

SMDJ5.0A THRU SMDJ220CA

SURFACE MOUNT TRANSIENT VOLTAGE SUPPRESSOR

Stand-off Voltage: 5.0-220 Volts Peak pulse power: 3000 Watts

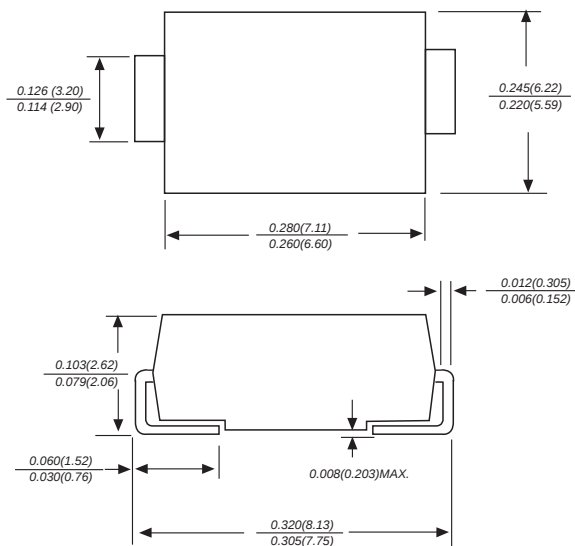
FEATURE

Excellent clamping capability
Low leakage current
Low capacitance
High surge capability
Glass passivated chip
Epoxy resin package
Built-in strain relief
Will not fatigue
RoHS Compliant
Fast response time:
typically less than 1.0ps from 0 Volts to VBR min

MECHANICAL DATA

Case: JEDEC DO-214AB molded plastic body over passivated chip
Terminals: Solder plated , solderable per MIL-STD 750, method 2026
Polarity: Color band denotes cathode except for bidirectional types
Mounting Position: Any
Weight: 0.009 ounce, 0.29 grams

DO-214AB



Dimensions in inches and (millimeters)

DEVICES FOR BIDIRECTIONAL APPLICATIONS

For bidirectional use suffix C or CA for types SMAJ5.0 thru SMAJ440 (e.g. SMAJ5.0C, SMAJ440CA)
Electrical characteristics apply in both directions.

MAXIMUM RATINGS AND CHARACTERISTICS

Ratings at 25° C ambient temperature unless otherwise specified.

Parameter	Symbol	Value	Units	Remarks
Peak Pulse Power Dissipation	P _{PPM}	3000	W	(Note1)(Note2)
Steady State Power Dissipation	P _D	6.5	W	(Note3)
Peak Forward Surge Current	I _{FSM}	300	A	(Note4)
Maximum Instantaneous Forward Voltage at 100A	V _{FM}	3.5/5	V	(Note5)
Typical Thermal Resistance Junction to Lead	R _{θJL}	15	°C/W	
Typical Thermal Resistance Junction to Ambient	R _{θJA}	75	°C/W	
Operating Temperature Range	T _J	-55 to 150	°C	
Storage Temperature Range	T _{STG}	-55 to 150	°C	

Notes1: Non-repetitive current pulse , 10/1000us Waveform.

Notes2: Mounted on copper pad area of 8×8mm to each terminal.

Notes3: Infinite HeatS ink at T_A=50°C

Notes4: Measured on 8.3ms single half sine wave or equivalent square wave, duty cycle=4 perm inute maximum.

Notes5: For UnidirectionalOnly, V_{FM}<3.5V for V_{BR} ≤200V and V_{FM}<5.0V for V_{BR} ≥201V.

