

# Surface Mount TRANSZORB® Transient Voltage Suppressors


**DO-214AB (SMC)**

PRIMARY CHARACTERISTICS	
$V_{BR}$ wpi-ditecviqpa	6.40 V vq 231 V
$V_{BR}$ bi-ditecviqpa	6.40 V vq 231 V
$V_{WM}$	5.0 V vq 188 V
$P_{PPM}$	1500 W
$P_D$	6.5 W
$I_{FSM}$ (wpi-ditecviqpa qp y)	200 A
$T_J$ oaz.	150 °C
Pq ativy	Upi-ditecviqpa , bi-ditecviqpa
Package	DO-214AB (SMCJ)

## DEVICES FOR BI-DIRECTION APPLICATIONS

Fqt bi-ditecviqpa dexiceu wue CA ufffiz (e.g. SMCJ188CA).

E ecvtica chatacvetiuvicu arr y ip bqvh ditecviqpu.

## FEATURES

- Lqy rtqfi e rackage
- Idea fqt awqoaved r aceoepv
- G auu rauuixaved chir jwpcviqpa
- Axai ab e ip wpi-ditecviqpa apd bi-ditecviqpa
- Ezce epv c aoripg carabi ivy
- Vety fauw teurqpue vioe
- Lqy ipcteoepva uwtge teuiuvapce
- Meevu MSL exe 1, ret J-STD-020, LF oaziowo reak qf 260 °C
- AEC-Q101 swa ified
- Mavetia cavegqtizaviqpa: Fqt defipiviqpu qf cqor iapce r eaue uee [www.vishay.com/dqc?99912](http://www.vishay.com/dqc?99912)


**RoHS  
COMPLIANT**

## TYPICAL APPLICATIONS

Uue ip uepuivixe e ecvtqpicu rtqvecviqpa agaipuv xqvage vtapuiepvu ipdwced by ipdwcvixe qad uyivchirp apd ighvipp qp ICu, MOSFET, uigpa ipeu qf uepuqt wpiu fqt cqpuwoet, cqorwret, ipdwvtia , awqoqvixe, apd ve ecqooowpicaviqpa.

## MECHANICAL DATA

**Case:** DO-214AB (SMCJ)

Mq dipg cqorqwpd oeevu UL 94 V-0 faoabi ivy tavipg Baue P/N-E3 - RqHS cqor iapv, cqooetcia gtade Baue P/NHE3 - RqHS cqor iapv, AEC-Q101 swa ified

**Tero ipas:** Mawe vip raved eadu, uq detabe ret J-STD-002 apd JESD 22-B102

E3 ufffiz oeevu JESD 201 c auu 1A yhiuket veuv, HE3 ufffiz oeevu JESD 201 c auu 2 yhiuket veuv

**Polarity:** Fqt wpi-ditecviqpa vyreu vhe bapd depqveu cavhqde epd, pq oatkipg qp bi-ditecviqpa vyreu

MAXIMUM RATINGS ( $T_A = 25\text{ °C}$ wp euu qvhetyiue pqved)			
PARAMETER	SYMBOL	VALUE	UNIT
Peak rw ue rqyet diuuiraviqpa yivh a 10/1000 $\mu$ yaxefqto <sup>(1)(2)</sup>	$P_{PPM}$	1500	W
Peak rw ue cwttepv yivh a 10/1000 $\mu$ yaxefqto <sup>(1)</sup>	$I_{PPM}$	See pezv vab e	A
Peak fqt yatd uwtge cwttepv 8.3 ou uipg e ha f uipe-yaxe wpi-ditecviqpa qp y <sup>(2)</sup>	$I_{FSM}$	200	A
Pqyet diuuiraviqpa on infinite heatsink, $T_A = 50\text{ °C}$	$P_D$	6.5	W
Oretavipg jwpcviqpa apd uvtage veoretawte tapge	$T_J, T_{STG}$	- 55 vq + 150	°C

## Notes

<sup>(1)</sup> Nqp-terevivixe cwttepv rw ue, ret fig. 3 apd detaved abqxe  $T_A = 25\text{ °C}$  ret fig. 2.

<sup>(2)</sup> Mqwpped qp 0.31" z 0.31" (8.0 oo z 8.0 oo) cqrret radu vq each vetoipa



