

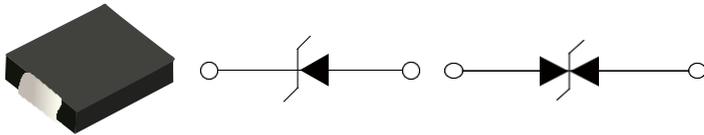
Applications

- ◆ Power supply protection
- ◆ Automotive application
- ◆ Industrial application
- ◆ Power management

Features

- ◆ Low profile package
- ◆ Ideal for automated placement
- ◆ 3000 Watt peak pulse power capability with a 10/1000 μ s waveform
- ◆ For surface mounted applications to optimize board space
- ◆ Excellent clamping capability
- ◆ Very fast response time
- ◆ Low incremental surge resistance

DO-214AA(SMB)



DO-214AB(SMC)

Uni-directional

Bi-directional

Product and Packing Information

Part Number	QTY/Reel	Reel Size
SMDJxx(C)A	3,000	13 inch

Maximum Ratings ($T_A=25^{\circ}\text{C}$)

Parameter	Symbol	Value	Unit
Peak Pulse Power Dissipation on 10/1000 μ s waveform (Note1,Note2)	P_{PPM}	3000	W
Steady State Power Dissipation at $T_L=50^{\circ}\text{C}$,Lead lengths.375"(9.5mm)(Note2)	P_D	6.5	W

Note 1. Non-repetitive current pulse, $T_A = 25^{\circ}\text{C}$.

2. Mounted on 5.0mm*5.0mm (0.03mm thick) Copper Pads to each terminal.

Thermal Considerations

Parameter	Symbol	Value	Unit
Operating Junction Temperature	T_J	-55 to +150	$^{\circ}\text{C}$
Storage Temperature Range	T_{STG}	-55 to +150	$^{\circ}\text{C}$
Junction to Ambient on printed circuit	$R_{\theta JA}$	75	$^{\circ}\text{C/W}$

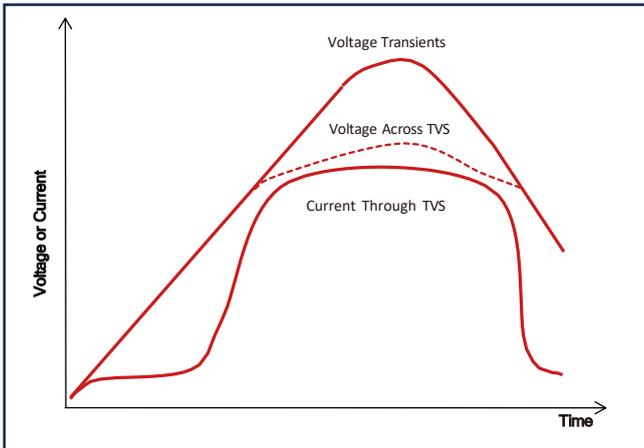
Electrical Characteristics (T_A=25°C)

