



SMAJ5.0A THRU SMAJ440CA

SURFACE MOUNT TRANSIENT VOLTAGE SUPPRESSOR

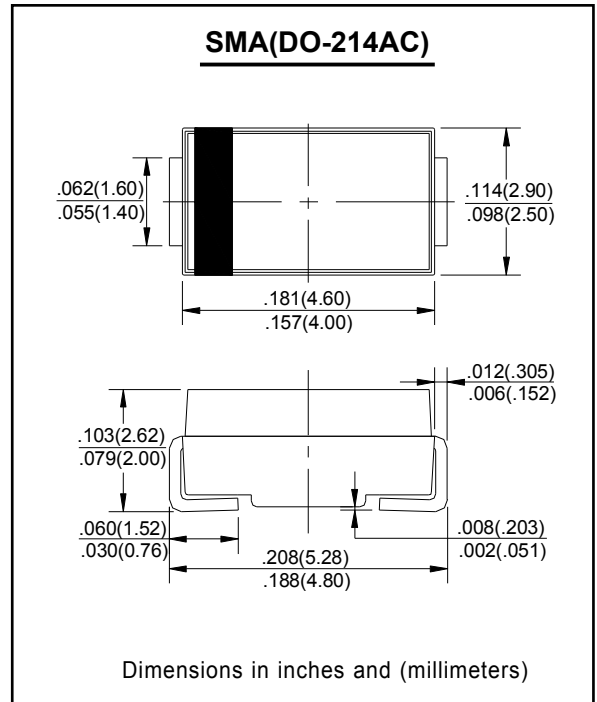
Stand - Off Voltage - 5.0 to 440 Volts Peak Pulse Power - 400 Watt

FEATURES

- Glass Passivated Die Construction
- Uni- and Bi-Directional Versions Available
- Excellent Clamping Capability
- Fast Response Time
- Plastic Case Material has UL Flammability Classification Rating 94V-O

MECHANICAL DATA

- Case : JEDEC SMA(DO-214AC), Transfer Molded Epoxy
- Terminals : Solder Plated, Solderable per MIL-STD-750, Method 2026
- Polarity : Cathode Band Except Bi-Directional
- Marking : Type Number
- Weight : 0.064 grams (approx.)



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

Characteristic	Symbol	Value	Unit
Peak Pulse Power Dissipation 10/1000 μS Waveform (Note 1, 2) Figure 3	PPPM	400 Minimum	W
Peak Pulse Current on 10/1000 μS Waveform (Note 1) Figure 4	IPPM	See Table 1	A
Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load (JEDEC Method) (Note 2, 3)	IFSM	40	A
Operating and Storage Temperature Range	T_j, T_{STG}	-55 to +150	$^\circ\text{C}$

Note: 1. Non-repetitive current pulse per Figure 4 and derated above $T_A = 25^\circ\text{C}$ per Figure 1.

2. Mounted on 5.0mm² (0.013mm thick) land area.

3. Measured on 8.3ms single half sine-wave or equivalent square wave, duty cycle = 4 pulses per minutes maximum.



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ELECTRICAL CHARACTERISTICS (TA=25 °C unless otherwise noted)

