YENYO

SMCJ-A SERIES

Surface Mount Transient Voltage Suppressor

Working Voltage 5.0 to 170 V
Peak Pulse Power 1500W

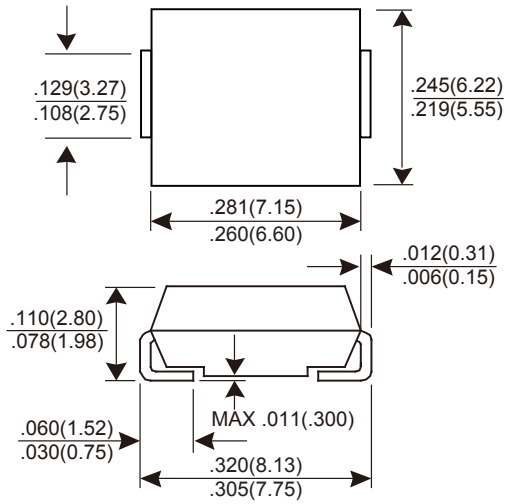
Features

- ✶ High reliability application and automotive grade AEC-Q101 qualified
- ✶ 1500W peak pulse power capability at 10/1000μs waveform, repetition rate (duty cycles):0.01%
- ✶ Low leakage
- ✶ Excellent clamping capability
- ✶ Very fast response time
- ✶ RoHS compliant
- ✶ IEC-61000-4-2 ESD 30kV(Air), 30kV(Contact)
- ✶ ESD protection of data lines in accordance with IEC 61000-4-2
- ✶ $V_{BR}@T_J=V_{BR}@25°C \times (1+\alpha T \times (T_J - 25))$ (αT: Temperature Coefficient, typical value is 0.1%)

Mechanical Data

- ✶ Case: Molded plastic, SMC/DO-214AB
- ✶ Epoxy: UL 94V-0 rate flame retardant
- ✶ Terminals: Solderable per MIL-STD-750, method 2026
- ✶ Polarity: Color band denotes cathode end

SMC/DO-214AB



Dimensions in inches and (millimeters)

MAXIMUM RATINGS AND THERMAL CHARACTERISTICS

T_A = 25°C unless otherwise noted

PARAMETER	SYMBOL	VALUE	UNIT
Peak power dissipation with a 10/1000μs waveform (Note 1,2)	P_{PPM}	1500	W
Peak forward surge current, 8.3 ms single half sine-wave (Note 3)	I_{FSM}	200	A
Power dissipation on infinite heatsink at T_L=75°C	P_D	6.5	W
Maximum instantaneous forward voltage at 100A for unidirectional only	V_F	3.5	V
Typical thermal resistance junction to ambient	$R_{\theta JA}$	75	°C/W
Typical thermal resistance junction to lead	$R_{\theta JL}$	15	°C/W
Operating junction and storage temperature range	T_J , T_{STG}	-65 to +150	°C

Notes : (1) Non-repetitive current pulse, per Fig. 3 and derated above T_A=25°C per Fig. 2
(2) Mounted on copper pad area of 0.31” x 0.31” (8.0 x 8.0mm) to each terminal
(3) Measured on 8.3ms single half sine wave or equivalent square wave for unidirectional device only, duty cycle=4 per minute maximum

SMCJ-A SERIES

Electrical Characteristics(T_A=25°C unless otherwise noted)

