



SEMICONDUCTOR

SMAJ5.0 (C) A THRU SMAJ440 (C) A

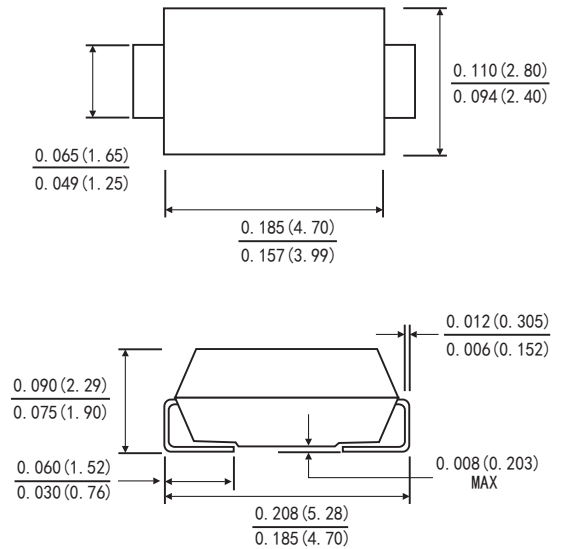
TRANSIENT VOLTAGE SUPPRESSOR
PEAK PULSE POWER-400 Watts

FEATURES

- 400 Watts Pulse capability
- Excellent clamping capability
- Low incremental surge resistance
- Fast response time
- High temperature soldering guaranteed: 260°C/10 seconds at terminals
- Component in accordance to RoHS 2011/65/EU



SMA(DO-214AC)



Dimensions in inches and (millimeters)

MECHANICAL DATA

- Case: JEDEC SMA(DO-214AC) molded plastic body
- Terminals: Solder Plated
- Polarity: By cathode band denotes uni-directional device, none cathode band denotes bi-directional device.

DEVICES FOR BIDIRECTIONAL APPLICATIONS

1. For bi-directional use C suffix for Types .
2. Electrical characteristics apply in both directions.

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

(Rating at 25°C ambient temperature unless otherwise specified)

Parameter	Symbols	Value	Unit
Peak Pulse Power Dissipation at on 10/1000µs Waveform(Note 1.2)	PPK	400	W
Peak forward surge current,8.3ms single half sine-wave superimposed on rated load (JEDEC method) (Note 1)	IFSM	40	A
Maximum instantaneous forward voltage@ at 1A for unidirectional only	VF	1.5	V
Operating junction and storage temperature range	TJ, TSTG	-55 to 150	°C

- Note: 1.Non repetitive current pulse and derated above TA=25°C
2.Mounted on copper pads area of 0.2X0.2"(5X5mm)

RATINGS AND CHARACTERISTIC CURVES (SMAJ SERIES)

Electrical Characteristics (T_a=25°C Unless otherwise specified)

