z	11	12.2	14.0	1.0	18.2	33.0	5.0
SMBFJ12	SMBFJ12C	L6D	B6D	12	13.3	16.9	1.0	22.0	27.3	5.0
SMBFJ12A	SMBFJ12CA	L6E	B6E	12	13.3	15.3	1.0	19.9	30.2	5.0
SMBFJ13	SMBFJ13C	L6F	B6F	13	14.4	18.2	1.0	23.8	25.2	5.0
SMBFJ13A	SMBFJ13CA	L6G	B6G	13	14.4	16.5	1.0	21.5	27.9	5.0
SMBFJ14	SMBFJ14C	L6H	B6H	14	15.6	19.8	1.0	25.8	23.3	5.0
SMBFJ14A	SMBFJ14CA	L6K	B6K	14	15.6	17.9	1.0	23.2	25.9	5.0
SMBFJ15	SMBFJ15C	L6L	B6L	15	16.7	21.1	1.0	26.9	22.3	5.0
SMBFJ15A	SMBFJ15CA	L6M	B6M	15	16.7	19.2	1.0	24.4	24.6	5.0
SMBFJ16	SMBFJ16C	L6N	B6N	16	17.8	22.6	1.0	28.8	20.8	5.0
SMBFJ16A	SMBFJ16CA	L6P	B6P	16	17.8	20.5	1.0	26.0	23.1	5.0
SMBFJ17	SMBFJ17C	L6Q	B6Q	17	18.9	23.9	1.0	30.5	19.7	5.0
SMBFJ17A	SMBFJ17CA	L6R	B6R	17	18.9	21.7	1.0	27.6	21.7	5.0
SMBFJ18	SMBFJ18C	L6S	B6S	18	20.0	25.3	1.0	32.2	18.6	5.0
SMBFJ18A	SMBFJ18CA	L6T	B6T	18	20.0	23.3	1.0	29.2	20.5	5.0
SMBFJ20	SMBFJ20C	L6U	B6U	20	22.2	28.1	1.0	35.8	16.8	5.0
SMBFJ20A	SMBFJ20CA	L6V	B6V	20	22.2	25.5	1.0	32.4	18.5	5.0
SMBFJ22	SMBFJ22C	L6W	B6W	22	24.4	30.9	1.0	39.4	15.2	5.0
SMBFJ22A	SMBFJ22CA	L6X	B6X	22	24.4	28.0	1.0	35.5	16.9	5.0
SMBFJ24	SMBFJ24C	L6Y	B6Y	24	26.7	33.8	1.0	43.0	14.0	5.0
SMBFJ24A	SMBFJ24CA	L6Z	B6Z	24	26.7	30.7	1.0	38.9	15.4	5.0
SMBFJ26	SMBFJ26C	M6D	C6D	26	28.9	36.6	1.0	46.6	12.9	5.0
SMBFJ26A	SMBFJ26CA	M6E	C6E	26	28.9	33.2	1.0	42.1	14.3	5.0
SMBFJ28	SMBFJ28C	M6F	C6F	28	31.1	39.4	1.0	50.0	12.0	5.0
SMBFJ28A	SMBFJ28CA	M6G	C6G	28	31.1	35.8	1.0	45.4	13.2	5.0

