PINGWEI ENTERPRISE

SMAJ SERIES

SURFACE MOUNT TRANSIENT VOLTAGE SUPPRESSORS

Voltage Range 5.0 to 170 V
300W Peak Power

FEATURE

. Plastic package has Underwriters Laboratory Flammability Classification 94V-0
. 300W surge capability at10×100us waveform, Duty cycle:0.01%
. Excellent clamping capability
. Low zener impedance
. Fast response time： Typically less then 1.0ps from 0 volts to V_{BR} for unidirectional and 5.0ns for bidirectional
. Typical I_R less then 1 μA above 10V
. High temperature soldering guaranteed: 260℃ /10 seconds at terminals.

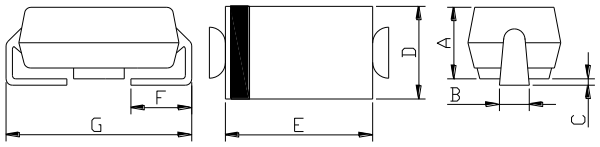

Fig1: SMA/DO-214AC*
FOR OPEN JUNCTION DICE PACKAGING OUTLINE

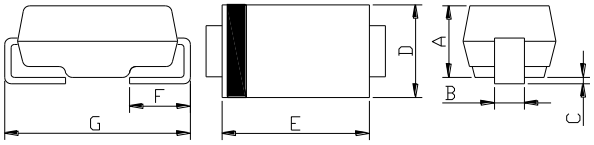

Fig2: SMA/DO-214AC
FOR GLASS PASSIVATED DICE PACKAGING OUTLINE

NO	Fig1（mm）	Fig2（mm）
A	1.9～2.4	1.98～2.3
B	1.2～1.8	1.35～1.6
C	0.23MAX	0.2MAX
D	2.4～2.9	2.4～2.9
E	3.8～4.6	3.8～4.6
F	0.8～1.8	0.8～1.8
G	4.8～5.8	4.8～5.8

MECHANICAL DATA

. Case: Molded plastic
. Epoxy: UL94V-0 rate flame retardant
. Lead: MIL-STD- 202E, Method 208 guaranteed
. Polarity: Color band denotes cathode end
. Packaging:12mm tape per EIA STD RS-481
. Mounting position: Any

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Rating at 25℃ ambient temperature unless otherwise stated.
Single-phase, half-wave, 60HZ, resistive or inductive load.
For capacotive load, derate current by 20%

Type Number	SYMBOL	Value	units
Peak Power Dissipation at T_A=25℃,T_p=1ms (note 1)	P_{PPM}	Minimum 300	W
Steady State Power Dissipation .375"lead length at T_L=75℃ (note 2)	P_D	1.0	W
Peak Forward Surge Current 8.3ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method) (note 3)	I_{FSM}	40	A
Storage Temperature	T_{STG}	-55 to +150	℃
Operating Junction Temperature	T_J	-55 to +125	℃

Note:

1. Non-repetitive Current Pulse Per Fig.3 and Derated above T_A=25℃ Per Fig.2 .

2. Mounted on Copper Pad Area of 0.2×0.2″ (5×5mm)Per Fig.5 .

3. 8.3ms Single Half Sine-wave or Equivalent Square Wave, Duty Cycle=4 Pulses Per Minutes Maximum.

Devices for Bipolar Applications

1. For Bidirectional Use C or CA Suffix for Types SMAJ5.0 thru Types SMAJ170.

2. Electrical Characteristics Apply in Both Directions.

ELECTRICAL CHARACTERISTICS(TA=25℃ unless otherwise noted)