Part Number (Uni)	Part Number (Bi)	Device Marking Code		Breakdown Voltage $V_{BR}@I_T$			Maximum Reverse Leakage $I_R@V_{RWM}$ (μA)	Working Peak Reverse Voltage V_{RWM} (V)	Maximum Reverse Surge Current I_{PP} (A)	Maximum Clamping Voltage $V_C@I_{PP}$ (V)
		Uni	Bi	Min (V)	Max (V)	I_T (mA)				
SMCJ5.0A-A	SMCJ5.0CA-A	GDEA	BDEA	6.40	7.00	10	800	5.0	163.04	9.2
SMCJ6.0A-A	SMCJ6.0CA-A	GDGA	BDGA	6.67	7.37	10	800	6.0	145.63	10.3
SMCJ6.5A-A	SMCJ6.5CA-A	GDKA	BDKA	7.22	7.98	10	500	6.5	133.93	11.2
SMCJ7.0A-A	SMCJ7.0CA-A	GDMA	BDMA	7.78	8.60	10	200	7.0	125.00	12.0
SMCJ7.5A-A	SMCJ7.5CA-A	GDPA	BDPA	8.33	9.21	1	100	7.5	116.28	12.9
SMCJ8.0A-A	SMCJ8.0CA-A	GDRA	BDRA	8.89	9.83	1	50	8.0	110.29	13.6
SMCJ8.5A-A	SMCJ8.5CA-A	GDTA	BDTA	9.44	10.4	1	20	8.5	104.17	14.4
SMCJ9.0A-A	SMCJ9.0CA-A	GDVA	BDVA	10.0	11.1	1	10	9.0	97.40	15.4
SMCJ10A-A	SMCJ10CA-A	GDXA	BDXA	11.1	12.3	1	5	10	88.24	17.0
SMCJ11A-A	SMCJ11CA-A	GDZA	BDZA	12.2	13.5	1	1	11	82.42	18.2
SMCJ12A-A	SMCJ12CA-A	GEEA	BEEA	13.3	14.7	1	1	12	75.38	19.9
SMCJ13A-A	SMCJ13CA-A	GEGA	BEGA	14.4	15.9	1	1	13	69.77	21.5
SMCJ14A-A	SMCJ14CA-A	GEKA	BEKA	15.6	17.2	1	1	14	64.66	23.2
SMCJ15A-A	SMCJ15CA-A	GEMA	BEMA	16.7	18.5	1	1	15	61.48	24.4
SMCJ16A-A	SMCJ16CA-A	GEPA	BEPA	17.8	19.7	1	1	16	57.69	26.0
SMCJ17A-A	SMCJ17CA-A	GERA	BERA	18.9	20.9	1	1	17	54.35	27.6
SMCJ18A-A	SMCJ18CA-A	GETA	BETA	20.0	22.1	1	1	18	51.37	29.2
SMCJ20A-A	SMCJ20CA-A	GEVA	BEVA	22.2	24.5	1	1	20	46.30	32.4
SMCJ22A-A	SMCJ22CA-A	GEXA	BEXA	24.4	26.9	1	1	22	42.25	35.5
SMCJ24A-A	SMCJ24CA-A	GEZA	BEZA	26.7	29.5	1	1	24	38.56	38.9
SMCJ26A-A	SMCJ26CA-A	GFEA	BFEA	28.9	31.9	1	1	26	35.63	42.1
SMCJ28A-A	SMCJ28CA-A	GFGA	BFGA	31.1	34.4	1	1	28	33.04	45.4
SMCJ30A-A	SMCJ30CA-A	GFKA	BFKA	33.3	36.8	1	1	30	30.99	48.4
SMCJ33A-A	SMCJ33CA-A	GFMA	BFMA	36.7	40.6	1	1	33	28.14	53.3
SMCJ36A-A	SMCJ36CA-A	GFPA	BFPA	40.0	44.2	1	1	36	25.82	58.1
SMCJ40A-A	SMCJ40CA-A	GFRA	BFRA	44.4	49.1	1	1	40	23.26	64.5
SMCJ43A-A	SMCJ43CA-A	GFTA	BFTA	47.8	52.8	1	1	43	21.61	69.4
SMCJ45A-A	SMCJ45CA-A	GFVA	BFVA	50.0	55.3	1	1	45	20.63	72.7
SMCJ48A-A	SMCJ48CA-A	GFXA	BFXA	53.3	58.9	1	1	48	19.38	77.4
SMCJ51A-A	SMCJ51CA-A	GFZA	BFZA	56.7	62.7	1	1	51	18.20	82.4
SMCJ54A-A	SMCJ54CA-A	GGEA	BGEA	60.0	66.3	1	1	54	17.22	87.1
SMCJ58A-A	SMCJ58CA-A	GGGA	BGGA	64.4	71.2	1	1	58	16.03	93.6
SMCJ60A-A	SMCJ60CA-A	GGKA	BGKA	66.7	73.7	1	1	60	15.50	96.8
SMCJ64A-A	SMCJ64CA-A	GGMA	BGMA	71.1	78.6	1	1	64	14.56	103.0
SMCJ70A-A	SMCJ70CA-A	GGPA	BGPA	77.8	86.0	1	1	70	13.27	113.0
SMCJ75A-A	SMCJ75CA-A	GGRA	BGRA	83.3	92.1	1	1	75	12.40	121.0
SMCJ78A-A	SMCJ78CA-A	GGTA	BGTA	86.7	95.8	1	1	78	11.90	126.0
SMCJ85A-A	SMCJ85CA-A	GGVA	BGVA	94.4	104	1	1	85	10.95	137.0
SMCJ90A-A	SMCJ90CA-A	GGXA	BGXA	100	111	1	1	90	10.27	146.0
SMCJ100A-A	SMCJ100CA-A	GGZA	BGZA	111	123	1	1	100	9.26	162.0
SMCJ110A-A	SMCJ110CA-A	GHEA	BHEA	122	135	1	1	110	8.47	177.0
SMCJ120A-A	SMCJ120CA-A	GHGA	BHGA	133	147	1	1	120	7.77	193.0
SMCJ130A-A	SMCJ130CA-A	GHKA	BHKA	144	159	1	1	130	7.18	209.0
SMCJ150A-A	SMCJ150CA-A	GHMA	BHMA	167	185	1	1	150	6.17	243.0
SMCJ160A-A	SMCJ160CA-A	GHPA	BHPA	178	197	1	1	160	5.79	259.0
SMCJ170A-A	SMCJ170CA-A	GHRA	BHRA	189	209	1	1	170	5.45	275.0

Suffix "A" denotes 5% tolerance device.