Part Number		Device Marking Code		Reverse Stand-off Voltage	Breakdown Voltage Min. @I _T	Breakdown Voltage Max. @I _T	Test Current	Maximum Clamping Voltage @I _{PP}	Peak Pulse Current	Reverse Leakage @V _{RMW}
Uni-Polar	Bi-Polar	Uni	Bi	V _{RMW} (V)	V _{BR} (V)	V _{BR} (V)	I _T (mA)	V _C (V)	I _{PP} (A)	I _R (uA)
SMDJ5.0A	SMDJ5.0CA	RDE	DDE	5.0	6.4	7.0	10	9.2	326.1	800
SMDJ6.0A	SMDJ6.0CA	RDG	DDG	6.0	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	7.0	7.78	8.60	10	12.0	250.0	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	8.0	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	9.0	10.0	11.1	1	15.4	194.8	10
SMDJ10A	SMDJ10CA	PDX	DDX	10.0	11.1	12.3	1	17.0	176.5	5
SMDJ11A	SMDJ11CA	PDZ	DDZ	11.0	12.2	13.5	1	18.2	164.8	2
SMDJ12A	SMDJ12CA	PEE	DEE	12.0	13.3	14.7	1	19.9	150.8	2
SMDJ13A	SMDJ13CA	PEG	DEG	13.0	14.4	15.9	1	21.5	139.5	2
SMDJ14A	SMDJ14CA	PEK	DEK	14.0	15.6	17.2	1	23.2	129.3	2
SMDJ15A	SMDJ15CA	PEM	DEM	15.0	16.7	18.5	1	24.4	123.0	2
SMDJ16A	SMDJ16CA	PEP	DEP	16.0	17.8	19.7	1	26.0	115.4	2
SMDJ17A	SMDJ17CA	PER	DER	17.0	18.9	20.9	1	27.6	108.7	2
SMDJ18A	SMDJ18CA	PET	DET	18.0	20.0	22.1	1	29.2	102.7	2
SMDJ20A	SMDJ20CA	PEV	DEV	20.0	22.2	24.5	1	32.4	92.6	2
SMDJ22A	SMDJ22CA	PEX	DEX	22.0	24.4	26.9	1	35.5	84.5	2
SMDJ24A	SMDJ24CA	PEZ	DEZ	24.0	26.7	29.5	1	38.9	77.1	2
SMDJ26A	SMDJ26CA	PFE	DFE	26.0	28.9	31.9	1	42.1	71.3	2
SMDJ28A	SMDJ28CA	PFG	DFG	28.0	31.1	34.4	1	45.4	66.1	2
SMDJ30A	SMDJ30CA	PFK	DFK	30.0	33.3	36.8	1	48.4	62.0	2
SMDJ33A	SMDJ33CA	PFM	DFM	33.0	36.7	40.6	1	53.3	56.3	2
SMDJ36A	SMDJ36CA	PFP	DFP	36.0	40.0	44.2	1	58.1	51.6	2
SMDJ40A	SMDJ40CA	PFR	DFR	40.0	44.4	49.1	1	64.5	46.5	2
SMDJ43A	SMDJ43CA	PFT	DFT	43.0	47.8	52.8	1	69.4	43.2	2
SMDJ45A	SMDJ45CA	PFV	DFV	45.0	50.0	55.3	1	72.7	41.3	2
SMDJ48A	SMDJ48CA	PFX	DFX	48.0	53.3	58.9	1	77.4	38.8	2
SMDJ51A	SMDJ51CA	PFZ	DFZ	51.0	56.7	62.7	1	82.4	36.4	2
SMDJ54A	SMDJ54CA	RGE	DGE	54.0	60.0	66.3	1	87.1	34.4	2
SMDJ58A	SMDJ58CA	PGG	DGG	58.0	64.4	71.2	1	93.6	32.1	2

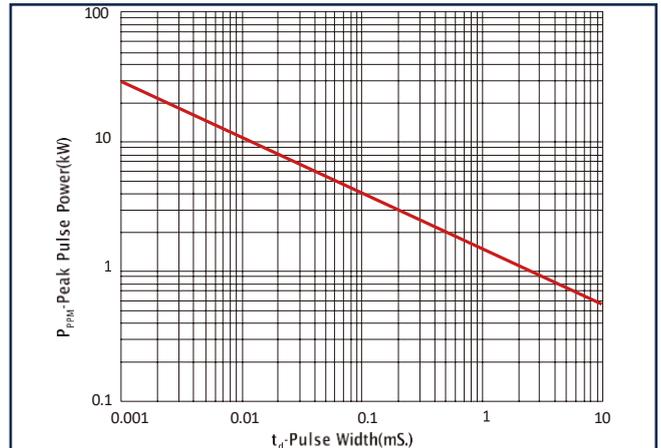
Electrical Characteristics (T_A=25°C)