Device		Working Peak Reverse Voltage (V)	Breakdown Voltage @I_T V_{BR}(V)(1)		Test Curren I_T (mA)	Maximum Reverse Leakage @V_{WM} I_D(μA)(2)	Maximum Peak Pulse Surge Current I_{PPM} (A)(3)	Maximum Clamping Voltage @ I_{PPM} V_C(V)	Device Marking Code	
UNI	BI		Min	Max					UNI	BI
SMAJ5.0	SMAJ5.0C	5.0	6.40	7.30	10	800	32.0	9.6	5.0V	5.0C
SMAJ5.0A	SMAJ5.0CA	5.0	6.40	7.00	10	800	34.0	9.2	5.0A	5.0D
SMAJ6.0	SMAJ6.0C	6.0	6.67	8.15	10	800	27.6	11.4	6.0V	6.0C
SMAJ6.0A	SMAJ6.0CA	6.0	6.67	7.37	10	800	30.5	10.3	6.0A	6.0D
SMAJ6.5	SMAJ6.5C	6.5	7.22	8.82	10	500	25.6	12.3	6.5V	6.5C
SMAJ6.5A	SMAJ6.5CA	6.5	7.22	7.98	10	500	28.0	11.2	6.5A	6.5D
SMAJ7.0	SMAJ7.0C	7.0	7.78	9.51	10	200	23.6	13.3	7.0V	7.0C
SMAJ7.0A	SMAJ7.0CA	7.0	7.78	8.60	10	200	26.0	12.0	7.0A	7.0D
SMAJ7.5	SMAJ7.5C	7.5	8.33	10.3	1.0	100	22.0	14.3	7.5V	7.5C
SMAJ7.5A	SMAJ7.5CA	7.5	8.33	9.21	1.0	100	24.4	12.9	7.5A	7.5D
SMAJ8.0	SMAJ8.0C	8.0	8.89	10.9	1.0	50.0	21.0	15.0	8.0V	8.0C
SMAJ8.0A	SMAJ8.0CA	8.0	8.89	9.83	1.0	50.0	23.0	13.6	8.0A	8.0D
SMAJ8.5	SMAJ8.5C	8.5	9.44	11.5	1.0	10.0	19.8	15.9	8.5V	8.5C
SMAJ8.5A	SMAJ8.5CA	8.5	9.44	10.4	1.0	10.0	21.8	14.4	8.5A	8.5D
SMAJ9.0	SMAJ9.0C	9.0	10.0	12.2	1.0	5.0	18.6	16.9	9.0V	9.0C
SMAJ9.0A	SMAJ9.0CA	9.0	10.0	11.1	1.0	5.0	20.4	15.4	9.0A	9.0D
SMAJ10	SMAJ10C	10	11.1	13.6	1.0	5.0	16.7	18.8	10V	10C
SMAJ10A	SMAJ10CA	10	1 1.1	12.3	1.0	5.0	18.5	17.0	10A	10D
SMAJ11	SMAJ11C	11	12.2	14.9	1.0	5.0	15.6	20.1	11V	11C
SMAJ11A	SMAJ11CA	11	12.2	13.5	1.0	5.0	17.3	18.2	11A	11D
SMAJ12	SMAJ12C	12	13.3	16.3	1.0	5.0	14.3	22.0	12V	12C
