

# Kingtronics®

# SMAJ5.0A THRU SMAJ440CA

## SURFACE MOUNT TRANSIENT VOLTAGE SUPPRESSOR

**Stand-off Voltage:** 5.0-440 Volts    **Peak pulse power:** 400 Watts

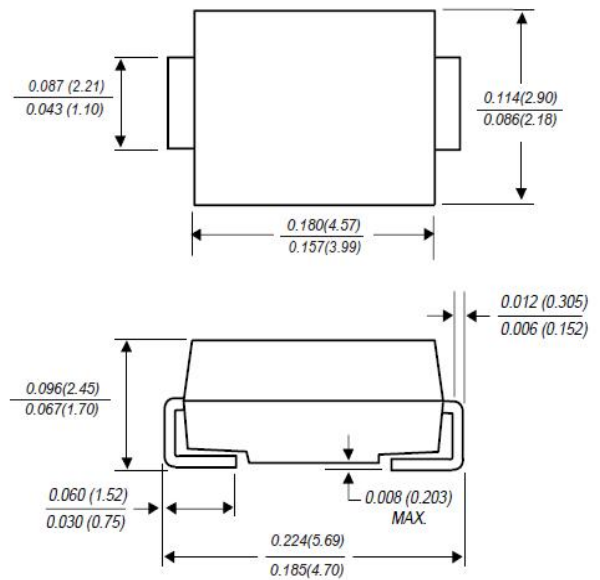
### FEATURES

- Optimized for LAN protection applications
- Ideal for ESD protection of data lines in accordance with IEC 1000-4-2(IEC801-2)
- Ideal for EFT protection of data lines in accordance with IEC1000-4-4(IEC801-2)
- Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- Glass passivated junction
- 300w peak pulse power capability
- Excellent clamping capability
- Low incremental surge resistance
- Fast response time: typically less than 1.0ps from 0v to  $V_{(BR)}$  min
- High temperature soldering guaranteed: 250°C/10S at terminals

### MECHANICAL DATA

- Case: JEDEC DO-214AC molded plastic body over passivated junction
- Terminals: Plated axial leads, solderable per MIL-STD 750 method 2026
- Polarity: Color band denotes cathode except for bidirectional types
- Mounting position: Any

### SMA(DO-214AC)



Dimensions in inches and (millimeters)

### DEVICES FOR BIDIRECTIONAL APPLICATIONS

For bidirectional use suffix C for types SMAJ5.0A thru SMAJ440A (e.g. SMAJ5.0CA, SMAJ440CA)  
Electrical characteristics apply in both directions.

### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified .

PARAMETER	SYMBOL	VALUE	UNIT
Peak pulse power dissipation with a 10/1000ms wavetorm (NOTE 1,2,5,FIG.1)	$P_{PPM}$	Minimum 400	Watts
Peak forward surge current (Note 4)	$I_{FSM}$	40.0	Amps
Peak pulse current with a 10/1000ms waveform (NOTE 1)	$I_{PPM}$	See Table 1	Watts
Steady state power dissipation (Note 3)	$P_{M(AV)}$	1.0	Amps
Maximum instantaneous forward voltage at 25A (Note 4)	$V_F$	3.5	Volts
Operating junction and storage temperature range	$T_J, T_{STG}$	-55 to + 150	°C

- 1- Non-repetitive current pulse, per Fig.3 and derated above  $T_A=25^\circ\text{C}$  per Fig.2
- 2- Mounted on 5.0mm<sup>2</sup> copper pads to each terminal
- 3- Lead temperature at  $T_L=75^\circ\text{C}$  per Fig.5
- 4- Measured on 8.3ms single half sine-wave. For uni-directional devices only
- 5-Peak pulse power waveform is 10/1000ms

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**Kingtronics**®**SMAJ5.0A THRU  
SMAJ440CA****ELECTRICAL CHARACTERISTICS (at T<sub>A</sub>=25°C unless otherwise noted)**

