



P6SMBJ6.8A(CA) - P6SMBJ440A(CA)

SURFACE MOUNT TRANSIENT VOLTAGE SUPPRESSOR DIODE

VOLTAGE RANGE: 6.8 - 440V

POWER: 600Watts

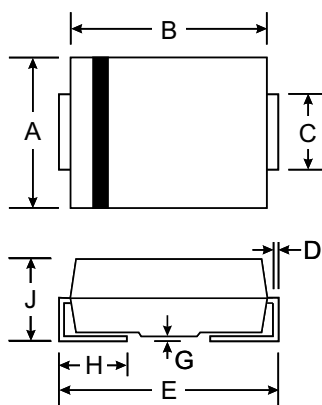
Features

- 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 @ $T_A = 25^\circ\text{C}$ 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		Reverse Stand-Off Voltage	Breakdown Voltage Min. @I _T	Breakdown Voltage Max. @ I _T	Test Current	Maximum Clamping Voltage @I _{PP}	Peak Pulse Current	Reverse Leakage @V _{RMW}
(UNI)	(BI)	V _{RMW} (V)	V _{BR MIN} (V)	V _{BR MAX} (V)	I _T (mA)	V _C (V)	I _{PP} (A)	I _R (uA)
P6SMBJ6.8	P6SMBJ6.8C	5.50	6.12	7.48	10.0	10.8	55.6	1000.0
P6SMBJ6.8A	P6SMBJ6.8CA	5.80	6.45	7.14	10.0	10.5	57.1	1000.0
P6SMBJ7.5	P6SMBJ7.5C	6.05	6.75	8.25	10.0	11.7	51.3	500.0
P6SMBJ7.5A	P6SMBJ7.5CA	6.40	7.13	7.88	10.0	11.3	53.1	500.0
P6SMBJ8.2	P6SMBJ8.2C	6.63	7.38	9.02	10.0	12.5	48.0	200.0
P6SMBJ8.2A	P6SMBJ8.2CA	7.02	7.79	8.61	10.0	12.1	49.6	200.0
P6SMBJ9.1	P6SMBJ9.1C	7.37	8.19	10.0	1.0	13.8	43.5	50.0
P6SMBJ9.1A	P6SMBJ9.1CA	7.78	8.65	9.55	1.0	13.4	44.8	50.0
P6SMBJ10	P6SMBJ10C	8.10	9.00	11.0	1.0	15.0	40.0	10.0
P6SMBJ10A	P6SMBJ10CA	8.55	9.50	10.5	1.0	14.5	41.4	10.0
P6SMBJ11	P6SMBJ11C	8.92	9.90	12.1	1.0	16.2	37.0	5.0
P6SMBJ11A	P6SMBJ11CA	9.40	10.5	11.6	1.0	15.6	38.5	5.0
P6SMBJ12	P6SMBJ12C	9.72	10.8	13.2	1.0	17.3	34.7	5.0
P6SMBJ12A	P6SMBJ12CA	10.2	11.4	12.6	1.0	16.7	35.9	5.0
P6SMBJ13	P6SMBJ13C	10.5	11.7	14.3	1.0	19.0	31.6	5.0
P6SMBJ13A	P6SMBJ13CA	11.1	12.4	13.7	1.0	18.2	33.0	5.0
P6SMBJ15	P6SMBJ15C	12.1	13.5	16.5	1.0	22.0	27.3	5.0
P6SMBJ15A	P6SMBJ15CA	12.8	14.3	15.8	1.0	21.2	28.3	5.0
P6SMBJ16	P6SMBJ16C	12.9	14.4	17.6	1.0	23.5	25.5	5.0
P6SMBJ16A	P6SMBJ16CA	13.6	15.2	16.8	1.0	22.5	26.7	5.0
P6SMBJ18	P6SMBJ18C	14.5	16.2	19.8	1.0	26.5	22.6	5.0
P6SMBJ18A	P6SMBJ18CA	15.3	17.1	18.9	1.0	25.2	23.8	5.0
P6SMBJ20	P6SMBJ20C	16.2	18.0	22.0	1.0	29.1	20.6	5.0
P6SMBJ20A	P6SMBJ20CA	17.1	19.0	21.0	1.0	27.7	21.7	5.0
P6SMBJ22	P6SMBJ22C	17.8	19.8	24.2	1.0	31.9	18.8	5.0
P6SMBJ22A	P6SMBJ22CA	18.8	20.9	23.1	1.0	30.6	19.6	5.0
P6SMBJ24	P6SMBJ24C	19.4	21.6	26.4	1.0	34.7	17.3	5.0
P6SMBJ24A	P6SMBJ24CA	20.5	22.8	25.2	1.0	33.2	18.1	5.0
P6SMBJ27	P6SMBJ27C	21.8	24.3	29.7	1.0	39.1	15.3	5.0
P6SMBJ27A	P6SMBJ27CA	23.1	25.7	28.4	1.0	37.5	16.0	5.0
P6SMBJ30	P6SMBJ30C	24.3	27.0	33.0	1.0	43.5	13.8	5.0
P6SMBJ30A	P6SMBJ30CA	25.6	28.5	31.5	1.0	41.4	14.5	5.0
P6SMBJ33	P6SMBJ33C	26.8	29.7	36.3	1.0	47.7	12.6	5.0
P6SMBJ33A	P6SMBJ33CA	28.2	31.4	34.7	1.0	45.7	13.1	5.0
P6SMBJ36	P6SMBJ36C	29.1	32.4	39.6	1.0	52.0	11.5	5.0
P6SMBJ36A	P6SMBJ36CA	30.8	34.2	37.8	1.0	49.9	12.0	5.0
P6SMBJ39	P6SMBJ39C	31.6	35.1	42.9	1.0	56.4	10.6	5.0
P6SMBJ39A	P6SMBJ39CA	33.3	37.1	41.0	1.0	53.9	11.1	5.0
P6SMBJ43	P6SMBJ43C	34.8	38.7	47.3	1.0	61.9	9.7	5.0
P6SMBJ43A	P6SMBJ43CA	36.8	40.9	45.2	1.0	59.3	10.1	5.0
P6SMBJ47	P6SMBJ47C	38.1	42.3	51.7	1.0	67.8	8.8	5.0
P6SMBJ47A	P6SMBJ47CA	40.2	44.7	49.4	1.0	64.8	9.3	5.0
P6SMBJ51	P6SMBJ51C	41.3	45.9	56.1	1.0	73.5	8.2	5.0
P6SMBJ51A	P6SMBJ51CA	43.6	48.5	53.6	1.0	70.1	8.6	5.0
P6SMBJ56	P6SMBJ56C	45.4	50.4	61.6	1.0	80.5	7.5	5.0
P6SMBJ56A	P6SMBJ56CA	47.8	53.2	58.8	1.0	77.0	7.8	5.0
P6SMBJ62	P6SMBJ62C	50.2	55.8	68.2	1.0	89.0	6.7	5.0
P6SMBJ62A	P6SMBJ62CA	53.0	58.9	65.1	1.0	85.0	7.1	5.0
P6SMBJ68	P6SMBJ68C	55.1	61.2	74.8	1.0	98.0	6.1	5.0
P6SMBJ68A	P6SMBJ68CA	58.1	64.6	71.4	1.0	92.0	6.5	5.0
P6SMBJ75	P6SMBJ75C	60.7	67.5	82.5	1.0	108	5.6	5.0
P6SMBJ75A	P6SMBJ75CA	64.1	71.3	78.8	1.0	103	5.8	5.0