Part Number		Device Marking Code		Reverse Stand-off Voltage	Breakdown Voltage Min. @I _T	Breakdown Voltage Max. @I _T	Test Current	Maximum Clamping Voltage @I _{PP}	Peak Pulse Current	Reverse Leakage @V _{RWM}
Uni-Polar	Bi-Polar	Uni	Bi	V _{RWM} (V)	V _{BR} (V)	V _{BR} (V)	I _T (mA)	V _C (V)	I _{PP} (A)	I _R (μ A)
SMDJ60A	SMDJ60CA	PGK	DGK	60.0	66.7	73.7	1	96.8	31.0	2
SMDJ64A	SMDJ64CA	PGM	DGM	64.0	71.1	78.6	1	103.0	29.1	2
SMDJ70A	SMDJ70CA	PGP	DGP	70.0	77.8	86.0	1	113.0	26.5	2
SMDJ75A	SMDJ75CA	PGR	DGR	75.0	83.3	92.1	1	121.0	24.8	2
SMDJ78A	SMDJ78CA	PGT	DGT	78.0	86.7	95.8	1	126.0	23.8	2
SMDJ85A	SMDJ85CA	PGV	DGV	85.0	94.4	104.0	1	137.0	21.9	2
SMDJ90A	SMDJ90CA	PGX	DGX	90.0	100.0	111.0	1	146.0	20.5	2
SMDJ100A	SMDJ100CA	PGZ	DGZ	100.0	111.0	123.0	1	162.0	18.5	2
SMDJ110A	SMDJ110CA	PHE	DHE	110.0	122.0	135.0	1	177.0	16.9	2
SMDJ120A	SMDJ120CA	PHG	DHG	120.0	133.0	147.0	1	193.0	15.5	2
SMDJ130A	SMDJ130CA	PHK	DHK	130.0	144.0	159.0	1	209.0	14.4	2
SMDJ150A	SMDJ150CA	PHM	DHM	150.0	167.0	185.0	1	243.0	12.3	2
SMDJ160A	SMDJ160CA	PHP	DHP	160.0	178.0	197.0	1	259.0	11.6	2
SMDJ170A	SMDJ170CA	PHR	DHR	170.0	189.0	209.0	1	275.0	10.9	2
SMDJ180A	SMDJ180CA	PHT	DHT	180.0	201.0	222.0	1	292.0	10.3	2
SMDJ190A	SMDJ190CA	PHU	DHU	190.0	209.0	243.0	1	308.0	9.7	2
SMDJ200A	SMDJ200CA	PHV	DHV	200.0	224.0	247.0	1	324.0	9.3	2
SMDJ210A	SMDJ210CA	PHW	DHW	210.0	231.0	269.0	1	340.0	8.8	2
SMDJ220A	SMDJ220CA	PKE	DKE	220.0	246.0	272.0	1	356.0	8.4	2
SMDJ250A	SMDJ250CA	PKG	DKG	250.0	279.0	309.0	1	405.0	7.4	2
SMDJ300A	SMDJ300CA	PKK	DKK	300.0	335.0	371.0	1	486.0	6.2	2
SMDJ350A	SMDJ350CA	PKM	DKM	350.0	391.0	432.0	1	567.0	5.3	2
SMDJ400A	SMDJ400CA	PKP	DKP	400.0	447.0	494.0	1	648.0	4.6	2
SMDJ440A	SMDJ440CA	PKR	DKR	440.0	492.0	543.0	1	713.0	4.2	2