UNI-POLAR	BI-POLAR	REVERSE STANDOFF VOLTAGE V _{RWM} (V)	BREAKDOWN VOLTAGE V _{BR} (V) MIN. @ I _T	BREAKDOWN VOLTAGE V _{BR} (V) MAX. @ I _T	TEST CURRENT (I _T) mA	MAXIMUM CLAMPING VOLTAGE @I _{PP} V _C (V)	PEAK PULSE CURRENT I _{PP} (A)	REVERSE LEAKAGE @ V _{RWM} I _R (µA)
SMAJ5.0A	SMAJ5.0CA	5.00	6.40	7.00	10	9.2	43.5	800
SMAJ6.0A	SMAJ6.0CA	6.00	6.67	7.37	10	10.3	38.8	800
SMAJ6.5A	SMAJ6.5CA	6.50	7.22	7.98	10	11.2	35.7	500
SMAJ7.0A	SMAJ7.0CA	7.00	7.78	8.60	10	12.0	33.3	200
SMAJ7.5A	SMAJ7.5CA	7.50	8.33	9.21	1	12.9	31.0	100
SMAJ8.0A	SMAJ8.0CA	8.00	8.89	9.83	1	13.6	29.4	50
SMAJ8.5A	SMAJ8.5CA	8.50	9.44	10.40	1	14.4	27.8	20
SMAJ9.0A	SMAJ9.0CA	9.00	10.00	11.10	1	15.4	26.0	10
SMAJ10A	SMAJ10CA	10.00	11.10	12.30	1	17.0	23.5	5
SMAJ11A	SMAJ11CA	11.00	12.20	13.50	1	18.2	22.0	5
SMAJ12A	SMAJ12CA	12.00	13.30	14.70	1	19.9	20.1	5
SMAJ13A	SMAJ13CA	13.00	14.40	15.90	1	21.5	18.6	5
SMAJ14A	SMAJ14CA	14.00	15.60	17.20	1	23.2	17.2	5
SMAJ15A	SMAJ15CA	15.00	16.70	18.50	1	24.4	16.4	5
SMAJ16A	SMAJ16CA	16.00	17.80	19.70	1	26.0	15.4	5
SMAJ17A	SMAJ17CA	17.00	18.90	20.90	1	27.6	14.5	5
SMAJ18A	SMAJ18CA	18.00	20.00	22.10	1	29.2	13.7	5
SMAJ20A	SMAJ20CA	20.00	22.20	24.50	1	32.4	12.3	5
SMAJ22A	SMAJ22CA	22.00	24.40	26.90	1	35.5	11.3	5
SMAJ24A	SMAJ24CA	24.00	26.70	29.50	1	38.9	10.3	5
SMAJ26A	SMAJ26CA	26.00	28.90	31.90	1	42.1	9.5	5
SMAJ28A	SMAJ28CA	28.00	31.10	34.40	1	45.4	8.8	5
SMAJ30A	SMAJ30CA	30.00	33.30	36.80	1	48.4	8.3	5
SMAJ33A	SMAJ33CA	33.00	36.70	40.60	1	53.3	7.5	5
SMAJ36A	SMAJ36CA	36.00	40.00	44.20	1	58.1	6.9	5
SMAJ40A	SMAJ40CA	40.00	44.40	49.10	1	64.5	6.2	5
SMAJ43A	SMAJ43CA	43.00	47.80	52.80	1	69.4	5.8	5
SMAJ45A	SMAJ45CA	45.00	50.00	55.30	1	72.7	5.5	5
SMAJ48A	SMAJ48CA	48.00	53.30	58.90	1	77.4	5.2	5
SMAJ51A	SMAJ51CA	51.00	56.70	62.70	1	82.4	4.9	5
SMAJ54A	SMAJ54CA	54.00	60.00	66.30	1	87.1	4.6	5
SMAJ58A	SMAJ58CA	58.00	64.40	71.20	1	93.6	4.3	5
SMAJ60A	SMAJ60CA	60.00	66.70	73.70	1	96.8	4.1	5
SMAJ64A	SMAJ64CA	64.00	71.10	78.60	1	103.0	3.9	5
SMAJ70A	SMAJ70CA	70.00	77.80	86.00	1	113.0	3.5	5
SMAJ75A	SMAJ75CA	75.00	83.30	92.10	1	121.0	3.3	5
SMAJ78A	SMAJ78CA	78.00	86.70	95.80	1	126.0	3.2	5
SMAJ85A	SMAJ85CA	85.00	94.40	104.00	1	137.0	2.9	5
SMAJ90A	SMAJ90CA	90.00	100.00	111.00	1	146	2.7	5
SMAJ100A	SMAJ100CA	100.00	111.00	123.00	1	162	2.5	5
SMAJ110A	SMAJ110CA	110.00	122.00	135.00	1	177	2.3	5
SMAJ120A	SMAJ120CA	120.00	133.00	147.00	1	193	2.1	5
SMAJ130A	SMAJ130CA	130.00	144.00	159.00	1	209	1.9	5
SMAJ150A	SMAJ150CA	150.00	167.00	185.00	1	243	1.6	5
SMAJ160A	SMAJ160CA	160.00	178.00	197.00	1	259	1.5	5
SMAJ170A	SMAJ170CA	170.00	189.00	209.00	1	275	1.5	5
SMAJ180A	SMAJ180CA	180.00	201.00	222.00	1	292	1.4	5
SMAJ200A	SMAJ200CA	200.00	224.00	247.00	1	324	1.2	5
SMAJ220A	SMAJ220CA	220.00	246.00	272.00	1	356	1.1	5
SMAJ250A	SMAJ250CA	250.00	279.00	309.00	1	405	1.0	5
SMAJ300A	SMAJ300CA	300.00	335.00	371.00	1	486	0.8	5
SMAJ350A	SMAJ350CA	350.00	391.00	432.00	1	567	0.7	5
SMAJ400A	SMAJ400CA	400.00	447.00	494.00	1	648	0.6	5
SMAJ440A	SMAJ440CA	440.00	492.00	543.00	1	713	0.6	5

- NOTE: 1. Suffix C denotes Bi-direction device, Suffix A denotes the V_{BR} is ±5% for parts without A, the V_{BR} is ± 10%.
 2. V_{BR} measured with I_T Current pulse=300us.
 3. For bidirectional type having Vrwm of 10 volts and less, the IR limit is double.