Part Number (Uni)	Part Number (Bi)	Device Marking Code		Reverse Stand off Voltage V <sub>R</sub> (Volts)	Breakdown Voltage VBR (Volts) @ I <sub>T</sub>		Test Current I <sub>T</sub> (mA)	Maximum Clamping Voltage V <sub>C</sub> @ I <sub>PP</sub> (Volts)	Maximum Peak Pulse Current I <sub>PP</sub> (A)	Maximum Reverse Leakage I <sub>R</sub> @ V <sub>R</sub> (μA)
		UNI	BI		MIN	MAX				
SMAJ5.0A	SMAJ5.0CA	AE	WE	5	6.4	7	10	9.2	43.5	800
SMAJ6.0A	SMAJ6.0CA	AG	WG	6	6.67	7.37	10	10.3	38.8	800
SMAJ6.5A	SMAJ6.5CA	AK	WK	6.5	7.22	7.98	10	11.2	35.7	500
SMAJ7.0A	SMAJ7.0CA	AM	WM	7	7.78	8.6	10	12	33.3	200
SMAJ7.5A	SMAJ7.5CA	AP	WP	7.5	8.33	9.21	1	12.9	31	100
SMAJ8.0A	SMAJ8.0CA	AR	WR	8	8.89	9.83	1	13.6	29.4	50
SMAJ8.5A	SMAJ8.5CA	AT	WT	8.5	9.44	10.4	1	14.4	27.8	20
SMAJ9.0A	SMAJ9.0CA	AV	WV	9	10	11.1	1	15.4	26	10
SMAJ10A	SMAJ10CA	AX	WX	10	11.1	12.3	1	17	23.5	5
SMAJ11A	SMAJ11CA	AZ	WZ	11	12.2	13.5	1	18.2	22	5
SMAJ12A	SMAJ12CA	BE	XE	12	13.3	14.7	1	19.9	20.1	5
SMAJ13A	SMAJ13CA	BG	XG	13	14.4	15.9	1	21.5	18.6	5
SMAJ14A	SMAJ14CA	BK	XK	14	15.6	17.2	1	23.2	17.2	5
SMAJ15A	SMAJ15CA	BM	XM	15	16.7	18.5	1	24.4	16.4	5
SMAJ16A	SMAJ16CA	BP	XP	16	17.8	19.7	1	26	15.4	5
SMAJ17A	SMAJ17CA	BR	XR	17	18.9	20.9	1	27.6	14.5	5
SMAJ18A	SMAJ18CA	BT	XT	18	20	22.1	1	29.2	13.7	5
SMAJ20A	SMAJ20CA	BV	XV	20	22.2	24.5	1	32.4	12.3	5
SMAJ22A	SMAJ22CA	BX	XY	22	24.4	26.9	1	35.5	11.3	5
SMAJ24A	SMAJ24CA	BZ	XZ	24	26.7	29.5	1	38.9	10.3	5
SMAJ26A	SMAJ26CA	CE	YE	26	28.9	31.9	1	42.1	9.5	5
SMAJ28A	SMAJ28CA	CG	YG	28	31.1	34.4	1	45.4	8.8	5
SMAJ30A	SMAJ30CA	CK	YK	30	33.3	36.8	1	48.4	8.3	5
SMAJ33A	SMAJ33CA	CM	YM	33	36.7	40.6	1	53.3	7	5
SMAJ36A	SMAJ36CA	CP	YP	36	40	44.2	1	58.1	6.9	5
SMAJ40A	SMAJ40CA	CR	YR	40	44.4	49.1	1	64.5	6.2	5
SMAJ43A	SMAJ43CA	CT	YT	43	47.8	52.8	1	69.4	5.8	5
SMAJ45A	SMAJ45CA	CV	YV	45	50	55.3	1	72.7	5.5	5
SMAJ48A	SMAJ48CA	CX	YX	48	53.3	58.9	1	77.4	5.2	5
SMAJ51A	SMAJ51CA	CZ	YZ	51	56.7	62.7	1	82.4	4.9	5
SMAJ54A	SMAJ54CA	RE	ZE	54	60	66.3	1	87.1	4.6	5
SMAJ58A	SMAJ58CA	RG	ZG	58	64.4	71.2	1	93.6	4.3	5
SMAJ60A	SMAJ60CA	RK	ZK	60	66.7	73.7	1	96.8	4.1	5
SMAJ64A	SMAJ64CA	RM	ZM	64	71.1	78.6	1	103	3.9	5
SMAJ70A	SMAJ70CA	RP	ZP	70	77.8	86	1	113	3.5	5
SMAJ75A	SMAJ75CA	RR	ZR	75	83.3	92.1	1	121	3.3	5

Note: Specifications are subject to change without notice.