TYPE		Reverse Stand-Off Voltage	Breakdown Voltage Min. @I _T	Breakdown Voltage Max. @ I _T	Test Current	Maximum Clamping Voltage @I _{PP}	Peak Pulse Current	Reverse Leakage @V _{RMW}
(UNI)	(BI)	V _{RMW} (V)	V _{BR MIN} (V)	V _{BR MAX} (V)	I _T (mA)	V _C (V)	I _{PP} (A)	I _R (uA)
P6SMBJ82	P6SMBJ82C	66.4	73.8	90.2	1.0	118	5.1	5.0
P6SMBJ82A	P6SMBJ82CA	70.1	77.9	86.1	1.0	113	5.3	5.0
P6SMBJ91	P6SMBJ91C	73.7	81.9	100	1.0	131	4.6	5.0
P6SMBJ91A	P6SMBJ91CA	77.8	86.5	95.5	1.0	125	4.8	5.0
P6SMBJ100	P6SMBJ100C	81.0	90.0	110	1.0	144	4.2	5.0
P6SMBJ100A	P6SMBJ100CA	85.5	95.0	105	1.0	137	4.4	5.0
P6SMBJ110	P6SMBJ110C	89.2	99.0	121	1.0	158	3.8	5.0
P6SMBJ110A	P6SMBJ110CA	94.0	105	116	1.0	152	3.9	5.0
P6SMBJ120	P6SMBJ120C	97.2	108	132	1.0	173	3.5	5.0
P6SMBJ120A	P6SMBJ120CA	102	114	126	1.0	165	3.6	5.0
P6SMBJ130	P6SMBJ130C	105	117	143	1.0	187	3.2	5.0
P6SMBJ130A	P6SMBJ130CA	111	124	137	1.0	179	3.4	5.0
P6SMBJ150	P6SMBJ150C	121	135	165	1.0	215	2.8	5.0
P6SMBJ150A	P6SMBJ150CA	128	143	158	1.0	207	2.9	5.0
P6SMBJ160	P6SMBJ160C	130	144	176	1.0	230	2.6	5.0
P6SMBJ160A	P6SMBJ160CA	136	152	168	1.0	219	2.7	5.0
P6SMBJ170	P6SMBJ170C	138	153	187	1.0	244	2.5	5.0
P6SMBJ170A	P6SMBJ170CA	145	162	179	1.0	234	2.6	5.0
P6SMBJ180	P6SMBJ180C	146	162	198	1.0	258	2.3	5.0
P6SMBJ180A	P6SMBJ180CA	154	171	189	1.0	246	2.4	5.0
P6SMBJ200	P6SMBJ200C	162	180	220	1.0	287	2.1	5.0
P6SMBJ200A	P6SMBJ200CA	171	190	210	1.0	274	2.2	5.0
P6SMBJ220	P6SMBJ220C	175	198	242	1.0	344	1.7	5.0
P6SMBJ220A	P6SMBJ220CA	185	209	231	1.0	328	1.8	5.0
P6SMBJ250	P6SMBJ250C	202	225	275	1.0	360	1.7	5.0
P6SMBJ250A	P6SMBJ250CA	214	237	263	1.0	344	1.7	5.0
P6SMBJ300	P6SMBJ300C	243	270	330	1.0	430	1.4	5.0
P6SMBJ300A	P6SMBJ300CA	256	285	315	1.0	414	1.4	5.0
P6SMBJ350	P6SMBJ350C	284	315	385	1.0	504	1.2	5.0
P6SMBJ350A	P6SMBJ350CA	300	333	368	1.0	482	1.2	5.0
P6SMBJ400	P6SMBJ400C	324	360	440	1.0	574	1.0	5.0
P6SMBJ400A	P6SMBJ400CA	342	380	420	1.0	548	1.1	5.0
P6SMBJ440	P6SMBJ440C	356	396	484	1.0	631	0.95	5.0
P6SMBJ440A	P6SMBJ440CA	376	418	462	1.0	602	1.0	5.0