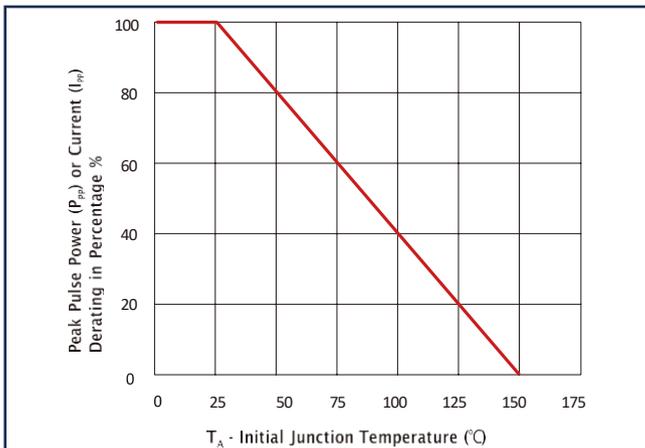
Characteristic Curves



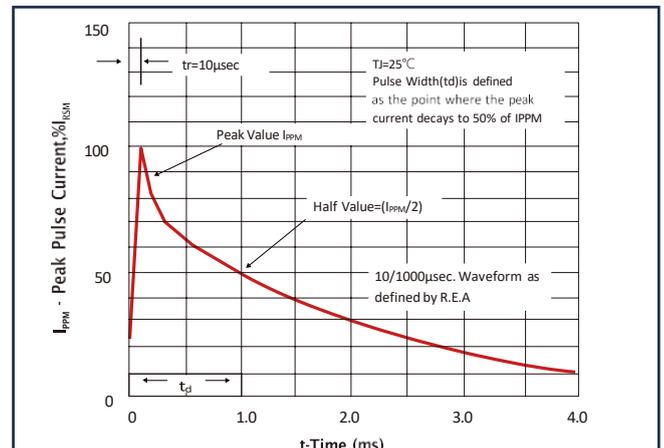
TVS Transients Clamping Waveform



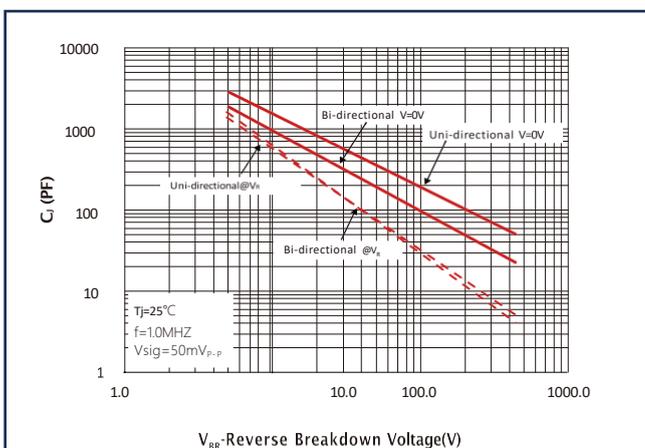
Peak Pulse Power Rating Curve



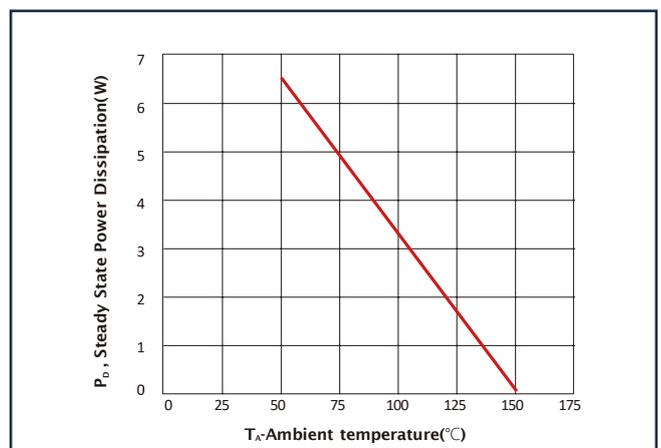
Pulse Derating Curve



Pulse Waveform



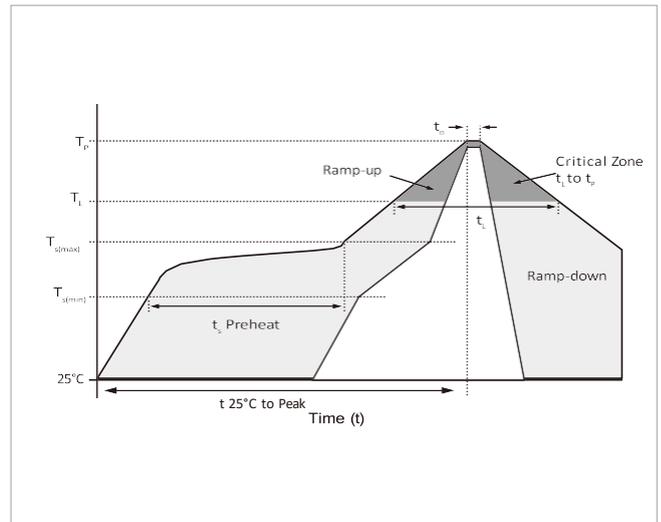
Typical Junction Capacitance



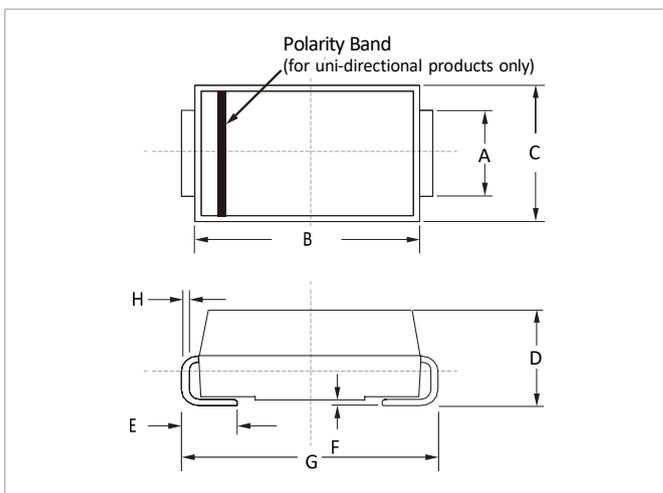
Steady State Power Dissipation Derating Curve

Soldering Parameters

Reflow Condition		Lead-free assembly
Pre Heat	Temperature Max ($T_{s(min)}$)	150°C
	Temperature Max ($T_{s(max)}$)	200°C
	Time (min to max) (t_p)	60 – 180 secs
Average ramp up rate (Liquidus Temp (T_L) to peak)		3°C/second max
$T_{s(max)}$ to T_L - Ramp-up Rate		3°C/second max
Reflow	Temperature (T_L) (Liquidus)	217°C