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**Kingtronics**®**SMAJ5.0A THRU  
SMAJ440CA****ELECTRICAL CHARACTERISTICS (at T<sub>A</sub>=25°C unless otherwise noted)**

Part Number (Uni)	Part Number (Bi)	Device Marking Code		Reverse Stand off Voltage V <sub>R</sub> (Volts)	Breakdown Voltage V <sub>BR</sub> (Volts) @ I <sub>T</sub>		Test Current I <sub>T</sub> (mA)	Maximum Clamping Voltage V <sub>C</sub> @ I <sub>PP</sub> (Volts)	Maximum Peak Pulse Current I <sub>PP</sub> (A)	Maximum Reverse Leakage I <sub>R</sub> @ V <sub>R</sub> (μA)
		UNI	BI		MIN	MAX				
SMAJ78A	SMAJ78CA	RT	ZT	78	86.7	95.8	1	126	3.2	5
SMAJ85A	SMAJ85CA	RV	ZV	85	94.4	104	1	137	2.9	5
SMAJ90A	SMAJ90CA	RX	ZX	90	100	111	1	146	2.7	5
SMAJ100A	SMAJ100CA	RZ	ZZ	100	111	123	1	162	2.5	5
SMAJ110A	SMAJ110CA	SE	VE	110	122	135	1	177	2.3	5
SMAJ120A	SMAJ120CA	SG	VG	120	133	147	1	193	2.1	5
SMAJ130A	SMAJ130CA	SK	VK	130	144	159	1	209	1.9	5
SMAJ150A	SMAJ150CA	SM	VM	150	167	185	1	243	1.6	5
SMAJ160A	SMAJ160CA	SP	VP	160	178	197	1	259	1.5	5
SMAJ170A	SMAJ170CA	SR	VR	170	189	209	1	275	1.5	5
SMAJ180A	SMAJ180CA	ST	VT	180	201	222	1	292	1.4	5
SMAJ200A	SMAJ200CA	SV	VV	200	224	247	1	324	1.2	5
SMAJ220A	SMAJ220CA	SX	VX	220	246	272	1	356	1.1	5
SMAJ250A	SMAJ250CA	SZ	VZ	250	279	309	1	405	1	5
SMAJ300A	SMAJ300CA	TE	UE	300	335	371	1	486	0.8	5
SMAJ350A	SMAJ350CA	TG	UG	350	391	432	1	567	0.7	5
SMAJ400A	SMAJ400CA	TK	UK	400	447	494	1	648	0.6	5
SMAJ440A	SMAJ440CA	TM	UM	440	492	543	1	713	0.6	5