TYPE		Marking		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)	(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)
SMBFJ30	SMBFJ30C	M6H	C6H	30	33.3	42.2	1.0	53.5	11.2	5.0
SMBFJ30A	SMBFJ30CA	M6K	C6K	30	33.3	38.3	1.0	48.4	12.4	5.0
SMBFJ33	SMBFJ33C	M6L	C6L	33	36.7	46.5	1.0	59.0	10.2	5.0
SMBFJ33A	SMBFJ33CA	M6M	C6M	33	36.7	42.2	1.0	53.3	11.3	5.0
SMBFJ36	SMBFJ36C	M6N	C6N	36	40.0	50.7	1.0	64.3	9.3	5.0
SMBFJ36A	SMBFJ36CA	M6P	C6P	36	40.0	46.0	1.0	58.1	10.3	5.0
SMBFJ40	SMBFJ40C	M6Q	C6Q	40	44.4	56.3	1.0	71.4	8.4	5.0
SMBFJ40A	SMBFJ40CA	M6R	C6R	40	44.4	51.1	1.0	64.5	9.3	5.0
SMBFJ43	SMBFJ43C	M6S	C6S	43	47.8	60.5	1.0	76.7	7.8	5.0
SMBFJ43A	SMBFJ43CA	M6T	C6T	43	47.8	54.9	1.0	69.4	8.6	5.0
SMBFJ45	SMBFJ45C	M6U	C6U	45	50.0	63.3	1.0	80.3	7.5	5.0
SMBFJ45A	SMBFJ45CA	M6V	C6V	45	50.0	57.5	1.0	72.7	8.3	5.0
SMBFJ48	SMBFJ48C	M6W	C6W	48	53.3	67.5	1.0	85.5	7.0	5.0
SMBFJ48A	SMBFJ48CA	M6X	C6X	48	53.3	61.3	1.0	77.4	7.8	5.0
SMBFJ51	SMBFJ51C	M6Y	C6Y	51	56.7	71.8	1.0	91.1	6.6	5.0
SMBFJ51A	SMBFJ51CA	M6Z	C6Z	51	56.7	65.2	1.0	82.4	7.3	5.0
SMBFJ54	SMBFJ54C	N6D	D6D	54	60.0	76.0	1.0	96.3	6.2	5.0
SMBFJ54A	SMBFJ54CA	N6E	D6E	54	60.0	69.0	1.0	87.1	6.9	5.0
SMBFJ58	SMBFJ58C	N6F	D6F	58	64.4	81.6	1.0	103	5.8	5.0
SMBFJ58A	SMBFJ58CA	N6G	D6G	58	64.4	74.1	1.0	93.6	6.4	5.0
SMBFJ60	SMBFJ60C	N6H	D6H	60	66.7	84.5	1.0	107	5.6	5.0
SMBFJ60A	SMBFJ60CA	N6K	D6K	60	66.7	76.7	1.0	96.8	6.2	5.0
SMBFJ64	SMBFJ64C	N6L	D6L	64	71.1	90.1	1.0	114	5.3	5.0
SMBFJ64A	SMBFJ64CA	N6M	D6M	64	71.1	81.8	1.0	103	5.8	5.0
SMBFJ70	SMBFJ70C	N6N	D6N	70	77.8	98.6	1.0	125	4.8	5.0
SMBFJ70A	SMBFJ70CA	N6P	D6P	70	77.8	89.5	1.0	113	5.3	5.0
SMBFJ75	SMBFJ75C	N6Q	D6Q	75	83.0	105.7	1.0	134	4.5	5.0
SMBFJ75A	SMBFJ75CA	N6R	D6R	75	83.0	95.8	1.0	121	5.0	5.0
SMBFJ78	SMBFJ78C	N6S	D6S	78	86.0	109.8	1.0	139	4.3	5.0
SMBFJ78A	SMBFJ78CA	N6T	D6T	78	86.0	99.7	1.0	126	4.8	5.0
SMBFJ85	SMBFJ85C	N6U	D6U	85	94.0	119.2	1.0	151	4.0	5.0
SMBFJ85A	SMBFJ85CA	N6V	D6V	85	94.0	108.2	1.0	137	4.4	5.0
SMBFJ90	SMBFJ90C	N6W	D6W	90	100	126.5	1.0	160	3.8	5.0
SMBFJ90A	SMBFJ90CA	N6X	D6X	90	100	115.5	1.0	146	4.1	5.0
SMBFJ100	SMBFJ100C	N6Y	D6Y	100	111	141.0	1.0	179	3.4	5.0
SMBFJ100A	SMBFJ100CA	N6Z	D6Z	100	111	128.0	1.0	162	3.7	5.0
SMBFJ110	SMBFJ110C	P6D	E6D	110	122	154.5	1.0	196	3.1	5.0
SMBFJ110A	SMBFJ110CA	P6E	E6E	100	122	140.5	1.0	177	3.4	5.0
SMBFJ120	SMBFJ120C	P6F	E6F	120	133	169.0	1.0	214	2.8	5.0
SMBFJ120A	SMBFJ120CA	P6G	E6G	120	133	153.0	1.0	193	3.1	5.0
SMBFJ130	SMBFJ130C	P6H	E6H	130	144	182.5	1.0	231	2.6	5.0
SMBFJ130A	SMBFJ130CA	P6K	E6K	130	144	165.5	1.0	209	2.9	5.0
SMBFJ150	SMBFJ150C	P6L	E6L	150	167	211.5	1.0	268	2.2	5.0
SMBFJ150A	SMBFJ150CA	P6M	E6M	150	167	192.5	1.0	243	2.5	5.0
SMBFJ160	SMBFJ160C	P6N	E6N	160	178	226.0	1.0	287	2.1	5.0
SMBFJ160A	SMBFJ160CA	P6P	E6P	160	178	205.0	1.0	259	2.3	5.0