SMAJ12A	SMAJ12CA	12	13.3	14.7	1.0	5.0	15.8	19.9	12A	12D
SMAJ13	SMAJ13C	13	14.4	17.6	1.0	5.0	13.0	23.8	13V	13C
SMAJ13A	SMAJ13CA	13	14.4	15.9	1.0	5.0	14.6	21.5	13A	13D
SMAJ14	SMAJ14C	14	15.6	19.1	1.0	5.0	12.2	25.8	14V	14C
SMAJ14A	SMAJ14CA	14	15.6	17.2	1.0	5.0	13.5	23.2	14A	14D
SMAJ15	SMAJ15C	15	16.7	20.4	1.0	5.0	11.7	26.9	15V	15C
SMAJ15A	SMAJ15CA	15	16.7	18.5	1.0	5.0	12.9	24.4	15A	15D
SMAJ16	SMAJ16C	16	17.8	21.8	1.0	5.0	10.9	28.8	16V	16C
SMAJ16A	SMAJ16CA	16	17.8	19.7	1.0	5.0	12.0	26.0	16A	16D
SMAJ17	SMAJ17C	17	18.9	23.1	1.0	5.0	10.3	30.5	17V	17C
SMAJ17A	SMAJ17CA	17	18.9	20.9	1.0	5.0	11.4	27.6	17A	17D
SMAJ18	SMAJ18C	18	20.0	24.4	1.0	5.0	9.7	32.2	18V	18C
SMAJ18A	SMAJ18CA	18	20.0	22.1	1.0	5.0	10.7	29.2	18A	18D
SMAJ20	SMAJ20C	20	22.2	27.1	1.0	5.0	8.7	35.8	20V	20C
SMAJ20A	SMAJ20CA	20	22.2	24.5	1.0	5.0	9.7	32.4	20A	20D
SMAJ22	SMAJ22C	22	24.4	29.8	1.0	5.0	8.0	39.4	22V	22C
SMAJ22A	SMAJ22CA	22	24.4	26.9	1.0	5.0	8.8	35.5	22A	22D
SMAJ24	SMAJ24C	24	26.7	32.6	1.0	5.0	7.3	43.0	24V	24C
SMAJ24A	SMAJ24CA	24	26.7	29.5	1.0	5.0	8.0	38.9	24A	24D
SMAJ26	SMAJ26C	26	28.9	35.3	1.0	5.0	6.7	46.6	26V	26C
SMAJ26A	SMAJ26CA	26	28.9	31.9	1.0	5.0	7.4	42.1	26A	26D
SMAJ28	SMAJ28C	28	31.1	38.0	1.0	5.0	6.3	50.0	28V	28C
SMAJ28A	SMAJ28CA	28	31.1	34.4	1.0	5.0	6.9	45.4	28A	28D
SMAJ30	SMAJ30C	30	33.3	40.7	1.0	5.0	5.8	53.5	30V	30C
SMAJ30A	SMAJ30CA	30	33.3	36.8	1.0	5.0	6.5	48.4	30A	30D
SMAJ33	SMAJ33C	33	36.7	44.9	1.0	5.0	5.3	59.0	33V	33C
SMAJ33A	SMAJ33CA	33	36.7	40.6	1.0	5.0	5.9	53.3	33A	33D
SMAJ36	SMAJ36C	36	40.0	48.9	1.0	5.0	4.8	64.3	36V	36C