Add suffix "CA" after part number to specify Bi-directional devices.

For Bi-directional type having V_{RWM} of 10 volts and less, the I_R limit is double.

RATINGS AND CHARACTERISTICS CURVES SMCJ-A SERIES

Fig.1 - Peak Pulse Power Rating Curve

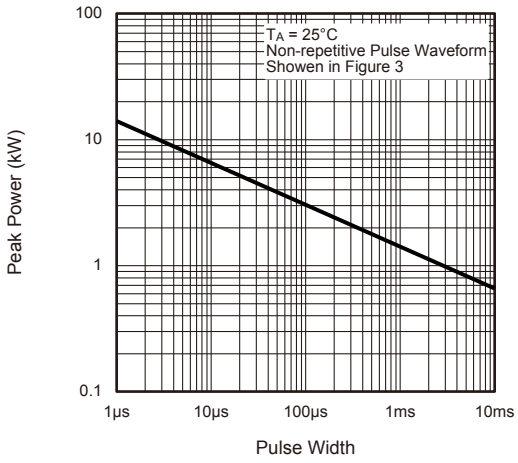


Fig.2 - Pulse Derating Curve

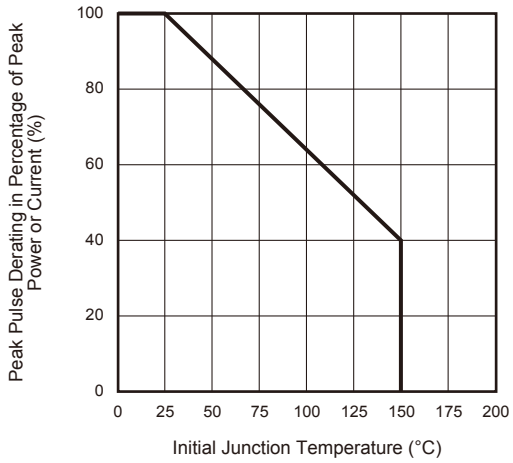


Fig.3 - Pulse Waveform

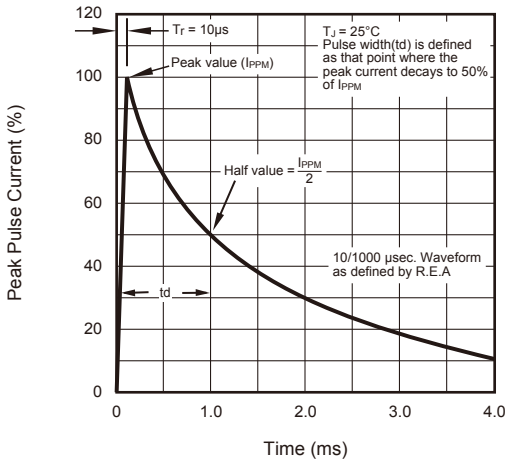


Fig.4 - Typical Junction Capacitance

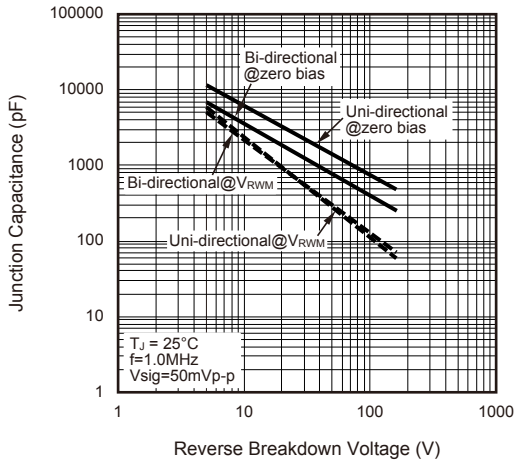


Fig.5 - Steady State Power Derating Curve

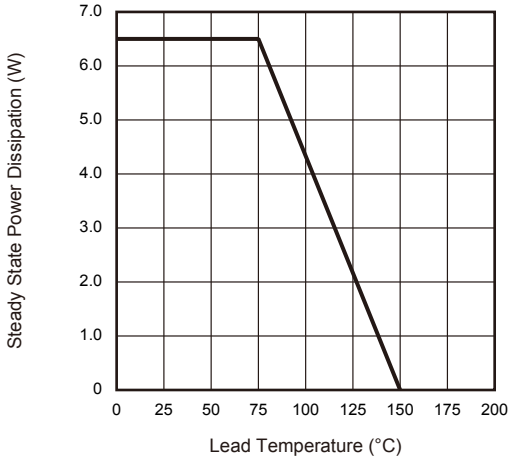


Fig.6 - Maximum Non-Repetitive Surge Current