YENYO

SMDJ SERIES

Surface Mount Transient Voltage Suppressor

Working Voltage 10 to 170 V
Peak Pulse Power 3000W

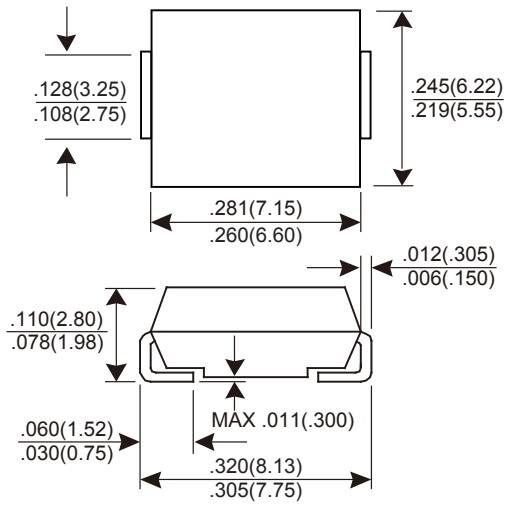
Features

- ✶ 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
- ✶ EFT protection of data lines in accordance with IEC 61000-4-4

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
- ✶ Part no. with suffix "-A" means AEC-Q101 qualified

SMC/DO-214AB



Dimensions in inches and (millimeters)

MAXIMUM RATINGS AND THERMAL CHARACTERISTICS

T_A = 25℃ 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℃	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	℃/W
Typical thermal resistance junction to lead	$R_{\theta JL}$	15	℃/W
Operating junction and storage temperature range	T_J , T_{STG}	-65 to +150	℃

NOTES : (1) Non-repetitive current pulse, per Fig. 3 and derated above T_A=25℃ per Fig. 2
(2) Mounted on copper pad area of 0.31” 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

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Electrical Characteristics(T_A=25℃ 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)				
SMDJ10A	SMDJ10CA	PDX	DDX	11.1	12.3	1	5	10	176.47	17.0
SMDJ11A	SMDJ11CA	PDZ	DDZ	12.2	13.5	1	2	11	164.84	18.2
SMDJ12A	SMDJ12CA	PEE	DEE	13.3	14.7	1	2	12	150.75	19.9
SMDJ13A	SMDJ13CA	PEG	DEG	14.4	15.9	1	2	13	139.53	21.5
SMDJ14A	SMDJ14CA	PEK	DEK	15.6	17.2	1	2	14	129.31	23.2
SMDJ15A	SMDJ15CA	PEM	DEM	16.7	18.5	1	2	15	122.95	24.4
SMDJ16A	SMDJ16CA	PEP	DEP	17.8	19.7	1	2	16	115.38	26.0
SMDJ17A	SMDJ17CA	PER	DER	18.9	20.9	1	2	17	108.70	27.6
SMDJ18A	SMDJ18CA	PET	DET	20.0	22.1	1	2	18	102.74	29.2
SMDJ20A	SMDJ20CA	PEV	DEV	22.2	24.5	1	2	20	92.59	32.4
SMDJ22A	SMDJ22CA	PEX	DEX	24.4	26.9	1	2	22	84.51	35.5
SMDJ24A	SMDJ24CA	PEZ	DEZ	26.7	29.5	1	2	24	77.12	38.9
SMDJ26A	SMDJ26CA	PFE	DFE	28.9	31.9	1	2	26	71.26	42.1
SMDJ28A	SMDJ28CA	PFG	DFG	31.1	34.4	1	2	28	66.08	45.4
SMDJ30A	SMDJ30CA	PFK	DFK	33.3	36.8	1	2	30	61.98	48.4
SMDJ33A	SMDJ33CA	PFM	DFM	36.7	40.6	1	2	33	56.29	53.3
SMDJ36A	SMDJ36CA	PFP	DFP	40.0	44.2	1	2	36	51.64	58.1
SMDJ40A	SMDJ40CA	PFR	DFR	44.4	49.1	1	2	40	46.51	64.5
SMDJ43A	SMDJ43CA	PFT	DFT	47.8	52.8	1	2	43	43.23	69.4
SMDJ45A	SMDJ45CA	PFV	DFV	50.0	55.3	1	2	45	41.27	72.7
SMDJ48A	SMDJ48CA	PFX	DFX	53.3	58.9	1	2	48	38.76	77.4
SMDJ51A	SMDJ51CA	PFZ	DFZ	56.7	62.7	1	2	51	36.41	82.4
SMDJ54A	SMDJ54CA	RGE	DGE	60.0	66.3	1	2	54	34.44	87.1
SMDJ58A	SMDJ58CA	PGG	DGG	64.4	71.2	1	2	58	32.05	93.6
SMDJ60A	SMDJ60CA	PGK	DGK	66.7	73.7	1	2	60	30.99	96.8
SMDJ64A	SMDJ64CA	PGM	DGM	71.1	78.6	1	2	64	29.13	103.0
SMDJ70A	SMDJ70CA	PGP	DGP	77.8	86.0	1	2	70	26.55	113.0
SMDJ75A	SMDJ75CA	PGR	DGR	83.3	92.1	1	2	75	24.79	121.0
SMDJ78A	SMDJ78CA	PGT	DGT	86.7	95.8	1	2	78	23.81	126.0
SMDJ85A	SMDJ85CA	PGV	DGV	94.4	104	1	2	85	21.90	137.0
SMDJ90A	SMDJ90CA	PGX	DGX	100	111	1	2	90	20.55	146.0
SMDJ100A	SMDJ100CA	PGZ	DGZ	111	123	1	2	100	18.52	162.0
SMDJ110A	SMDJ110CA	PHE	DHE	122	135	1	2	110	16.95	177.0
SMDJ120A	SMDJ120CA	PHG	DHG	133	147	1	2	120	15.54	193.0
SMDJ130A	SMDJ130CA	PHK	DHK	144	159	1	2	130	14.35	209.0
SMDJ150A	SMDJ150CA	PHM	DHM	167	185	1	2	150	12.35	243.0
SMDJ160A	SMDJ160CA	PHP	DHP	178	197	1	2	160	11.58	259.0
SMDJ170A	SMDJ170CA	PHR	DHR	189	209	1	2	170	10.91	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_R of 10 volts and less, the I_R limit is double.

