

**SMCJ1.5KE12(C)AHE3
THRU
SMCJ1.5KE91(C)AHE3**

Features

- For surface mount applications in order to optimize board space
- Lead Free Finish/Rohs Compliant (Note1) ("P" Suffix designates Compliant. See ordering information)
- Low profile package
- Fast response time: typical less than 1.0ps from 0 volts to V_{BR} minimum
- Halogen free
- Low inductance
- Excellent clamping capability
- UL Recognized File # E331408
- Meet AEC-Q101 Requirement

Mechanical Data

- Epoxy meets UL 94 V-0 flammability rating
- Moisture Sensitivity Level 1
- Terminals: solderable per MIL-STD-750, Method 2026
- Maximum soldering temperature: 260°C for 10 seconds
- Polarity: Color band denotes positive end (cathode)
Except Bidirectional
- Manufacturing code added for better tracking

Maximum Ratings @ 25°C Unless Otherwise Specified

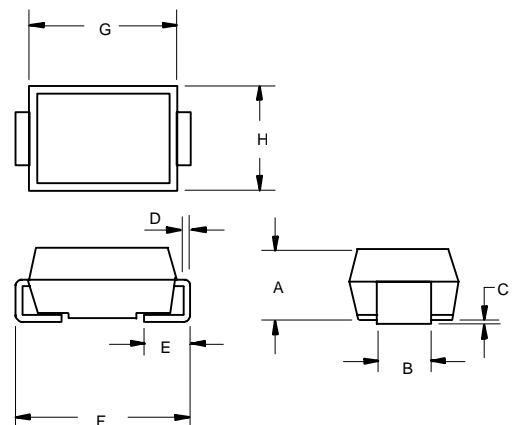
Peak Pulse Current on 10/1000us waveform	I_{PP}	See Table 1	Note: 2
Peak Pulse Power Dissipation	P_{PP}	1500W	Note: 2 3
Operation And Storage Temperature Range	T_J, T_{STG}	-55°C to +175°C	
Typical Thermal Resistance Junction to Lead	R_{thJL}	15°C/W	
Typical Thermal Resistance Junction to Ambient	R_{thJA}	75°C/W	

NOTES:

1. High Temperature Solder Exemptions Applied, see EU Directive Annex 7.
2. Non-repetitive current pulse, per Fig.3 and derated above $T_A=25^\circ\text{C}$ per Fig.2.
3. Mounted on 8.0mm² copper pads to each terminal.

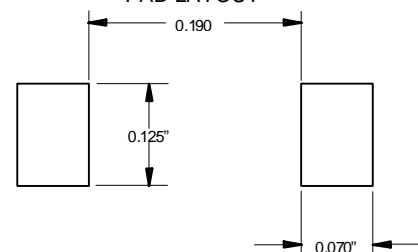
**Transient
Voltage Suppressor
12 to 91 Volts
1500 Watt**

DO-214AB (SMC) (LEAD FRAME)



DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	.079	.103	2.00	2.62	
B	.108	.128	2.75	3.25	
C	.002	.008	0.051	0.203	
D	.006	.012	0.152	0.305	
E	.030	.060	0.76	1.52	
F	.305	.320	7.75	8.13	
G	.260	.280	6.60	7.11	
H	.220	.245	5.59	6.22	

