YENYO

SMDJ-A SERIES

Surface Mount Transient Voltage Suppressor

Working Voltage 5.0 to 220 V
Peak Pulse Power 3000W

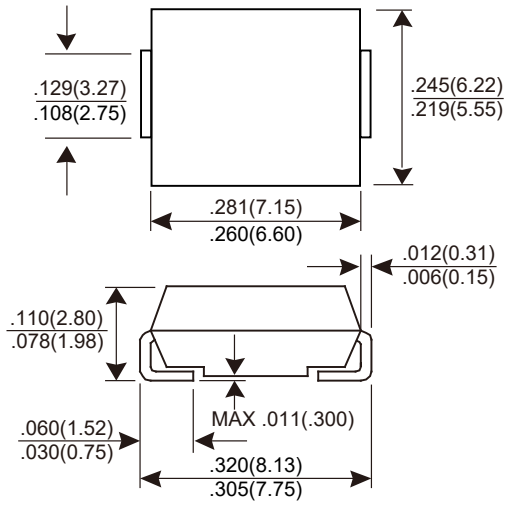
Features

- ✶ High reliability application and automotive grade AEC-Q101 qualified
- ✶ 3000W 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}	3000	W
Peak forward surge current, 8.3 ms single half sine-wave (Note 3)	I_{FSM}	300	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