Electrical Specification @ Tamb 25°C

Part Number (Uni)	Part Number (Bi)	Marking Code		Reverse Stand off Voltage V_R (V)	Breakdown Voltage $V_{BR} @ I_T$ (V)		Test Current I_T (mA)	Maximum Clamping Voltage $V_C @ I_{PP}$ (V)	Maximum Peak Pulse Current I_{PP} (A)	Maximum Reverse Leakage $I_R @ V_R$ (μA)
		Uni	Bi		Min	Max				
SMDJ5.0A	SMDJ5.0CA	RDE	DDE	5	6.4	7	10	9.2	326.1	800
SMDJ6.0A	SMDJ6.0CA	RDG	DDG	6	6.67	7.37	10	10.3	291.3	800
SMDJ6.5A	SMDJ6.5CA	RDK	DDK	6.5	7.22	7.98	10	11.2	267.9	500
SMDJ7.0A	SMDJ7.0CA	PDM	DDM	7	7.78	8.6	10	12	250	200
SMDJ7.5A	SMDJ7.5CA	PDP	DDP	7.5	8.33	9.21	1	12.9	232.6	100
SMDJ8.0A	SMDJ8.0CA	PDR	DDR	8	8.89	9.83	1	13.6	220.6	50
SMDJ8.5A	SMDJ8.5CA	PDT	DDT	8.5	9.44	10.4	1	14.4	208.3	20
SMDJ9.0A	SMDJ9.0CA	PDV	DDV	9	10	11.1	1	15.4	194.8	10
SMDJ10A	SMDJ10CA	PDX	DDX	10	11.1	12.3	1	17	176.5	5
SMDJ11A	SMDJ11CA	PDZ	DDZ	11	12.2	13.5	1	18.2	164.8	2
SMDJ12A	SMDJ12CA	PEE	DEE	12	13.3	14.7	1	19.9	150.8	2
SMDJ13A	SMDJ13CA	PEG	DEG	13	14.4	15.9	1	21.5	139.5	2
SMDJ14A	SMDJ14CA	PEK	DEK	14	15.6	17.2	1	23.2	129.3	2
SMDJ15A	SMDJ15CA	PEM	DEM	15	16.7	18.5	1	24.4	123	2
SMDJ16A	SMDJ16CA	PEP	DEP	16	17.8	19.7	1	26	115.4	2
SMDJ17A	SMDJ17CA	PER	DER	17	18.9	20.9	1	27.6	108.7	2
SMDJ18A	SMDJ18CA	PET	DET	18	20	22.1	1	29.2	102.7	2
SMDJ20A	SMDJ20CA	PEV	DEV	20	22.2	24.5	1	32.4	92.6	2
SMDJ22A	SMDJ22CA	PEX	DEX	22	24.4	26.9	1	35.5	84.5	2
SMDJ24A	SMDJ24CA	PEZ	DEZ	24	26.7	29.5	1	38.9	77.1	2
SMDJ26A	SMDJ26CA	PFE	DFE	26	28.9	31.9	1	42.1	71.3	2
SMDJ28A	SMDJ28CA	PFG	DFG	28	31.1	34.4	1	45.4	66.1	2
SMDJ30A	SMDJ30CA	PFK	DFK	30	33.3	36.8	1	48.4	62	2
SMDJ33A	SMDJ33CA	PFM	DFM	33	36.7	40.6	1	53.3	56.3	2
SMDJ36A	SMDJ36CA	PFP	DFP	36	40	44.2	1	58.1	51.6	2
SMDJ40A	SMDJ40CA	PFR	DFR	40	44.4	49.1	1	64.5	46.5	2
SMDJ43A	SMDJ43CA	PFT	DFT	43	47.8	52.8	1	69.4	43.2	2
SMDJ45A	SMDJ45CA	PFV	DFV	45	50	55.3	1	72.7	41.3	2
SMDJ48A	SMDJ48CA	PFX	DFX	48	53.3	58.9	1	77.4	38.8	2
SMDJ51A	SMDJ51CA	PFZ	DFZ	51	56.7	62.7	1	82.4	36.4	2
SMDJ54A	SMDJ54CA	RGE	DGE	54	60	66.3	1	87.1	34.4	2
SMDJ58A	SMDJ58CA	PGG	DGG	58	64.4	71.2	1	93.6	32.1	2
SMDJ60A	SMDJ60CA	PGK	DGK	60	66.7	73.7	1	96.8	31	2
SMDJ64A	SMDJ64CA	PGM	DGM	64	71.1	78.6	1	103	29.1	2
SMDJ70A	SMDJ70CA	PGP	DGP	70	77.8	86	1	113	26.5	2
SMDJ75A	SMDJ75CA	PGR	DGR	75	83.3	92.1	1	121	24.8	2
SMDJ78A	SMDJ78CA	PGT	DGT	78	86.7	95.8	1	126	23.8	2
SMDJ85A	SMDJ85CA	PGV	DGV	85	94.4	104	1	137	21.9	2
SMDJ90A	SMDJ90CA	PGX	DGX	90	100	111	1	146	20.5	2
SMDJ100A	SMDJ100CA	PGZ	DGZ	100	111	123	1	162	18.5	2

Electrical Specification @ Tamb 25°C

Part Number (Uni)	Part Number (Bi)	Marking Code		Reverse Stand off Voltage V_R (V)	Breakdown Voltage $V_{BR} @ I_T$ (V)		Test Current I_T (mA)	Maximum Clamping Voltage $V_C @ I_{PP}$ (V)	Maximum Peak Pulse Current I_{PP} (A)	Maximun Reverse Leakage $I_R @ V_R$ (μA)
		Uni	Bi		Min	Max				
SMDJ110A	SMDJ110CA	PHE	DHE	110	122	135	1	177	16.9	2
SMDJ120A	SMDJ120CA	PHG	DHG	120	133	147	1	193	15.5	2
SMDJ130A	SMDJ130CA	PHK	DHK	130	144	159	1	209	14.4	2
SMDJ150A	SMDJ150CA	PHM	DHM	150	167	185	1	243	12.3	2
SMDJ160A	SMDJ160CA	PHP	DHP	160	178	197	1	259	11.6	2
SMDJ170A	SMDJ170CA	PHR	DHR	170	189	209	1	275	10.9	2
SMDJ180A	SMDJ180CA	PHT	DHT	180	198	230.4	1	292	10.3	2
SMDJ220A	SMDJ220CA	PKE	DKE	220	242	281.6	1	356	8.4	2