RATINGS AND CHARACTERISTICS CURVES SMDJ SERIES

Fig.1 - Peak Pulse Power Rating Curve

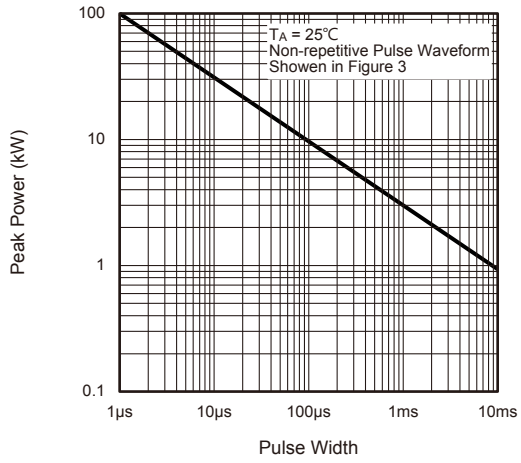

Fig.2 - Pulse Derating Curve

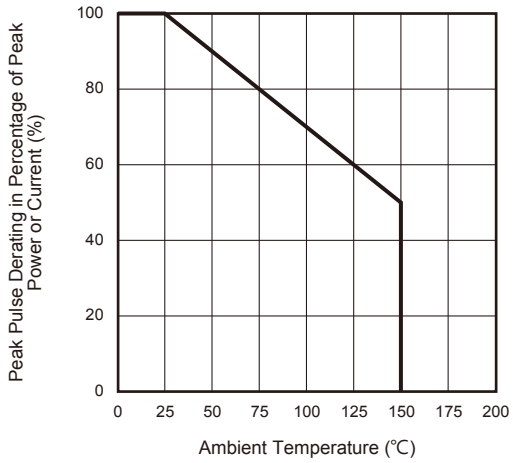

Fig.3 - Pulse Waveform

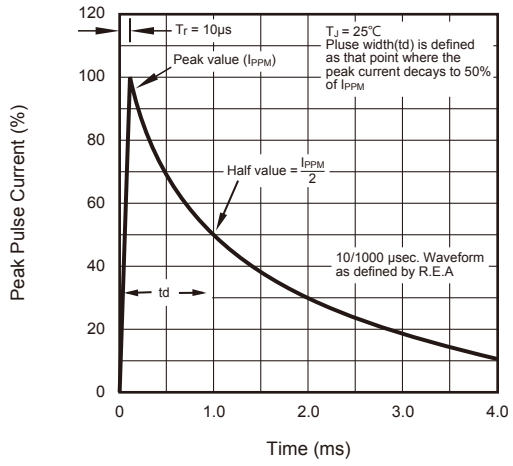

Fig.4 - Typical Junction Capacitance

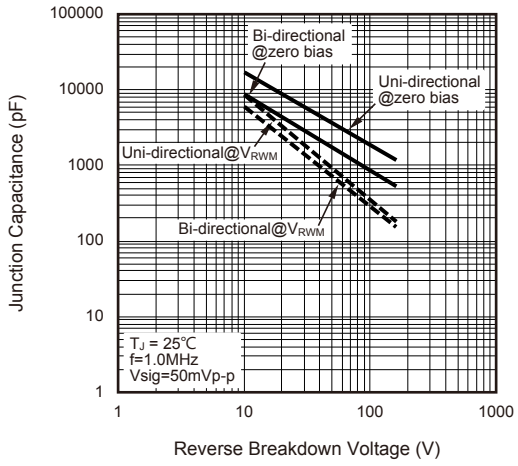

Fig.5 - Steady State Power Derating Curve

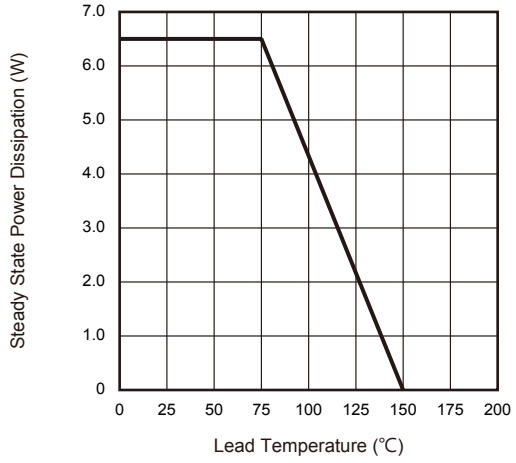

Fig.6 - Maximum Non-Repetitive Surge Current