Micro Commercial Components
20736 Marilla Street Chatsworth
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P6SMBJ6.8(C)A THRU P6SMBJ550(C)A

Transient Voltage Suppressor 6.8 to 550 Volts 600 Watt

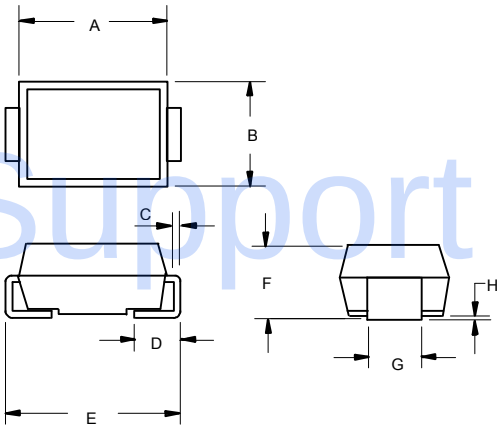
Features

- For surface mount applicationsin in order to optimize board space
- Low profile package
- Fast response time: typical less than 1.0ps from 0 volts to V_{BR} minimum
- Low inductance
- Excellent clamping capability

Mechanical Data

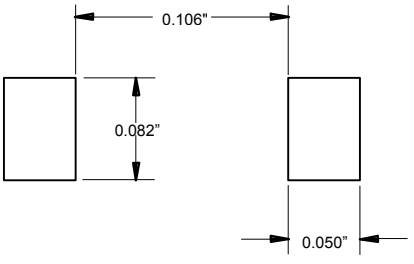
- CASE: JEDEC DO-214AA
- Terminals: solderable per MIL-STD-750, Method 2026
- Polarity: Color band denotespositive end (cathode) except Bidirectional
- Maximum soldering temperature: 250°C for 10 seconds

DO-214AA
(SMBJ) (LEAD FRAME)



DIMENSIONS					
	INCHES		MM		
DIM	MIN	MAX	MIN	MAX	NOTE
A	.160	.185	4.06	4.70	
B	.130	.155	3.30	3.94	
C	.006	.012	0.15	0.31	
D	.030	.060	0.76	1.52	
E	.200	.220	5.08	5.59	
F	.079	.096	2.00	2.44	
G	.075	.087	1.91	2.21	
H	.002	.008	0.05	0.203	

SUGGESTED SOLDER PAD LAYOUT



Maximum Ratings @ 25°C Unless Otherwise Specified

Peak Pulse Current on 10/1000us waveform	**I_{PP}**	**See Table 1**	**Note: 1**
Peak Pulse Power Dissipation	**P_{PP}**	**600W**	**Note: 1,**
Peak Forward Surge Current	**$I_{FSM)}$**	**100A**	**Note: 3**
Operation And Storage Temperature Range	**T_J, T_{STG}**	**-55°C to +150°C**	

NOTES:

1. Non-repetitive current pulse, per Fig.3 and derated above T_A=25°C per Fig.2.
2. Mounted on 5.0mm^2 copper pads to each terminal.
3. 8.3ms, single half sine wave duty cycle=4 pulses per. Minute maximum.