Part Number (Uni)	Part Number (Bi)	Breakdown Voltage V _{BR@IT}			Maximum Reverse Leakage I _{R@V_{RWM}} ⁽⁶⁾ (μA)	Working Peak Reverse Voltage V _{RWM} (V)	Maximum Reverse Surge Current I _{PP} ⁽⁵⁾ (A)	Maximum Clamping Voltage V _c @ I _{PP} (V)
		Min(V)	Max (V)	I _T ⁽⁴⁾ (mA)				
SMAJ5.0A	SMAJ5.0CA	6.40	7.07	10	800	5.0	43.38	9.2
SMAJ6.0A	SMAJ6.0CA	6.67	7.37	10	800	6.0	38.83	10.3
SMAJ6.5A	SMAJ6.5CA	7.22	7.98	10	500	6.5	35.71	11.2
SMAJ7.0A	SMAJ7.0CA	7.78	8.60	10	200	7.0	33.33	12.0
SMAJ7.5A	SMAJ7.5CA	8.33	9.21	1	100	7.5	31.01	12.9
SMAJ8.0A	SMAJ8.0CA	8.89	9.83	1	50	8.0	29.41	13.6
SMAJ8.5A	SMAJ8.5CA	9.44	10.40	1	10	8.5	27.78	14.4
SMAJ9.0A	SMAJ9.0CA	10.00	11.10	1	5	9.0	25.97	15.4
SMAJ10A	SMAJ10CA	11.10	12.30	1	5	10.0	23.53	17.0
SMAJ11A	SMAJ11CA	12.20	13.50	1	5	11.0	21.98	18.2
SMAJ12A	SMAJ12CA	13.30	14.70	1	5	12.0	20.10	19.9
SMAJ13A	SMAJ13CA	14.40	15.90	1	5	13.0	18.60	21.5
SMAJ14A	SMAJ14CA	15.60	17.20	1	5	14.0	17.24	23.2
SMAJ15A	SMAJ15CA	16.70	18.50	1	5	15.0	16.39	24.4
SMAJ16A	SMAJ16CA	17.80	19.70	1	5	16.0	15.40	26.0
SMAJ17A	SMAJ17CA	18.90	20.90	1	5	17.0	14.49	27.6
SMAJ18A	SMAJ18CA	20.00	22.10	1	5	18.0	13.70	29.2
SMAJ19A	SMAJ19CA	21.10	23.30	1	5	19.0	13.00	30.8
SMAJ20A	SMAJ20CA	22.20	24.50	1	5	20.0	12.35	32.4
SMAJ22A	SMAJ22CA	24.40	26.90	1	5	22.0	11.27	35.5
SMAJ24A	SMAJ24CA	26.70	29.50	1	5	24.0	10.28	38.9
SMAJ26A	SMAJ26CA	28.90	31.90	1	5	26.0	9.50	42.1
SMAJ26A	SMAJ26CA	28.90	31.90	1	5	26.0	9.50	42.1
SMAJ28A	SMAJ28CA	31.10	34.40	1	5	28.0	8.81	45.4
SMAJ30A	SMAJ30CA	33.30	36.80	1	5	30.0	8.26	48.4
SMAJ33A	SMAJ33CA	36.70	40.60	1	5	33.0	7.50	53.3
SMAJ36A	SMAJ36CA	40.00	44.20	1	5	36.0	6.88	58.1
SMAJ40A	SMAJ40CA	44.40	49.10	1	5	40.0	6.20	64.5
SMAJ43A	SMAJ43CA	47.80	52.80	1	5	43.0	5.76	69.4
SMAJ45A	SMAJ45CA	50.00	55.30	1	5	45.0	5.50	72.7
SMAJ48A	SMAJ48CA	53.30	58.90	1	5	48.0	5.17	77.4
SMAJ51A	SMAJ51CA	56.70	62.70	1	5	51.0	4.85	82.4
SMAJ54A	SMAJ54CA	60.00	66.30	1	5	54.0	4.59	87.1
SMAJ58A	SMAJ58CA	64.40	71.20	1	5	58.0	4.27	93.6
SMAJ60A	SMAJ60CA	66.70	73.70	1	5	60.0	4.13	96.8
SMAJ64A	SMAJ64CA	71.10	78.60	1	5	64.0	3.88	103.0
SMAJ70A	SMAJ70CA	77.80	86.00	1	5	70.0	3.54	113.0
SMAJ75A	SMAJ75CA	83.30	92.10	1	5	75.0	3.31	121.0
SMAJ78A	SMAJ78CA	86.70	95.80	1	5	78.0	3.17	126.0
SMAJ80A	SMAJ80CA	88.80	97.60	1	5	80.0	3.09	129.0

RATINGS AND CHARACTERISTIC CURVES (SMAJ SERIES)

Electrical Characteristics (T_a=25°C Unless otherwise specified)

Part Number(Uni)	Part Number(Bi)	Breakdown Voltage V _{BR} @I _T			Maximum Reverse Leakage I _R @V _{RWM} ⁽⁶⁾ (μA)	Working Peak Reverse Voltage V _{RWM} (V)	Maximum Reverse Surge Current I _{PP} ⁽⁵⁾ (A)	Maximum Clamping Voltage V _c @ I _{PP} (V)
		Min(V)	Max (V)	I _T ⁽⁴⁾ (mA)				
SMAJ85A	SMAJ85CA	94.40	104.00	1	5	85.0	2.92	137.0
SMAJ90A	SMAJ90CA	100.00	111.00	1	5	90.0	2.74	146.0
SMAJ100A	SMAJ100CA	111.00	123.00	1	5	100.0	2.47	162.0
SMAJ110A	SMAJ110CA	122.00	135.00	1	5	110.0	2.26	177.0
SMAJ120A	SMAJ120CA	133.00	147.00	1	5	120.0	2.07	193.0
SMAJ130A	SMAJ130CA	144.00	159.00	1	5	130.0	1.91	209.0
SMAJ140A	SMAJ140CA	155.00	171.00	1	5	140.0	1.76	226.8
SMAJ150A	SMAJ150CA	167.00	185.00	1	5	150.0	1.65	243.0
SMAJ160A	SMAJ160CA	178.00	197.00	1	5	160.0	1.54	259.0
SMAJ170A	SMAJ170CA	189.00	209.00	1	5	170.0	1.45	275.0
SMAJ180A	SMAJ180CA	200.00	220.00	1	5	180.0	1.37	291.6
SMAJ190A	SMAJ190CA	211.00	232.00	1	5	190.0	1.30	307.8
SMAJ220A	SMAJ220CA	246.00	272.00	1	1	220.0	1.12	356.0
SMAJ250A	SMAJ250CA	279.00	309.00	1	1	250.0	0.99	405.0
SMAJ300A	SMAJ300CA	335.00	371.00	1	1	300.0	0.82	486.0
SMAJ350A	SMAJ350CA	391.00	432.00	1	1	350.0	0.71	567.0
SMAJ400A	SMAJ400CA	447.00	494.00	1	1	400.0	0.62	648.0
SMAJ440A	SMAJ440CA	492.00	543.00	1	1	440.0	0.56	713.0

Notes:

- (4) Pulse test: t_p≤50ms
- (5) Surge current waveform per Fig. 3 and derated per Fig.2.
- (6) For bi-directional types having V_{RWM} of 10 V and less, the I_R limit is doubled.

