



Micro Commercial Components
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SMAJ5.0 THRU SMAJ170A

**500 Watt
 Transient Voltage
 Suppressors
 5.0 to 170 Volts**

Features

- For Surface Mount Applications
- Unidirectional And Bidirectional
- Low Inductance
- High Temp Soldering: 250°C for 10 Seconds At Terminals
- For Bidirectional Devices Add "C" To The Suffix Of The Part Number: i.e. SMAJ5.0C or SMAJ5.0CA for 5% Tolerance Devices

Maximum Ratings

- Operating Temperature: -55°C to +150°C
- Storage Temperature: -55°C to +150°C
- 500 Watt Peak Power
- Response Time 1×10^{-12} Seconds For Unidirectional And 5×10^{-9} For Bidirectional

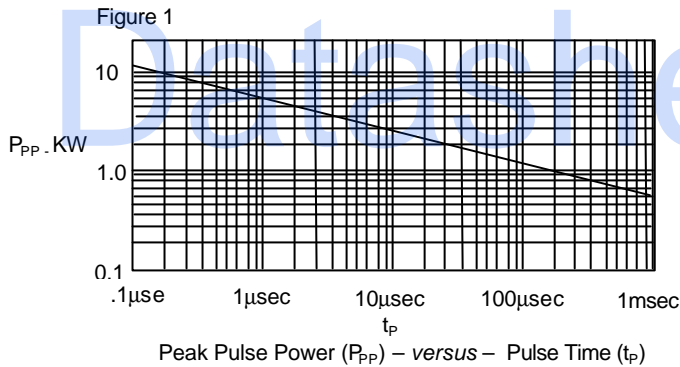
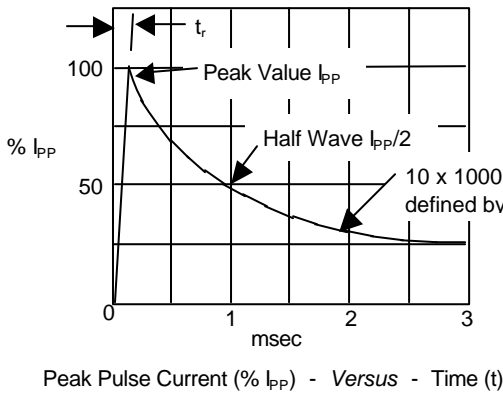
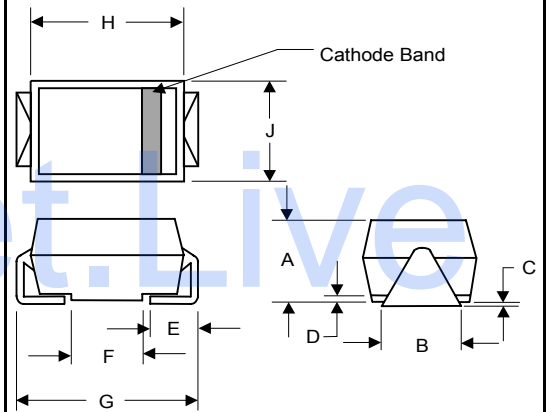


Figure 2 - Pulse Waveform

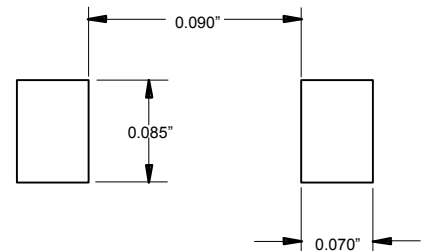


DO-214AC (SMAJ) (High Profile)



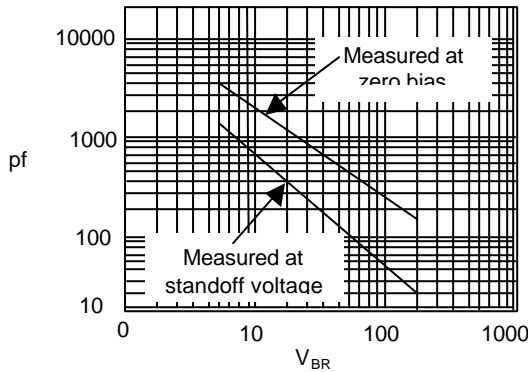
DIM	DIMENSIONS				NOTE
	INCHES		MM		
A	.078	.116	1.98	2.95	
B	.067	.089	1.70	2.25	
C	.002	.008	.05	.20	
D	—	.02	—	.51	
E	.035	.055	.89	1.40	
F	.065	.096	1.65	2.45	
G	.205	.224	5.21	5.69	
H	.160	.180	4.06	4.57	
J	.100	.112	2.57	2.84	