SMDJ-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)				
SMDJ5.0A-A	SMDJ5.0CA-A	RDEA	DDEA	6.40	7.00	10	800	5.0	326.09	9.2
SMDJ6.0A-A	SMDJ6.0CA-A	RDGA	DDGA	6.67	7.37	10	800	6.0	291.26	10.3
SMDJ6.5A-A	SMDJ6.5CA-A	RDKA	DDKA	7.22	7.98	10	500	6.5	267.86	11.2
SMDJ7.0A-A	SMDJ7.0CA-A	PDMA	DDMA	7.78	8.60	10	200	7.0	250.00	12.0
SMDJ7.5A-A	SMDJ7.5CA-A	PDPA	DDPA	8.33	9.21	1	100	7.5	232.56	12.9
SMDJ8.0A-A	SMDJ8.0CA-A	PDRA	DDRA	8.89	9.83	1	50	8.0	220.59	13.6
SMDJ8.5A-A	SMDJ8.5CA-A	PDTA	DDTA	9.44	10.4	1	20	8.5	208.33	14.4
SMDJ9.0A-A	SMDJ9.0CA-A	PDVA	DDVA	10.0	11.1	1	10	9.0	194.81	15.4
SMDJ10A-A	SMDJ10CA-A	PDXA	DDXA	11.1	12.3	1	5	10	176.47	17.0
SMDJ11A-A	SMDJ11CA-A	PDZA	DDZA	12.2	13.5	1	2	11	164.84	18.2
SMDJ12A-A	SMDJ12CA-A	PEEA	DEEA	13.3	14.7	1	2	12	150.75	19.9
SMDJ13A-A	SMDJ13CA-A	PEGA	DEGA	14.4	15.9	1	2	13	139.53	21.5
SMDJ14A-A	SMDJ14CA-A	PEKA	DEKA	15.6	17.2	1	2	14	129.31	23.2
SMDJ15A-A	SMDJ15CA-A	PEMA	DEMA	16.7	18.5	1	2	15	122.95	24.4
SMDJ16A-A	SMDJ16CA-A	PEPA	DEPA	17.8	19.7	1	2	16	115.38	26.0
SMDJ17A-A	SMDJ17CA-A	PERA	DERA	18.9	20.9	1	2	17	108.70	27.6
SMDJ18A-A	SMDJ18CA-A	PETA	DETA	20.0	22.1	1	2	18	102.74	29.2
SMDJ20A-A	SMDJ20CA-A	PEVA	DEVA	22.2	24.5	1	2	20	92.59	32.4
SMDJ22A-A	SMDJ22CA-A	PEXA	DEXA	24.4	26.9	1	2	22	84.51	35.5
SMDJ24A-A	SMDJ24CA-A	PEZA	DEZA	26.7	29.5	1	2	24	77.12	38.9
SMDJ26A-A	SMDJ26CA-A	PFEA	DFEA	28.9	31.9	1	2	26	71.26	42.1
SMDJ28A-A	SMDJ28CA-A	PFGA	DFGA	31.1	34.4	1	2	28	66.08	45.4
SMDJ30A-A	SMDJ30CA-A	PFKA	DFKA	33.3	36.8	1	2	30	61.98	48.4
SMDJ33A-A	SMDJ33CA-A	PFMA	DFMA	36.7	40.6	1	2	33	56.29	53.3
SMDJ36A-A	SMDJ36CA-A	PFPA	DFPA	40.0	44.2	1	2	36	51.64	58.1
SMDJ40A-A	SMDJ40CA-A	PFRA	DFRA	44.4	49.1	1	2	40	46.51	64.5
SMDJ43A-A	SMDJ43CA-A	PFTA	DFTA	47.8	52.8	1	2	43	43.23	69.4
SMDJ45A-A	SMDJ45CA-A	PFVA	DFVA	50.0	55.3	1	2	45	41.27	72.7
SMDJ48A-A	SMDJ48CA-A	PFXA	DFXA	53.3	58.9	1	2	48	38.76	77.4
SMDJ51A-A	SMDJ51CA-A	PFZA	DFZA	56.7	62.7	1	2	51	36.41	82.4
SMDJ54A-A	SMDJ54CA-A	RGEA	DGEA	60.0	66.3	1	2	54	34.44	87.1
SMDJ58A-A	SMDJ58CA-A	PGGA	DGGA	64.4	71.2	1	2	58	32.05	93.6
SMDJ60A-A	SMDJ60CA-A	PGKA	DGKA	66.7	73.7	1	2	60	30.99	96.8
SMDJ64A-A	SMDJ64CA-A	PGMA	DGMA	71.1	78.6	1	2	64	29.13	103.0
SMDJ70A-A	SMDJ70CA-A	PGPA	DGPA	77.8	86.0	1	2	70	26.55	113.0
SMDJ75A-A	SMDJ75CA-A	PGRA	DGRA	83.3	92.1	1	2	75	24.79	121.0
SMDJ78A-A	SMDJ78CA-A	PGTA	DGTA	86.7	95.8	1	2	78	23.81	126.0
SMDJ85A-A	SMDJ85CA-A	PGVA	DGVA	94.4	104	1	2	85	21.90	137.0
SMDJ90A-A	SMDJ90CA-A	PGXA	DGXA	100	111	1	2	90	20.55	146.0
SMDJ100A-A	SMDJ100CA-A	PGZA	DGZA	111	123	1	2	100	18.52	162.0
SMDJ110A-A	SMDJ110CA-A	PHEA	DHEA	122	135	1	2	110	16.95	177.0
SMDJ120A-A	SMDJ120CA-A	PHGA	DHGA	133	147	1	2	120	15.54	193.0
SMDJ130A-A	SMDJ130CA-A	PHKA	DHKA	144	159	1	2	130	14.35	209.0
SMDJ150A-A	SMDJ150CA-A	PHMA	DHMA	167	185	1	2	150	12.35	243.0
SMDJ160A-A	SMDJ160CA-A	PHPA	DHPA	178	197	1	2	160	11.58	259.0
SMDJ170A-A	SMDJ170CA-A	PHRA	DHRA	189	209	1	2	170	10.91	275.0
SMDJ180A-A	SMDJ180CA-A	PHTA	DHTA	200	220	1	2	180	10.29	291.6
SMDJ200A-A	SMDJ200CA-A	PHWA	DHWA	224	247	1	2	200	9.26	324.0
SMDJ220A-A	SMDJ220CA-A	PHXA	DHXA	246	272	1	2	220	8.43	356.0