TYPE		Marking		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)	(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> ( $\mu$ A)
SMBFJ170	SMBFJ170C	P6Q	E6Q	170	189	239.5	1.0	304	2.0	5.0
SMBFJ170A	SMBFJ170CA	P6R	E6R	170	189	217.5	1.0	275	2.2	5.0
SMBFJ180	SMBFJ180C	P6S	E6S	180	200	253.8	1.0	321	1.9	5.0
SMBFJ180A	SMBFJ180CA	P6T	E6T	180	200	230.4	1.0	290	2.1	5.0
SMBFJ190	SMBFJ190C	P6U	E6U	190	211	267.9	1.0	339	1.8	5.0
SMBFJ190A	SMBFJ190CA	P6V	E6V	190	211	243.2	1.0	306	2.0	5.0
SMBFJ200	SMBFJ200C	P6W	E6W	200	222	282.0	1.0	356	1.7	5.0
SMBFJ200A	SMBFJ200CA	P6X	E6X	200	222	256.0	1.0	322	1.9	5.0
SMBFJ210	SMBFJ210C	P6Y	E6Y	210	233	296.1	1.0	375	1.6	5.0
SMBFJ210A	SMBFJ210CA	P6Z	E6Z	210	233	268.8	1.0	339	1.8	5.0
SMBFJ220	SMBFJ220C	Q6D	F6D	220	244	310.2	1.0	392	1.5	5.0
SMBFJ220A	SMBFJ220CA	Q6E	F6E	220	244	281.6	1.0	355	1.7	5.0
SMBFJ250	SMBFJ250C	Q6F	F6F	250	278	342.5	1.0	447	1.3	5.0
SMBFJ250A	SMBFJ250CA	Q6G	F6G	250	278	309.0	1.0	403	1.5	5.0
SMBFJ300	SMBFJ300C	Q6H	F6H	300	333	411.0	1.0	535	1.1	5.0
SMBFJ300A	SMBFJ300CA	Q6K	F6K	300	333	371.0	1.0	484	1.2	5.0
SMBFJ350	SMBFJ350C	Q6L	F6L	350	389	479.5	1.0	624	1.0	5.0
SMBFJ350A	SMBFJ350CA	Q6M	F6M	350	389	432.0	1.0	565	1.1	5.0
SMBFJ400	SMBFJ400C	Q6N	F6N	400	444	548.0	1.0	687	0.9	5.0
SMBFJ400A	SMBFJ400CA	Q6P	F6P	400	444	494.0	1.0	645	0.9	5.0
SMBFJ440	SMBFJ440C	Q6Q	F6Q	440	489	602.8	1.0	786	0.8	5.0
SMBFJ440A	SMBFJ440CA	Q6R	F6R	440	489	543.0	1.0	710	0.8	5.0