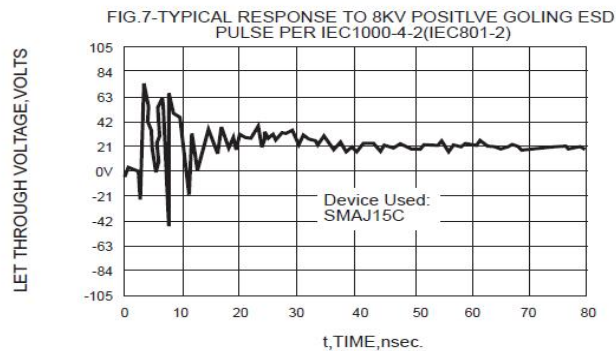
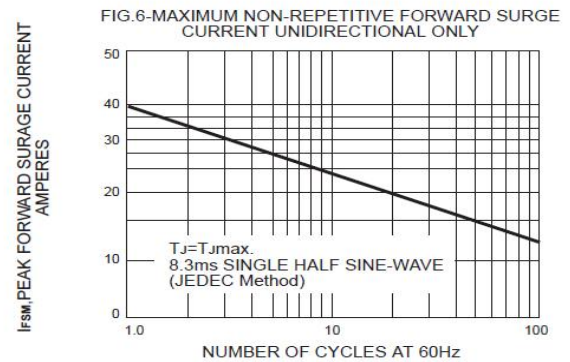
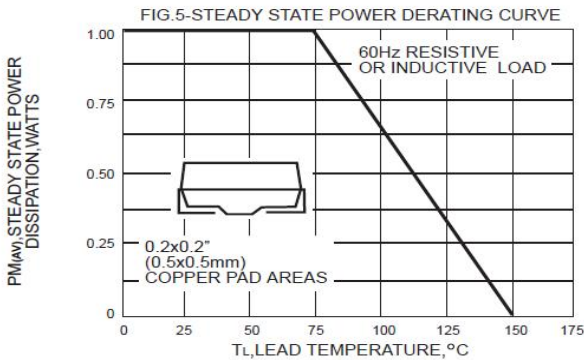
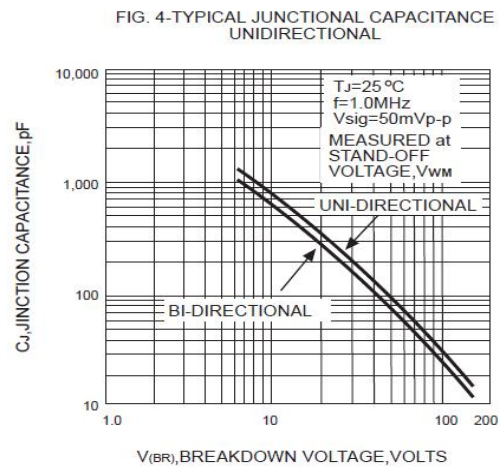
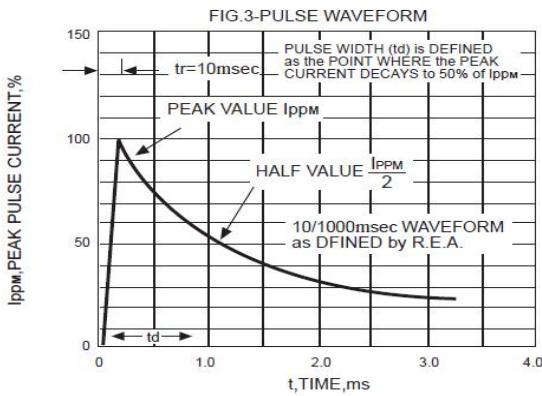
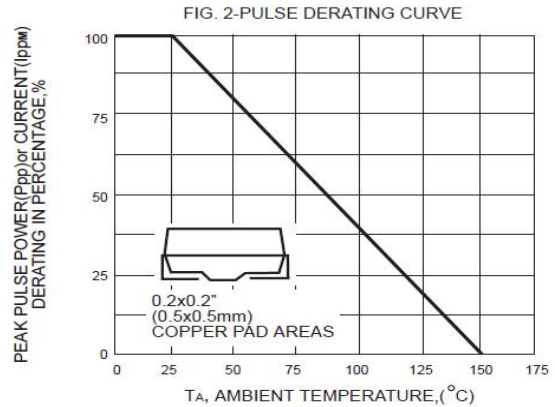
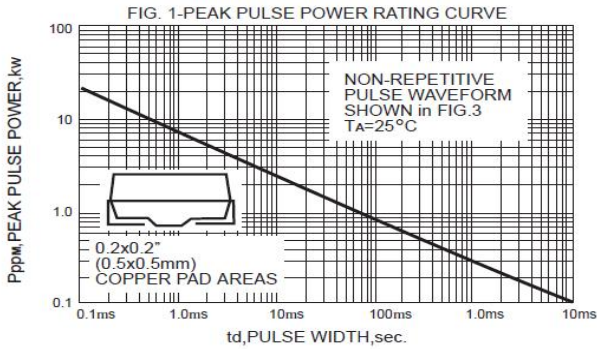
V<sub>(BR)</sub> measured after I<sub>T</sub> applied for 300ms, I<sub>T</sub>=square wave pulse or equivalent Surge current waveform per Fig.3 and derated per Fig.2  
 For bidirectional types having V<sub>WM</sub> of 10 volts and less, the I<sub>D</sub> limit is doubled  
 All items and symbols are consistent with ANSI/IEEE C62.35  
 Peak pulse power waveform is 10/1000ms

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Website: [www.kingtronics.com](http://www.kingtronics.com) Email: [info@kingtronics.com](mailto:info@kingtronics.com) Tel: (852) 8106 7033 Fax: (852) 8106 7099

## RATINGS AND CHARACTERISTIC CURVES SMAJ5.0A THUR SMAJ440CA



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