SUGGESTED SOLDER PAD LAYOUT



SMCJ12KE6.8(C)AHE3 THRU SMCJ1.5KE91(C)AHE3

ELECTRICAL CHARACTERISTICS @25°C

MCC PART NUMBER	REVERSE STAND-OFF VOLTAGE V_{WM}	BREAKDOWN VOLTAGE $V_{(BR)}$ @ I_T (VOLTS)			MAXIMUM CLAMPING VOLTAGE @ I_{PP}	PEAK PULSE CURRENT I_{PP}	MAXIMUM REVERSE LEAKAGE @ V_{WM} I_D	MARKING CODE
	(VOLTS)	MIN	MAX	I_T (mA)	(VOLTS)	(AMPS)	(μ A)	
SMCJ1.5KE12AHE3	10.20	11.40	12.60	1	16.7	91.0	5	12A
SMCJ1.5KE13AHE3	11.10	12.40	13.70	1	18.2	83.5	1	13A
SMCJ1.5KE15AHE3	12.80	14.30	15.80	1	21.2	71.7	1	15A
SMCJ1.5KE16AHE3	13.60	15.20	16.80	1	22.5	67.6	1	16A
SMCJ1.5KE18AHE3	15.30	17.10	18.90	1	25.5	60.3	1	18A
SMCJ1.5KE20AHE3	17.10	19.00	21.00	1	27.7	54.9	1	20A
SMCJ1.5KE22AHE3	18.80	20.90	23.10	1	30.6	49.7	1	22A
SMCJ1.5KE24AHE3	20.50	22.80	25.20	1	33.2	45.8	1	24A
SMCJ1.5KE27AHE3	23.10	25.70	28.40	1	37.5	40.5	1	27A
SMCJ1.5KE30AHE3	25.60	28.50	31.50	1	41.4	36.7	1	30A
SMCJ1.5KE33AHE3	28.20	31.40	34.70	1	45.7	33.3	1	33A
SMCJ1.5KE36AHE3	30.80	34.20	37.80	1	49.9	30.5	1	36A
SMCJ1.5KE39AHE3	33.30	37.10	41.00	1	53.9	28.2	1	39A
SMCJ1.5KE43AHE3	36.80	40.90	45.20	1	59.3	25.6	1	43A
SMCJ1.5KE47AHE3	40.20	44.70	49.40	1	64.8	23.5	1	47A
SMCJ1.5KE51AHE3	43.60	48.50	53.60	1	70.1	21.7	1	51A
SMCJ1.5KE56AHE3	47.80	53.20	58.80	1	77.0	19.7	1	56A
SMCJ1.5KE62AHE3	53.00	58.90	65.10	1	85.0	17.9	1	62A
SMCJ1.5KE68AHE3	58.10	64.60	71.40	1	92.0	16.5	1	68A
SMCJ1.5KE75AHE3	64.10	71.30	78.80	1	103.0	14.8	1	75A
SMCJ1.5KE82AHE3	70.10	77.90	86.10	1	113.0	13.5	1	82A
SMCJ1.5KE91AHE3	77.80	86.50	95.50	1	125.0	12.2	1	91A

For bi-directional type having V_{rwm} of 10 volts and less, the I_R limit is double.

The available parts are "A" type only, the parts without A (V_{BR} is $\pm 10\%$) is not available.

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ELECTRICAL CHARACTERISTICS @25°C

MCC PART NUMBER	REVERSE STAND-OFF VOLTAGE V_{WM} (VOLTS)	BREAKDOWN VOLTAGE $V_{(BR)} @ I_T$ (VOLTS)			MAXIMUM CLAMPING VOLTAGE @ I_{PP} (VOLTS)	PEAK PULSE CURRENT I_{PP} (AMPS)	MAXIMUM REVERSE LEAKAGE @ V_{WM} I_D (μA)	MARKING CODE
		MIN	MAX	I_T (mA)				
SMCJ1.5KE12CAHE3	10.20	11.40	12.60	1	16.7	91.0	5	12C
SMCJ1.5KE13CAHE3	11.10	12.40	13.70	1	18.2	83.5	1	13C
SMCJ1.5KE15CAHE3	12.80	14.30	15.80	1	21.2	70.8	1	15C
SMCJ1.5KE16CAHE3	13.60	15.20	16.80	1	22.5	66.7	1	16C
SMCJ1.5KE18CAHE3	15.30	17.10	18.90	1	25.5	60.3	1	18C
SMCJ1.5KE20CAHE3	17.10	19.00	21.00	1	27.7	54.9	1	20C
SMCJ1.5KE22CAHE3	18.80	20.90	23.10	1	30.6	49.7	1	22C
SMCJ1.5KE24CAHE3	20.50	22.80	25.20	1	33.2	45.8	1	24C
SMCJ1.5KE27CAHE3	23.10	25.70	28.40	1	37.5	40.5	1	27C
SMCJ1.5KE30CAHE3	25.60	28.50	31.50	1	41.4	36.7	1	30C
SMCJ1.5KE33CAHE3	28.20	31.40	34.70	1	45.7	33.3	1	33C
SMCJ1.5KE36CAHE3	30.80	34.20	37.80	1	49.9	30.5	1	36C
SMCJ1.5KE39CAHE3	33.30	37.10	41.00	1	53.9	28.2	1	39C
SMCJ1.5KE43CAHE3	36.80	40.90	45.20	1	59.3	25.6	1	43C
SMCJ1.5KE47CAHE3	40.20	44.70	49.40	1	64.8	23.5	1	47C
SMCJ1.5KE51CAHE3	43.60	48.50	53.60	1	70.1	21.7	1	51C
SMCJ1.5KE56CAHE3	47.80	53.20	58.80	1	77.0	19.7	1	56C
SMCJ1.5KE62CAHE3	53.00	58.90	65.10	1	85.0	17.9	1	62C
SMCJ1.5KE68CAHE3	58.10	64.60	71.40	1	92.0	16.5	1	68C
SMCJ1.5KE75CAHE3	64.10	71.30	78.80	1	103.0	14.8	1	75C
SMCJ1.5KE82CAHE3	70.10	77.90	86.10	1	113.0	13.5	1	82C
SMCJ1.5KE91CAHE3	77.80	86.50	95.50	1	125.0	12.2	1	91C