**Note:**

- (1) V<sub>BR</sub> measured after I<sub>T</sub> applied for 300  $\mu$ s., I<sub>T</sub> = square wave pulse or equivalent.
- (2) Surge Current Waveform per Figure 5 and Derate per Figure 1
- (3) A Transient suppressor is normally selected according to the reverse " Stand-off Voltage " (V<sub>WM</sub>) which should be equal to or greater than the D.C. or continuous peak operating voltage level.

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

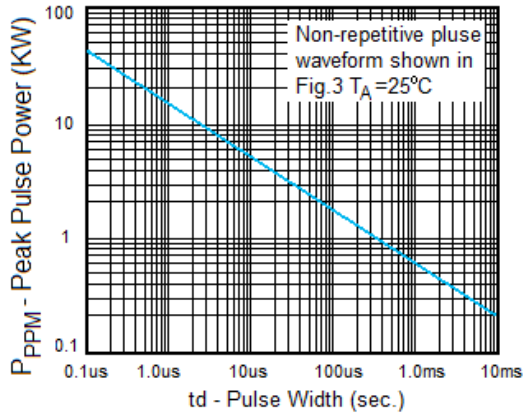


Fig. 1 Peak Pulse Power Rating

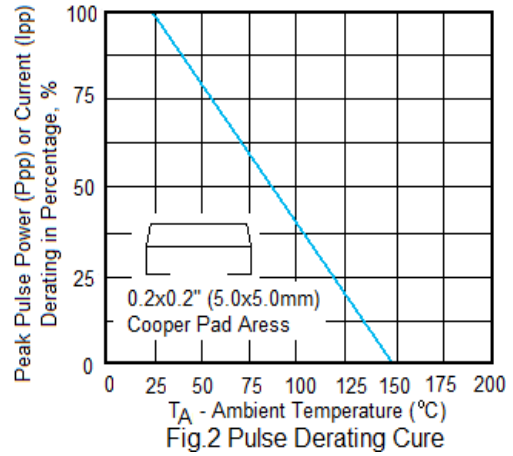


Fig. 2 Pulse Derating Curve

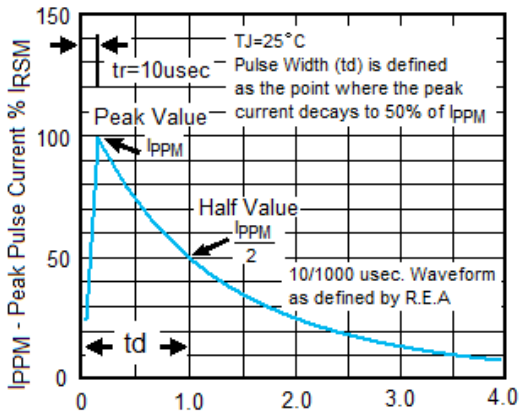


Fig. 3 Pulse Waveform

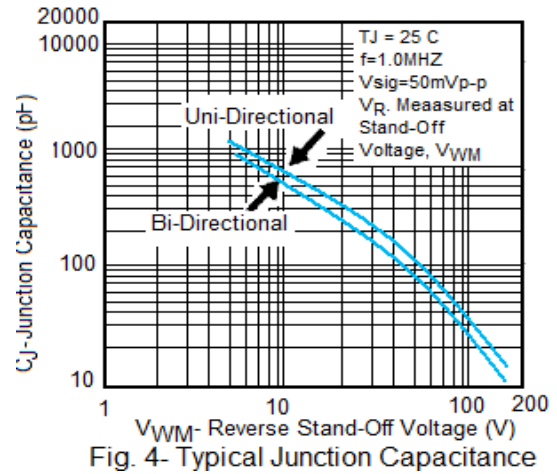


Fig. 4- Typical Junction Capacitance