RATINGS AND CHARACTERISTIC CURVES (SMAJ SERIES)

Characteristics (Typical)

FIG1: Peak Pulse Power Rating Curve

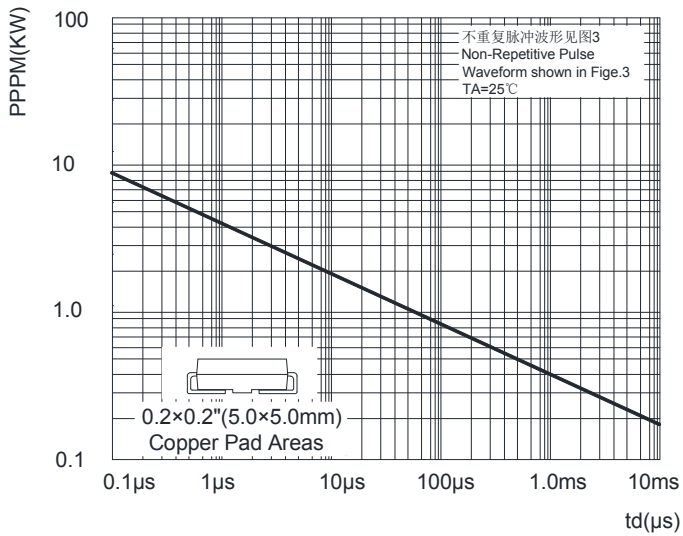


FIG2: Pulse Power or Current vs. Initial Junction Temperature

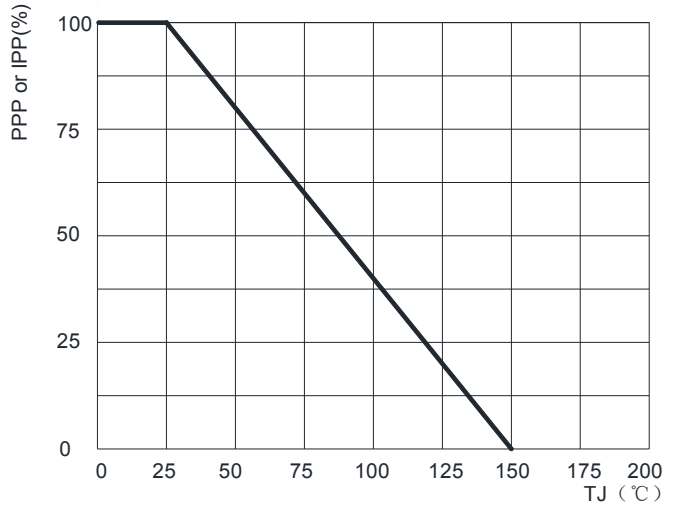


FIG3: Pulse Waveform

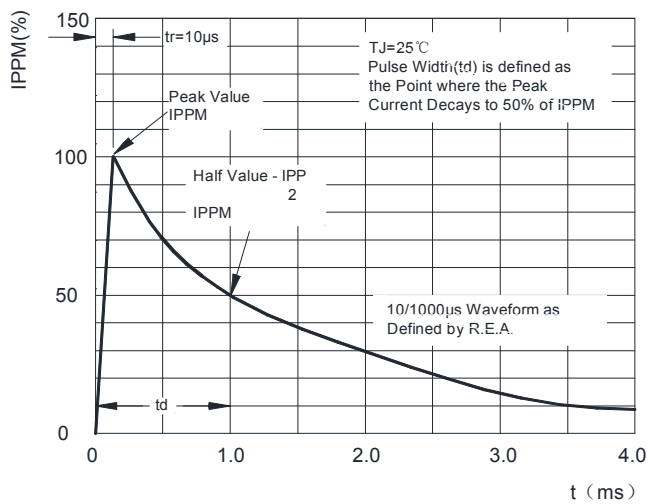


FIG4: Typical Transient Thermal Impedance

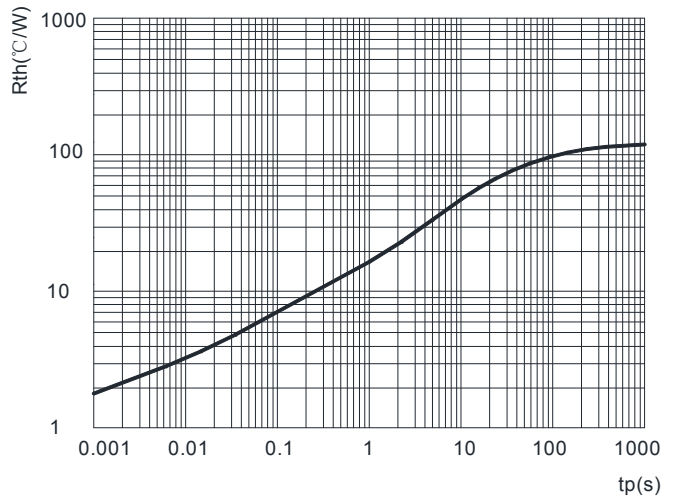


FIG5: Maximum Non-Repetitive Surge Current