RATINGS AND CHARACTERISTIC CURVES SMDJ5.0A THRU SMDJ220CA

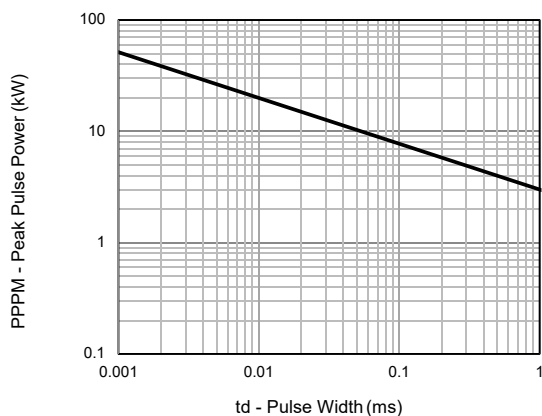


Fig. 1 - Peak Pulse Power Rating

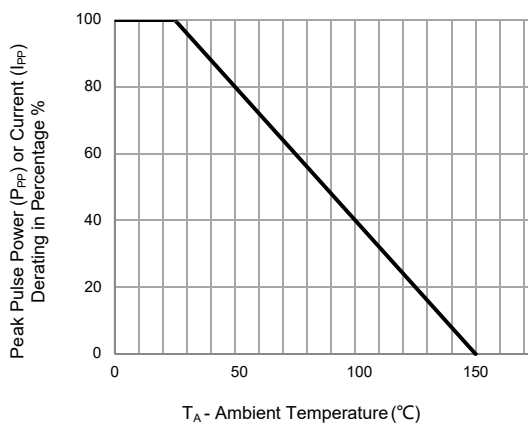


Fig. 2 - Pulse Derating Curve

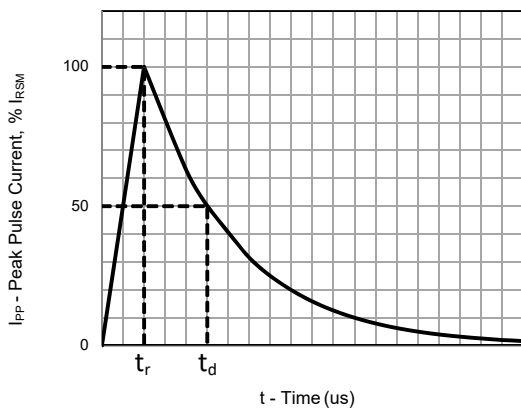


Fig. 3 - Pulse Waveform

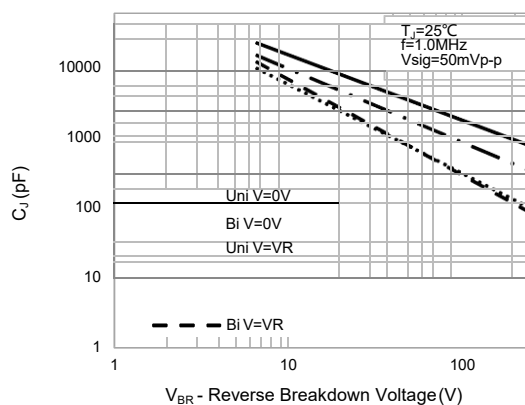


Fig. 4 - Typical Junction Capacitance

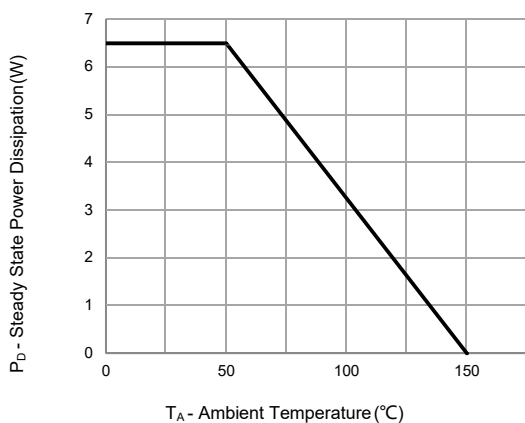


Fig. 5 - Steady State Power Dissipation Derating Curve

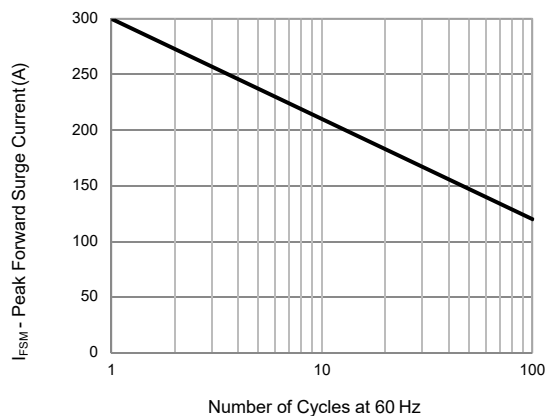


Fig. 6 - Maximum Non-Repetitive Peak Forward Surge Current
Uni-Directional Only