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RATINGS AND CHARACTERISTIC CURVES

Fig.1 - Peak Pulse Power Rating Curve

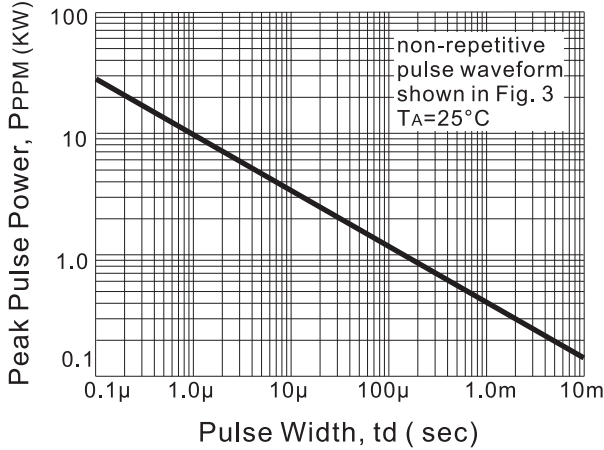


Fig.2 - Pulse Derating Curve

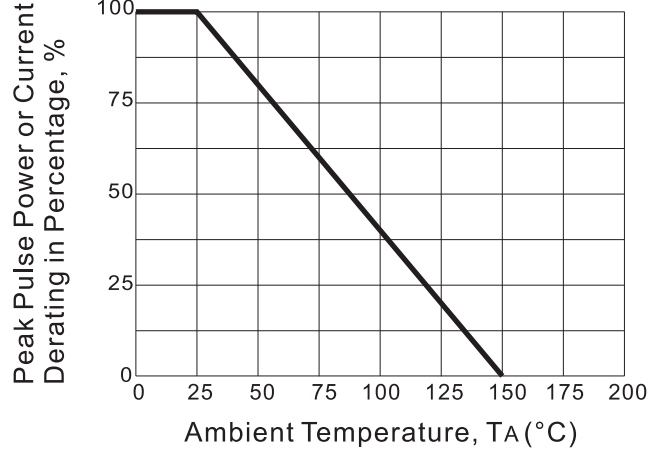


Fig.3 - Pulse Waveform

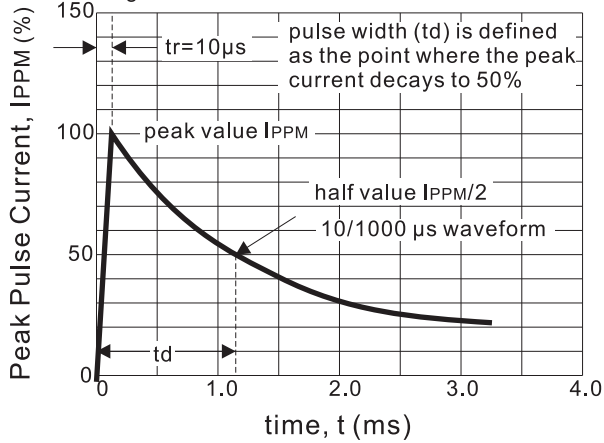


Fig.4 - Typical Junction Capacitance

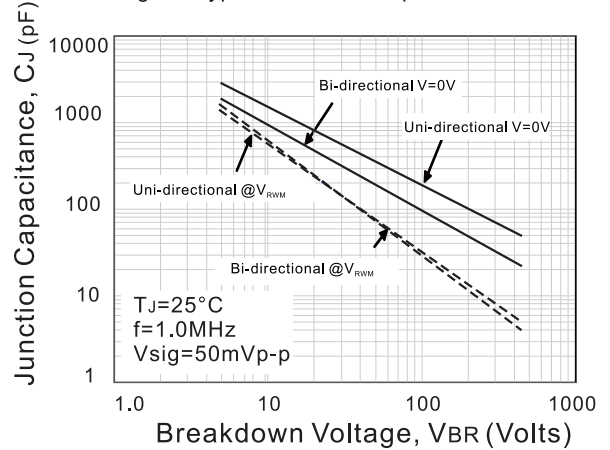


Fig.5 - Steady State Power Derating Curve

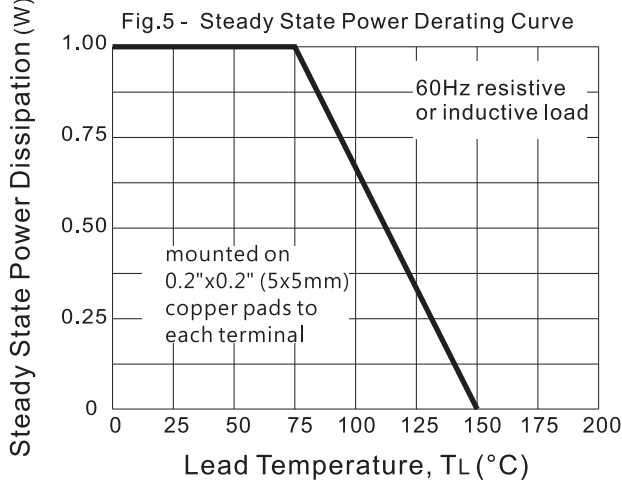


Fig.6 - Maximum Non-Repetitive Forward Surge Current