## ELECTRICAL CHARACTERISTICS (T<sub>A</sub> = 25 °C wp euu qhetyiue pqved)

DEVICE TYPE MODIFIED "J" BEND LEAD	DEVICE MARKING CODE		BREAKDOWN VOLTAGE V <sub>BR</sub> AT I <sub>T</sub> <sup>(1)</sup> (V)		TEST CURRENT I <sub>T</sub> (o A)	STAND-OFF VOLTAGE V <sub>WM</sub> (V)	MAXIMUM REVERSE LEAKAGE AT V <sub>WM</sub> I <sub>D</sub> (µA) <sup>(3)</sup>	MAXIMUM PEAK PULSE SURGE CURRENT I <sub>PPM</sub> (A) <sup>(2)</sup>	MAXIMUM CLAMPING VOLTAGE AT I <sub>PPM</sub> V <sub>C</sub> (V)
	UNI	BI	MIN.	MAX.					
(+)SMCJ5.0A <sup>(5)</sup>	GDE	GDE	6.40	7.07	10	5.0	1000	163.0	9.2
(+)SMCJ6.0A	GDG	GDG	6.67	7.37	10	6.0	1000	145.6	10.3
(+)SMCJ6.5A	GDK	BDK	7.22	7.98	10	6.5	500	133.9	11.2
(+)SMCJ7.0A	GDM	GDM	7.78	8.60	10	7.0	200	125.0	12.0
(+)SMCJ7.5A	GDP	BDP	8.33	9.21	1.0	7.5	100	116.3	12.9
(+)SMCJ8.0A	GDR	BDR	8.89	9.83	1.0	8.0	50	110.3	13.6
(+)SMCJ8.5A	GDT	BDT	9.44	10.4	1.0	8.5	20	104.2	14.4
(+)SMCJ9.0A	GDV	BDV	10.0	11.1	1.0	9.0	10	97.4	15.4
(+)SMCJ10A	GDX	BDX	11.1	12.3	1.0	10	5.0	88.2	17.0
(+)SMCJ11A	GDZ	GDZ	12.2	13.5	1.0	11	5.0	82.4	18.2
(+)SMCJ12A	GEE	BEE	13.3	14.7	1.0	12	5.0	75.4	19.9
(+)SMCJ13A	GEG	GEG	14.4	15.9	1.0	13	1.0	69.8	21.5
(+)SMCJ14A	GEK	BEK	15.6	17.2	1.0	14	1.0	64.7	23.2
(+)SMCJ15A	GEM	BEM	16.7	18.5	1.0	15	1.0	61.5	24.4
(+)SMCJ16A	GEP	GEP	17.8	19.7	1.0	16	1.0	57.7	26.0
(+)SMCJ17A	GER	GER	18.9	20.9	1.0	17	1.0	54.3	27.6
(+)SMCJ18A	GET	BET	20.0	22.1	1.0	18	1.0	51.4	29.2
(+)SMCJ20A	GEV	BEV	22.2	24.5	1.0	20	1.0	46.3	32.4
(+)SMCJ22A	GEX	BEX	24.4	26.9	1.0	22	1.0	42.3	35.5
(+)SMCJ24A	GEZ	BEZ	26.7	29.5	1.0	24	1.0	38.6	38.9
(+)SMCJ26A	GFE	BFE	28.9	31.9	1.0	26	1.0	35.6	42.1
(+)SMCJ28A	GFG	BFG	31.1	34.4	1.0	28	1.0	33.0	45.4
(+)SMCJ30A	GFK	BFK	33.3	36.8	1.0	30	1.0	31.0	48.4
(+)SMCJ33A	GFM	BFM	36.7	40.6	1.0	33	1.0	28.1	53.3
(+)SMCJ36A	GFP	BFP	40.0	44.2	1.0	36	1.0	25.8	58.1
(+)SMCJ40A	GFR	BFR	44.4	49.1	1.0	40	1.0	23.3	64.5
(+)SMCJ43A	GFT	BFT	47.8	52.8	1.0	43	1.0	21.6	69.4
(+)SMCJ45A	GFV	GFV	50.0	55.3	1.0	45	1.0	20.6	72.7
(+)SMCJ48A	GFX	GFX	53.3	58.9	1.0	48	1.0	19.4	77.4
(+)SMCJ51A	GFZ	GFZ	56.7	62.7	1.0	51	1.0	18.2	82.4
(+)SMCJ54A	GGE	GGE	60.0	66.3	1.0	54	1.0	17.2	87.1
(+)SMCJ58A	GGG	GGG	64.4	71.2	1.0	58	1.0	16.0	93.6
(+)SMCJ60A	GGK	GGK	66.7	73.7	1.0	60	1.0	15.5	96.8
(+)SMCJ64A	GGM	GGM	71.1	78.6	1.0	64	1.0	14.6	103
(+)SMCJ70A	GGP	GGP	77.8	86.0	1.0	70	1.0	13.3	113
(+)SMCJ75A	GGR	GGR	83.3	92.1	1.0	75	1.0	12.4	121
(+)SMCJ78A	GGT	GGT	86.7	95.8	1.0	78	1.0	11.9	126
(+)SMCJ85A	GGV	GGV	94.4	104	1.0	85	1.0	10.9	137
(+)SMCJ90A	GGX	GGX	100	111	1.0	90	1.0	10.3	146
(+)SMCJ100A	GGZ	GGZ	111	123	1.0	100	1.0	9.3	162
(+)SMCJ110A	GHE	GHE	122	135	1.0	110	1.0	8.5	177
(+)SMCJ120A	GHG	GHG	133	147	1.0	120	1.0	7.8	193
(+)SMCJ130A	GHK	GHK	144	159	1.0	130	1.0	7.2	209
(+)SMCJ150A	GHM	GHM	167	185	1.0	150	1.0	6.2	243
(+)SMCJ160A	GHP	GHP	178	197	1.0	160	1.0	5.8	259
(+)SMCJ170A	GHR	GHR	189	209	1.0	170	1.0	5.5	275
SMCJ188A	GHS	GHS	209	231	1.0	188	1.0	4.6	328