P6SMBJ6.8(C)A THRU P6SMBJ550(C)A

ELECTRICAL CHARACTERISTICS @25°C

MCC PART NUMBER	REVERSE STAND-OFF VOLTAGE V_{WM} (VOLTS)	BREAKDOWN VOLTAGE $V_{(BR)}$ @ I_T (VOLTS) MIN	MAX	I_T (mA)	MAXIMUM CLAMPING VOLTAGE @ I_{PP} (VOLTS)	PEAK PULSE CURRENT I_{PP} (AMPS)	MAXIMUM REVERSE LEAKAGE @V_{WM} I_D (μA)	MARKING CODE
P6SMBJ6.8A	5.80	6.45	7.14	10	10.5	58.1	1000	6V8A
P6SMBJ7.5A	6.40	7.13	7.88	10	11.3	54.0	500	7V5A
P6SMBJ8.2A	7.02	7.79	8.61	10	12.1	50.4	200	8V2A
P6SMBJ9.1A	7.78	8.65	9.55	1	13.4	45.5	50	9V1A
P6SMBJ10A	8.55	9.50	10.50	1	14.5	42.1	10	10A
P6SMBJ11A	9.40	10.50	11.60	1	15.6	39.1	5	11A
P6SMBJ12A	10.20	11.40	12.60	1	16.7	36.5	5	12A
P6SMBJ13A	11.10	12.40	13.70	1	18.2	33.5	5	13A
P6SMBJ15A	12.80	14.30	15.80	1	21.2	28.8	5	15A
P6SMBJ16A	13.60	15.20	16.80	1	22.5	27.1	5	16A
P6SMBJ18A	15.30	17.10	18.90	1	25.5	24.2	5	18A
P6SMBJ20A	17.10	19.00	21.00	1	27.7	22.0	5	20A
P6SMBJ22A	18.80	20.90	23.10	1	30.6	19.9	5	22A
P6SMBJ24A	20.50	22.80	25.20	1	33.2	18.4	5	24A
P6SMBJ27A	23.10	25.70	28.40	1	37.5	16.3	5	27A
P6SMBJ30A	25.60	28.50	31.50	1	41.4	14.7	5	30A
P6SMBJ33A	28.20	31.40	34.70	1	45.7	13.3	5	33A
P6SMBJ36A	30.80	34.20	37.80	1	49.9	12.2	5	36A
P6SMBJ39A	33.30	37.10	41.00	1	53.9	11.3	5	39A
P6SMBJ43A	36.80	40.90	45.20	1	59.3	10.3	5	43A
P6SMBJ47A	40.20	44.70	49.40	1	64.8	9.4	5	47A
P6SMBJ51A	43.60	48.50	53.60	1	70.1	8.7	5	51A
P6SMBJ56A	47.80	53.20	58.80	1	77.0	7.9	5	56A
P6SMBJ62A	53.00	58.90	65.10	1	85.0	7.2	5	62A
P6SMBJ68A	58.10	64.60	71.40	1	92.0	6.6	5	68A
P6SMBJ75A	64.10	71.30	78.80	1	103.0	5.9	5	75A
P6SMBJ82A	70.10	77.90	86.10	1	113.0	5.4	5	82A
P6SMBJ91A	77.80	86.50	95.50	1	125.0	4.9	5	91A
P6SMBJ100A	85.50	95.00	105.00	1	137.0	4.5	5	100A
P6SMBJ110A	94.00	105.00	116.00	1	152.0	4.0	5	110A
P6SMBJ120A	102.00	114.00	126.00	1	165.0	3.7	5	120A
P6SMBJ130A	111.00	124.00	137.00	1	179.0	3.4	5	130A
P6SMBJ150A	128.00	143.00	158.00	1	207.0	2.9	5	150A
P6SMBJ160A	136.00	152.00	168.00	1	219.0	2.8	5	160A
P6SMBJ170A	145.00	162.00	179.00	1	234.0	2.6	5	170A
P6SMBJ180A	154.00	171.00	189.00	1	246.0	2.5	5	180A
P6SMBJ200A	171.00	190.00	210.00	1	274.0	2.2	5	200A
P6SMBJ220A	185.00	209.00	231.00	1	328.0	1.9	5	220A
P6SMBJ250A	214.00	237.00	263.00	1	344.0	1.9	5	250A
P6SMBJ300A	256.00	285.00	315.00	1	414.0	1.5	5	300A
P6SMBJ350A	300.00	332.00	368.00	1	482.0	1.3	5	350A
P6SMBJ400A	342.00	380.00	420.00	1	548.0	1.1	5	400A
P6SMBJ440A	376.00	418.00	462.00	1	602.0	1.0	5	440A
P6SMBJ480A	408.00	456.00	504.00	1	658.0	0.9	5	480A
P6SMBJ510A	434.00	485.00	535.00	1	698.0	0.9	5	510A
P6SMBJ530A	477.00	503.50	556.50	1	725.0	0.8	5	530A
P6SMBJ540A	459.00	513.00	567.00	1	740.0	0.8	5	540A
P6SMBJ550A	495.00	522.50	577.50	1	760.0	0.8	5	550A

For bi-directional type having V_{rwm} of 10 volts and less, the I_R limit is double.

The available parts are “A” type only, the parts without A (V_{BR} is ±10%) is not available.