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Ratings and Characteristic Curves ($T_A = 25^\circ\text{C}$ unless otherwise noted)

Fig. 1 – Peak Pulse Power Rating Curve



Fig. 2 – Pulse Derating Curve

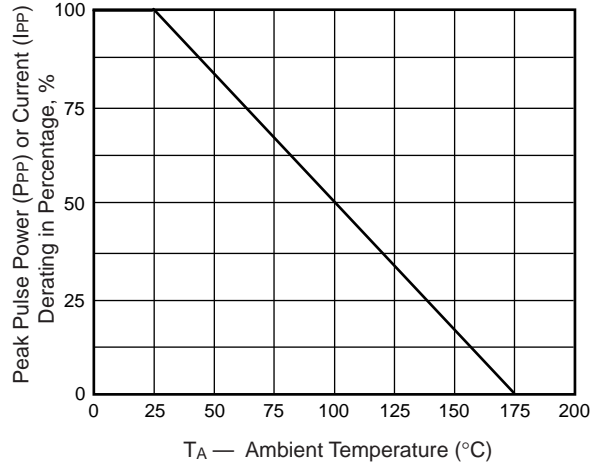


Fig. 3 – Pulse Waveform

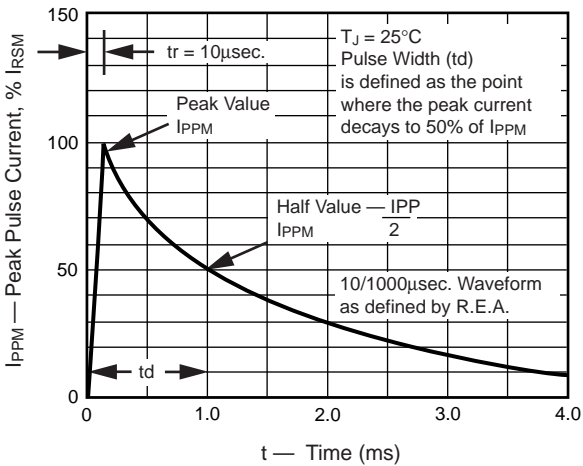


Fig. 4 – Typical Junction Capacitance Uni-Directional

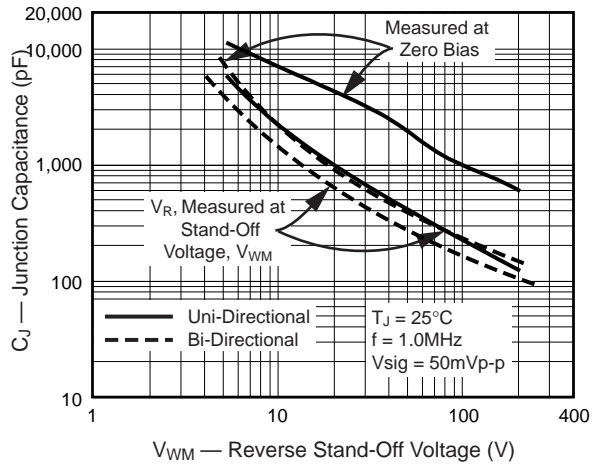
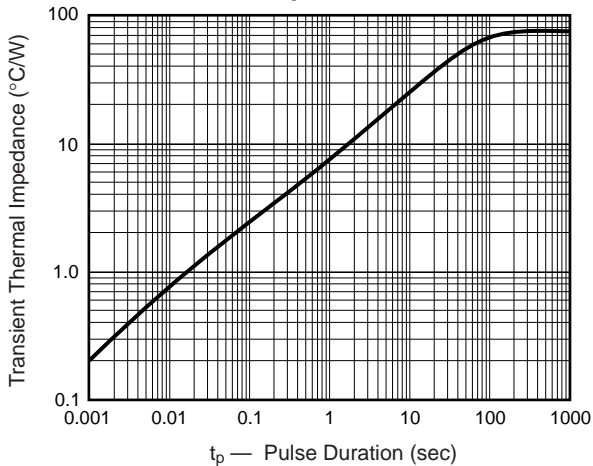


Fig. 5 – Typical Transient Thermal Impedance





Micro Commercial Components

Ordering Information :

Device	Packing
Part Number-TP	Tape&Reel: 3Kpcs/Reel

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