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 SMDJ-A SERIES

Fig.1 - Peak Pulse Power Rating Curve

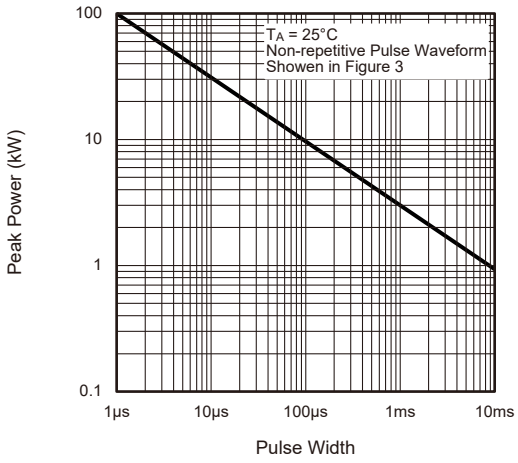


Fig.2 - Pulse Derating Curve

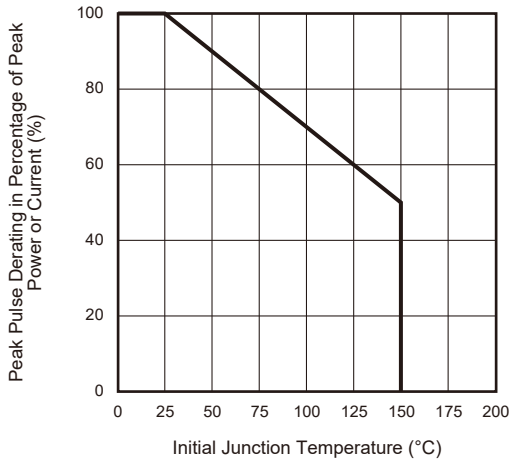


Fig.3 - Pulse Waveform

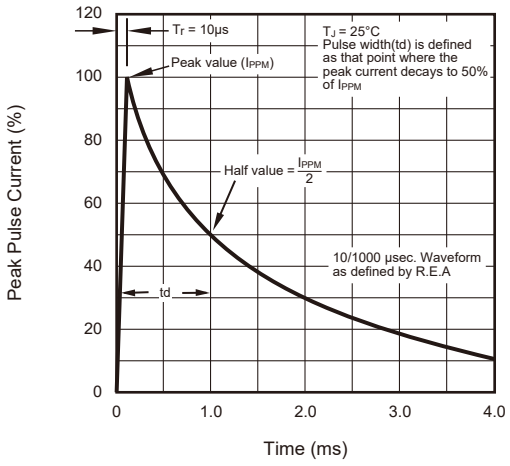


Fig.4 - Typical Junction Capacitance

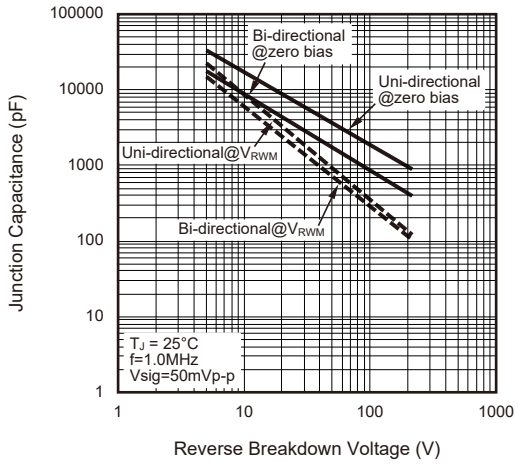


Fig.5 - Steady State Power Derating Curve

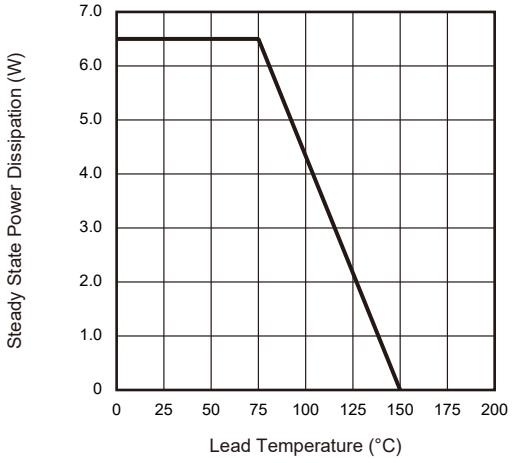


Fig.6 - Maximum Non-Repetitive Surge Current