P6SMBJ6.8(C)A THRU P6SMBJ550(C)A

ELECTRICAL CHARACTERISTICS @25°C

MCC PART NUMBER	REVERSE STAND-OFF VOLTAGE V_{WM} (VOLTS)	BREAKDOWN VOLTAGE $V_{(BR)}$ @ I_T (VOLTS) MIN	MAX	I_T (mA)	MAXIMUM CLAMPING VOLTAGE @ I_{PP} (VOLTS)	PEAK PULSE CURRENT I_{PP} (AMPS)	MAXIMUM REVERSE LEAKAGE @V_{WM} I_D (μA)	MARKING CODE
P6SMBJ6.8CA	5.80	6.45	7.14	10	10.5	58.1	1000	6V8C
P6SMBJ7.5CA	6.40	7.13	7.88	10	11.3	54.0	500	7V5C
P6SMBJ8.2CA	7.02	7.79	8.61	10	12.1	50.4	200	8V2C
P6SMBJ9.1CA	7.78	8.65	9.55	1	13.4	45.5	50	9V1C
P6SMBJ10CA	8.55	9.50	10.50	1	14.5	42.1	10	10C
P6SMBJ11CA	9.40	10.50	11.60	1	15.6	39.1	5	11C
P6SMBJ12CA	10.20	11.40	12.60	1	16.7	36.5	5	12C
P6SMBJ13CA	11.10	12.40	13.70	1	18.2	33.5	5	13C
P6SMBJ15CA	12.80	14.30	15.80	1	21.2	28.8	5	15C
P6SMBJ16CA	13.60	15.20	16.80	1	22.5	27.1	5	16C
P6SMBJ18CA	15.30	17.10	18.90	1	25.5	24.2	5	18C
P6SMBJ20CA	17.10	19.00	21.00	1	27.7	22.0	5	20C
P6SMBJ22CA	18.80	20.90	23.10	1	30.6	19.9	5	22C
P6SMBJ24CA	20.50	22.80	25.20	1	33.2	18.4	5	24C
P6SMBJ27CA	23.10	25.70	28.40	1	37.5	16.3	5	27C
P6SMBJ30CA	25.60	28.50	31.50	1	41.4	14.7	5	30C
P6SMBJ33CA	28.20	31.40	34.70	1	45.7	13.3	5	33C
P6SMBJ36CA	30.80	34.20	37.80	1	49.9	12.2	5	36C
P6SMBJ39CA	33.30	37.10	41.00	1	53.9	11.3	5	39C
P6SMBJ43CA	36.80	40.90	45.20	1	59.3	10.3	5	43C
P6SMBJ47CA	40.20	44.70	49.40	1	64.8	9.4	5	47C
P6SMBJ51CA	43.60	48.50	53.60	1	70.1	8.7	5	51C
P6SMBJ56CA	47.80	53.20	58.80	1	77.0	7.9	5	56C
P6SMBJ62CA	53.00	58.90	65.10	1	85.0	7.2	5	62C
P6SMBJ68CA	58.10	64.60	71.40	1	92.0	6.6	5	68C
P6SMBJ75CA	64.10	71.30	78.80	1	103.0	5.9	5	75C
P6SMBJ82CA	70.10	77.90	86.10	1	113.0	5.4	5	82C
P6SMBJ91CA	77.80	86.50	95.50	1	125.0	4.9	5	91C
P6SMBJ100CA	85.50	95.00	105.00	1	137.0	4.5	5	100C
P6SMBJ110CA	94.00	105.00	116.00	1	152.0	4.0	5	110C
P6SMBJ120CA	102.00	114.00	126.00	1	165.0	3.7	5	120C
P6SMBJ130CA	111.00	124.00	137.00	1	179.0	3.4	5	130C
P6SMBJ150CA	128.00	143.00	158.00	1	207.0	2.9	5	150C
P6SMBJ160CA	136.00	152.00	168.00	1	219.0	2.8	5	160C
P6SMBJ170CA	145.00	162.00	179.00	1	234.0	2.6	5	170C
P6SMBJ180CA	154.00	171.00	189.00	1	246.0	2.5	5	180C
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P6SMBJ250CA	214.00	237.00	263.00	1	344.0	1.9	5	250C
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P6SMBJ530CA	477.00	503.50	556.50	1	725.0	0.8	5	530C
P6SMBJ540CA	459.00	513.00	567.00	1	740.0	0.8	5	540C
P6SMBJ550CA	495.00	522.50	577.50	1	760.0	0.8	5	550C