	Time (min to max) (t_r)	60 – 150 seconds
Peak Temperature (T_p)		260°C
Time within 5°C of actual peak Temperature (t_p)		20 – 40 seconds
Ramp-down Rate		6°C/second max
Time 25°C to peak Temperature (T_p)		8 minutes max.
Do not exceed		260°C

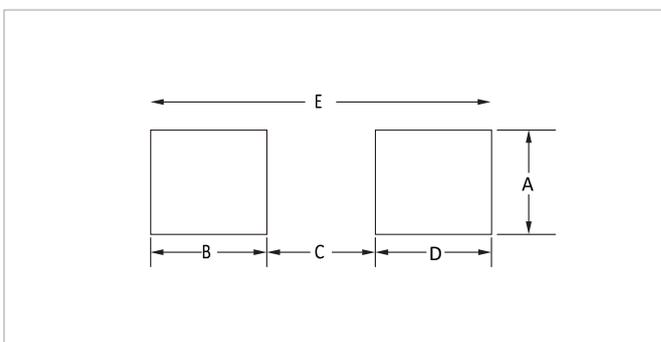


DO-214AB(SMC) Package Information



Ref.	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	2.80	3.20	0.110	0.126
B	6.60	7.20	0.260	0.283
C	5.70	6.10	0.224	0.240
D	2.15	2.75	0.085	0.108
E	1.00	1.60	0.039	0.063
F	0.02	0.20	0.000	0.008
G	7.60	8.00	0.299	0.315
H	0.15	0.30	0.006	0.012

Recommended Pad Lay Out Dimensions



Ref.	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	3.30	-	0.129	-
B	2.40	-	0.094	-
C	-	4.20	-	0.165
D	2.40	-	0.094	-
E	8.20 REF		0.323 REF	

Tape And Reel Specification - SMC