SUGGESTED SOLDER PAD LAYOUT



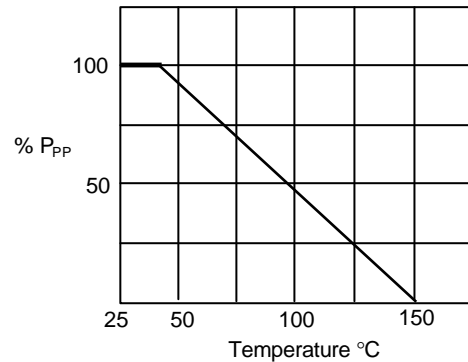
SMAJ5.0 thru SMAJ170A

Figure 3 - Typical Capacitance



Typical Capacitance (pf) – versus – Breakdown voltage

Figure 4 - Derating Curve



Peak Pulse Power (% P_{PP}) - Versus - Temperature °C

ELECTRICAL CHARACTERISTICS @25°C

MCC PART NUMBER	REVERSE STAND-OFF VOLTAGE V _{WM} (VOLTS)	BREAKDOWN VOLTAGE V _(BR) @ I _T (VOLTS)			MAXIMUM CLAMPING VOLTAGE @ I _{PP} (VOLTS)	PEAK PULSE CURRENT I _{PP} (AMPS)	MAXIMUM REVERSE LEAKAGE @V _{WM} I _b (μA)	MARKING CODE
		MIN	MAX	I _T (mA)				
SMAJ5.0	5.0	6.40	7.30	10	9.6	52.0	800	5.0
SMAJ5.0A	5.0	6.40	7.00	10	9.2	54.3	800	5.0A
SMAJ6.0	6.0	6.67	8.15	10	11.4	43.9	800	6.0
SMAJ6.0A	6.0	6.67	7.37	10	10.3	48.5	800	6.0A
SMAJ6.5	6.5	7.22	8.82	10	12.3	40.7	500	6.5
SMAJ6.5A	6.5	7.22	7.98	10	11.2	44.7	500	6.5A
SMAJ7.0	7.0	7.78	9.51	10	13.3	37.8	200	7.0
SMAJ7.0A	7.0	7.78	8.60	10	12.0	41.7	200	7.0A
SMAJ7.5	7.5	8.33	10.2	1	14.3	35.0	100	7.5
SMAJ7.5A	7.5	8.33	9.21	1	12.9	38.8	100	7.5A
SMAJ8.0	8.0	8.89	10.9	1	15.0	33.3	50	8.0
SMAJ8.0A	8.0	8.89	9.83	1	13.6	36.7	50	8.0A
SMAJ8.5	8.5	9.44	11.5	1	15.9	31.4	10	8.5
SMAJ8.5A	8.5	9.44	10.4	1	14.4	34.7	10	8.5A
SMAJ9.0	9.0	10.0	12.2	1	16.9	29.5	5	9.0
SMAJ9.0A	9.0	10.0	11.1	1	15.4	32.5	5	9.0A
SMAJ10	10	11.1	13.6	1	18.8	26.6	5	10
SMAJ10A	10	11.1	12.3	1	17.0	29.4	5	10A
SMAJ11	11	12.2	14.9	1	20.1	24.9	5	11
SMAJ11A	11	12.2	13.5	1	18.2	27.4	5	11A
SMAJ12	12	13.3	16.3	1	22.0	22.7	5	12
SMAJ12A	12	13.3	14.7	1	19.9	25.1	5	12A
SMAJ13	13	14.4	17.6	1	23.8	21.0	5	13
SMAJ13A	13	14.4	15.9	1	21.5	23.2	5	13A
SMAJ14	14	15.6	19.1	1	25.8	19.4	5	14
SMAJ14A	14	15.6	17.2	1	23.2	21.5	5	14A
SMAJ15	15	16.7	20.4	1	26.9	18.8	5	15
SMAJ15A	15	16.7	18.5	1	24.4	20.6	5	15A
SMAJ16	16	17.8	21.8	1	28.8	17.6	5	16
SMAJ16A	16	17.8	19.7	1	26.0	19.2	5	16A
SMAJ17	17	18.9	23.1	1	30.5	16.4	5	17
SMAJ17A	17	18.9	20.9	1	27.6	18.1	5	17A
SMAJ18	18	20.0	24.4	1	32.2	15.5	5	18
SMAJ18A	18	20.0	22.1	1	29.2	17.2	5	18A
SMAJ20	20	22.2	27.1	1	35.8	13.9	5	20
SMAJ20A	20	22.2	24.5	1	32.4	15.4	5	20A