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·M·C·C·

Fig. 1 - Peak Pulse Power Rating Curve

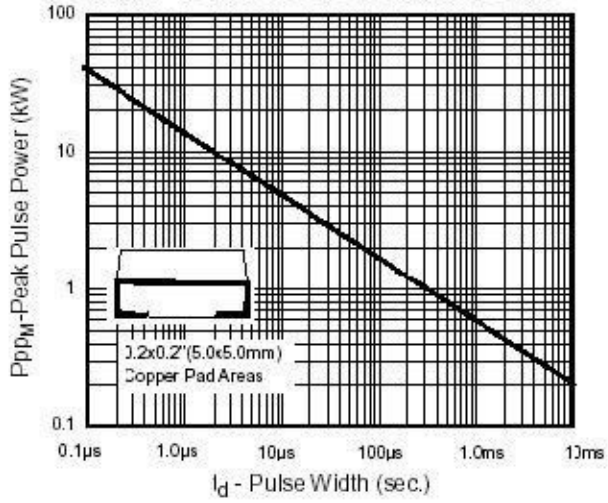

Fig.2 - Pulse Derating Curve

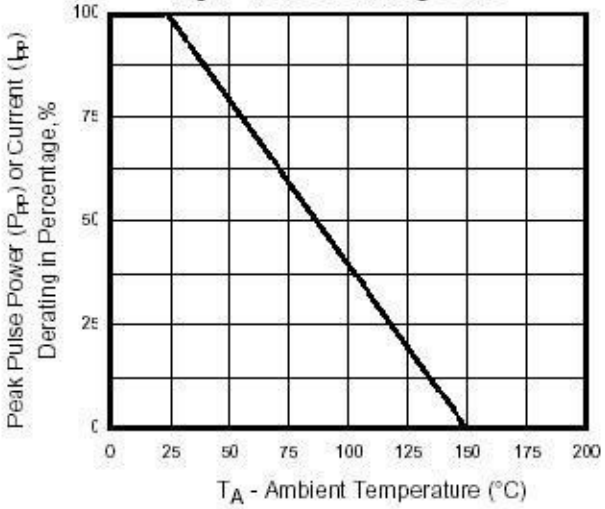

Fig.3 - Pulse Waveform

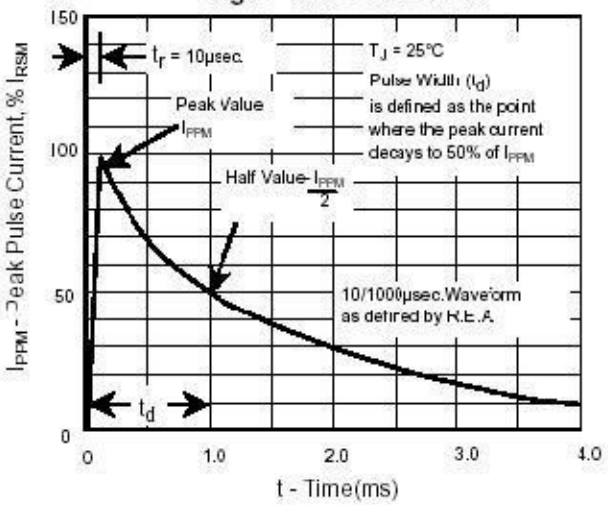

Fig.4 - Typical Junction Capacitance

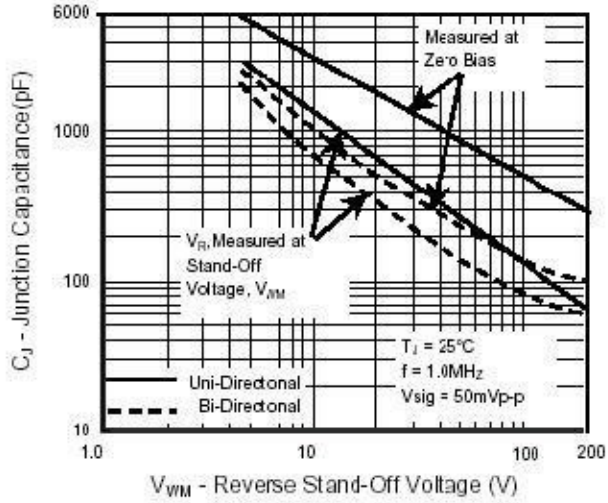

Fig. 5 - Typ.Transient Thermal Impedance

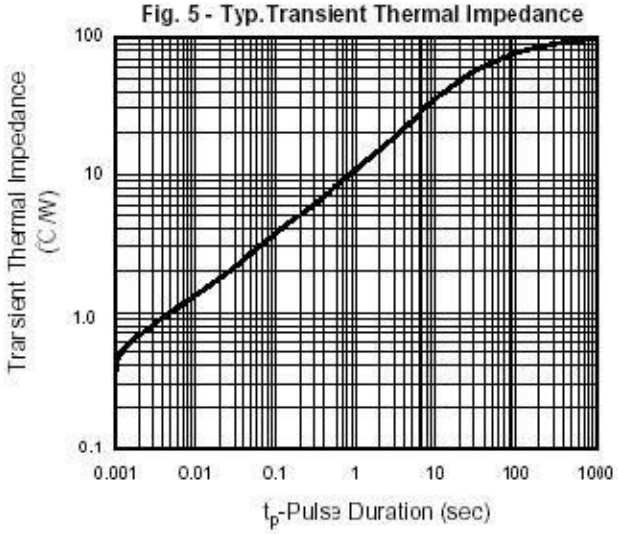

Fig.6 - Maximum Non-Repetitive Peak Forward Surge Current