Device		Working Peak Reverse Voltage (V)	Breakdown Voltage @I_T V_{BR}(V)(1)		Test Curren I_T (mA)	Maximum Reverse Leakage @V_{WM} I_D(μA)(2)	Maximum Peak Pulse Surge Current I_{PPM} (A)(3)	Maximum Clamping Voltage @ I_{PPM} V_C(V) UNI	Device Marking Code	
UNI	BI		Min	Max					BI	BI
SMAJ36A	SMAJ36CA	36	40.0	44.2	1.0	5.0	5.4	58.1	36A	36D
SMAJ40	SMAJ40C	40	44.4	54.3	1.0	5.0	4.4	71.4	40V	40C
SMAJ40A	SMAJ40CA	40	44.4	49.1	1.0	5.0	4.8	64.5	40A	40D
SMAJ43	SMAJ43C	43	47.8	58.4	1.0	5.0	4.1	76.7	43V	43C
SMAJ43A	SMAJ43CA	43	47.8	52.8	1.0	5.0	4.5	69.4	43A	43D
SMAJ45	SMAJ45C	45	50.0	61.1	1.0	5.0	3.9	80.3	45V	45C
SMAJ45A	SMAJ45CA	45	50.0	55.3	1.0	5.0	4.3	72.7	45A	45D
SMAJ48	SMAJ48C	48	53.3	65.1	1.0	5.0	3.6	85.5	48V	48C
SMAJ48A	SMAJ48CA	48	53.3	58.9	1.0	5.0	4.0	77.4	48A	48D
SMAJ51	SMAJ51C	51	56.7	69.3	1.0	5.0	3.4	91.1	51V	51C
SMAJ51A	SMAJ51CA	51	56.7	62.7	1.0	5.0	3.8	82.4	51A	51D
SMAJ54	SMAJ54C	54	60.0	73.3	1.0	5.0	3.2	96.3	54V	54C
SMAJ54A	SMAJ54CA	54	60.0	66.3	1.0	5.0	3.6	87.1	54A	54D
SMAJ58	SMAJ58C	58	64.4	78.7	1.0	5.0	3.0	103.0	58V	58C
SMAJ58A	SMAJ58CA	58	64.4	71.2	1.0	5.0	3.3	93.6	58A	58D
SMAJ60	SMAJ60C	60	66.7	81.5	1.0	5.0	2.9	107.0	60V	60C
SMAJ60A	SMAJ60CA	60	66.7	73.7	1.0	5.0	3.2	96.8	60A	60D
SMAJ64	SMAJ64C	64	71.1	86.4	1.0	5.0	2.7	114.0	64V	64C
SMAJ64A	SMAJ64CA	64	71.1	78.6	1.0	5.0	3.0	103.0	64A	64D
SMAJ70	SMAJ70C	70	77.8	95.1	1.0	5.0	2.5	125	70V	70C
SMAJ70A	SMAJ70CA	70	77.8	86.0	1.0	5.0	2.7	113	70A	70D
SMAJ75	SMAJ75C	75	83.3	102	1.0	5.0	2.3	134	75V	75C
SMAJ75A	SMAJ75CA	75	83.3	92.1	1.0	5.0	2.6	121	75A	75D
SMAJ78	SMAJ78C	78	86.7	106	1.0	5.0	2.2	139	78V	78C
SMAJ78A	SMAJ78CA	78	86.7	95.8	1.0	5.0	2.5	126	78A	78D
SMAJ85	SMAJ85C	85	94.4	115	1.0	5.0	2.0	151	85V	85C
SMAJ85A	SMAJ85CA	85	94.4	104	1.0	5.0	2.2	137	85A	85D
SMAJ90	SMAJ90C	90	100	122	1.0	5.0	1.9	160	90V	90C
SMAJ90A	SMAJ90CA	90	100	111	1.0	5.0	2.1	146	90A	90D
SMAJ100	SMAJ100C	100	111	136	1.0	5.0	1.7	179	100V	100C
SMAJ100A	SMAJ100CA	100	111	123	1.0	5.0	1.9	162	100A	100D
SMAJ110	SMAJ110C	110	122	149	1.0	5.0	1.6	196	110V	110C
SMAJ110A	SMAJ110CA	110	122	135	1.0	5.0	1.7	177	110A	110D
SMAJ120	SMAJ120C	120	133	163	1.0	5.0	1.4	214	120V	120C
SMAJ120A	SMAJ120CA	120	133	147	1.0	5.0	1.6	193	120A	120D
SMAJ130	SMAJ130C	130	144	176	1.0	5.0	1.3	231	130V	130C
SMAJ130A	SMAJ130CA	130	144	159	1.0	5.0	1.5	209	130A	130D
SMAJ150	SMAJ150C	150	167	204	1.0	5.0	1.1	266	150V	150C
SMAJ150A	SMAJ150CA	150	167	185	1.0	5.0	1.3	243	150A	150D
SMAJ160	SMAJ160C	160	178	218	1.0	5.0	1.0	287	160V	160C
SMAJ160A	SMAJ160CA	160	178	197	1.0	5.0	1.2	259	160A	160D
SMAJ170	SMAJ170C	170	189	231	1.0	5.0	1.0	304	170V	170C
SMAJ170A	SMAJ170CA	170	189	209	1.0	5.0	1.1	275	170A	170D

Note:

1. V_{BR} measured after I_T applied for 300us, I_T=square wave pulse or equivalent.
2. Surge current waveform per Figure 3 and derate per Figure 2.
3. All terms and symbols are consistent with ANSI/IEEE C62.35.