SMAJ5.0 thru SMAJ170A



ELECTRICAL CHARACTERISTICS @25°C

MCC PART NUMBER	REVERSE STAND-OFF VOLTAGE V_{WM} (VOLTS)	BREAKDOWN VOLTAGE $V_{(BR)}$ @ I_T (VOLTS)			MAXIMUM CLAMPING VOLTAGE @ I_{PP} (VOLTS)	PEAK PULSE CURRENT I_{PP} (AMPS)	MAXIMUM REVERSE LEAKAGE @ V_{WM} I_b (μA)	MARKING CODE
		MIN	MAX	I_T (mA)				
SMAJ22	22	24.4	29.8	1	39.4	12.7	5	22
SMAJ22A	22	24.4	26.9	1	35.5	14.1	5	22A
SMAJ24	24	26.7	32.6	1	43.0	11.6	5	24
SMAJ24A	24	26.7	29.5	1	38.9	12.8	5	24A
SMAJ26	26	28.9	35.3	1	46.6	10.7	5	26
SMAJ26A	26	28.9	31.9	1	42.1	11.9	5	26A
SMAJ28	28	31.1	38.0	1	50.0	9.9	5	28
SMAJ28A	28	31.1	34.4	1	45.4	11.0	5	28A
SMAJ30	30	33.3	40.7	1	53.5	9.3	5	30
SMAJ30A	30	33.3	36.8	1	48.4	10.3	5	30A
SMAJ33	33	36.7	44.9	1	59.0	8.5	5	33
SMAJ33A	33	36.7	40.6	1	53.3	9.4	5	33A
SMAJ36	36	40.0	48.9	1	64.3	7.8	5	36
SMAJ36A	36	40.0	44.2	1	58.1	8.6	5	36A
SMAJ40	40	44.4	54.3	1	71.4	7.0	5	40
SMAJ40A	40	44.4	49.1	1	64.5	7.8	5	40A
SMAJ43	43	47.8	58.4	1	76.7	6.5	5	43
SMAJ43A	43	47.8	52.8	1	69.4	7.2	5	43A
SMAJ45	45	50.0	61.1	1	80.3	6.2	5	45
SMAJ45A	45	50.0	55.3	1	72.7	6.9	5	45A
SMAJ48	48	53.3	65.1	1	85.5	5.8	5	48
SMAJ48A	48	53.3	58.9	1	77.4	6.5	5	48A
SMAJ51	51	56.7	69.3	1	91.1	5.5	5	51
SMAJ51A	51	56.7	62.7	1	82.4	6.1	5	51A
SMAJ54	54	60.0	73.3	1	96.3	5.2	5	54
SMAJ54A	54	60.0	66.3	1	87.1	5.7	5	54A
SMAJ58	58	64.4	78.7	1	103	4.9	5	58
SMAJ58A	58	64.4	71.2	1	93.6	5.3	5	58A
SMAJ60	60	66.7	81.5	1	107	4.7	5	60
SMAJ60A	60	66.7	73.7	1	96.8	5.2	5	60A
SMAJ64	64	71.1	86.9	1	114	4.4	5	64
SMAJ64A	64	71.1	78.6	1	103	4.9	5	64A
SMAJ70	70	77.8	95.1	1	125	4.0	5	70
SMAJ70A	70	77.8	86.0	1	113	4.4	5	70A
SMAJ75	75	83.3	102	1	134	3.7	5	75
SMAJ75A	75	83.3	92.1	1	121	4.1	5	75A
SMAJ78	78	86.7	106	1	139	3.6	5	78
SMAJ78A	78	86.7	95.8	1	126	4.0	5	78A
SMAJ85	85	94.4	115	1	151	3.3	5	85
SMAJ85A	85	94.4	104	1	137	3.6	5	85A
SMAJ90	90	100	122	1	160	3.1	5	90
SMAJ90A	90	100	111	1	146	3.4	5	90A
SMAJ100	100	111	136	1	179	2.8	5	100
SMAJ100A	100	111	123	1	162	3.1	5	100A
SMAJ110	110	122	149	1	196	2.6	5	110
SMAJ110A	110	122	135	1	177	2.8	5	110A
SMAJ120	120	133	163	1	214	2.3	5	120
SMAJ120A	120	133	147	1	193	2.0	5	120A
SMAJ130	130	144	176	1	231	2.2	5	130
SMAJ130A	130	144	159	1	209	2.4	5	130A
SMAJ150	150	167	204	1	268	1.9	5	150
SMAJ150A	150	167	185	1	243	2.1	5	150A
SMAJ160	160	178	218	1	287	1.7	5	160
SMAJ160A	160	178	197	1	259	1.9	5	160A
SMAJ170	170	189	231	1	304	1.6	5	170
SMAJ170A	170	189	209	1	275	1.8	5	170A