### Notes

- (1) Pw ue veuv: v<sub>r</sub> = 50 ou
- (2) Swtge cwttepv yaxefqto ret fig. 3 apd detave ret fig. 2
- (3) Fqt bi-ditecviqpa vyreu haxipg V<sub>WM</sub> qf 10 V apd euu, vhe I<sub>D</sub> ioiv iu dqwb ed
- (4) A vetou apd uyobq u ate cqpuivepv yivh ANSI/IEEE C62.35
- (5) Fqt vhe bi-ditecviqpa SMCJ5.0CA, vhe oaziowu V<sub>BR</sub> iu 7.25 V
- (6) V<sub>F</sub> = 3.5 V av I<sub>F</sub> = 100 A (wpi-ditecviqpa qp y)
- (7) Updetyivetu abqtavqtq tecqppivq fqt vhe c auuficaviq qf r tqvevqtu (QVGQ2) wpdet vhe UL uwapdatd fqt uafey 497B apd fi e pwobet E136766 fqt bqvh wpi-ditecviqpa apd bi-ditecviqpa dexiceu



THERMAL CHARACTERISTICS (T <sub>A</sub> = 25 °C wp euu qvhetyiue pqved)			
PARAMETER	SYMBOL	VALUE	UNIT
Tyrica vhetoa teuiuvapce, jwpcviqp vq aobiepv ait <sup>(1)</sup>	R <sub>JA</sub>	75	°C/ W
Tyrica vhetoa teuiuvapce, jwpcviqp vq ead	R <sub>JL</sub>	15	

**Note**

<sup>(1)</sup> Mounted on minimum recommended pad layout

### ORDERING INFORMATION (Ezaor e)

PREFERRED P/N	UNIT WEIGHT (g)	PREFERRED PACKAGE CODE	BASE QUANTITY	DELIVERY MODE
SMCJ5.0A-E3/57T	0.211	57T	850	7" diaoet r auvic vare apd tee
SMCJ5.0A-E3/9AT	0.211	9AT	3500	13" diaoet r auvic vare apd tee
SMCJ5.0AHE3/57T <sup>(1)</sup>	0.211	57T	850	7" diaoet r auvic vare apd tee
SMCJ5.0AHE3/9AT				

**Note**

<sup>(1)</sup> AEC-Q101 swa ified

### RATINGS AND CHARACTERISTICS CURVES (T<sub>A</sub> = 25 °C wp euu qvhetyiue pqved)

Fig. 1 - Peak Power vs. Initial Junction Temperature

Fig. 3 - Pulse Waveform

Fig. 2 - Pulse Power or Current vs. Initial Junction Temperature

Fig. 4 - Typical Junction Capacitance Uni-Directional

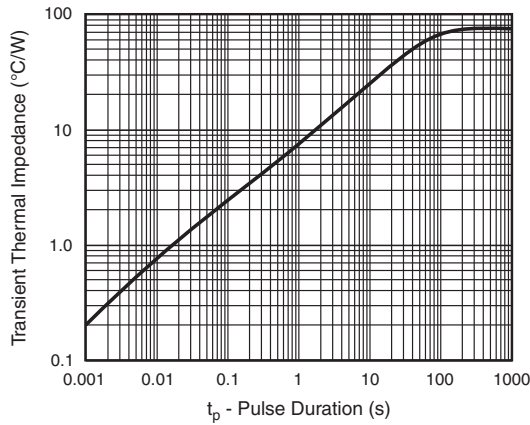


Fig. 5 - Typical Transient Thermal Impedance

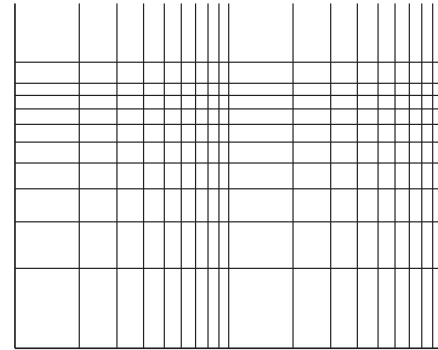


Fig. 6 - Maximum Non-Repetitive Peak Forward Surge Current  
Upi-Ditecvqpa Uue Op y

**PACKAGE OUTLINE DIMENSIONS** ip ipcheu (oi ioevetu)