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

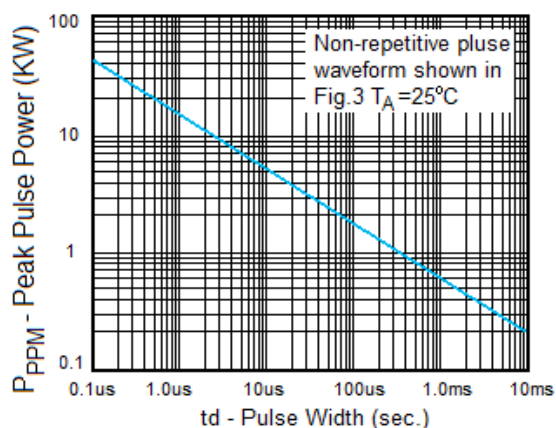


Fig. 1 Peak Pulse Power Rating

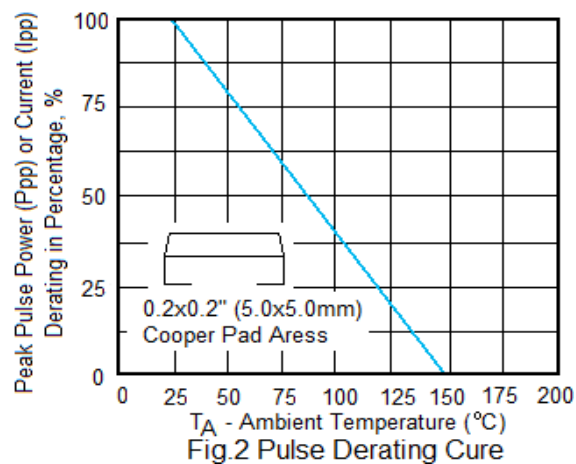


Fig. 2 Pulse Derating Cure

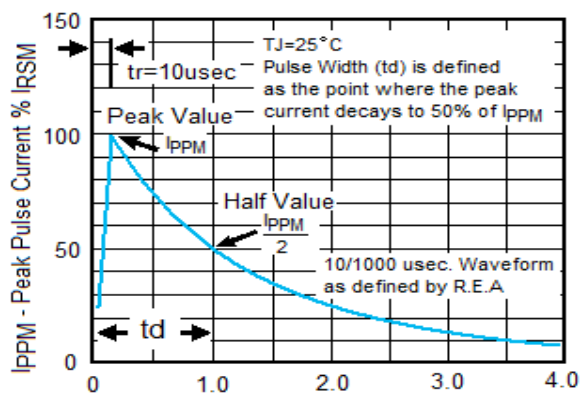


Fig. 3 Pulse Waveform

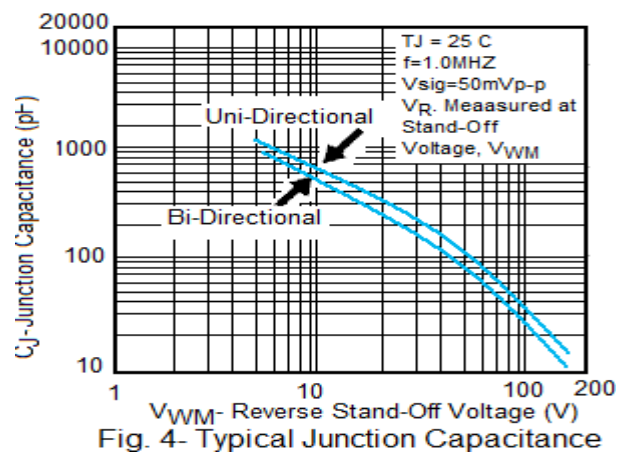


Fig. 4- Typical Junction Capacitance