



E480232

Features

- Fully Automotive Qualified to AEC-Q101
- For Surface Mount Applications
- Excellent Clamping Capability
- High Temp Soldering: 260°C / 10 Seconds at Terminals
- Halogen Free. "Green" Device (Note 1)
- Moisture Sensitivity Level 1
- Epoxy Meets UL 94 V-0 Flammability Rating
- Lead Free Finish/RoHS Compliant (Note2) ("P" Suffix Designates RoHS Compliant. See Ordering Information)
- ESD protection of data lines in accordance with IEC 61000-4-2, ±30kV(Air), ±30kV (Contact)

Maximum Ratings

Parameter	Symbol	Value	Unit
Peak Pulse Power Surge Current with a 10/1000µs Waveform (Note 3)	I_{PPM}	See Next Table	A
Peak Pulse Power Dissipation (Note 3)	P_{PPM}	1500	W
Power Dissipation on Infinite Heat Sink at $T_L = 75^\circ\text{C}$	P_D	6.5	W
Peak Forward Surge Current Unidirectional Only (Note 4)	I_{FSM}	200	A

Note:

- Halogen free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.
- High Temperature Solder Exemption Applied, see EU Directive Annex 7a.
- Non-repetitive current pulse, per Fig.3 and derated above $T_A = 25^\circ\text{C}$ per Fig.4.
- 8.3ms, single half sine wave duty cycle = 4 pulses per Minutes maximum.

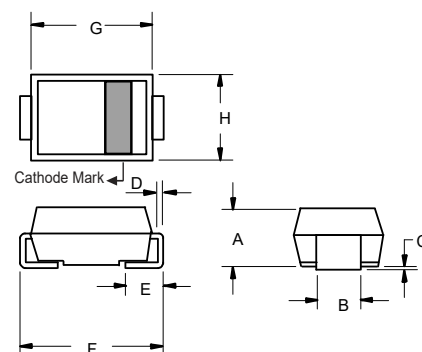
Internal Structure

Description	Simplified outline	Graphic symbol
Uni-directional		
Bi-directional		

XXXX = Marking code YYWW = Date Code

1500Watt TVS
6.8 to 220
Volts

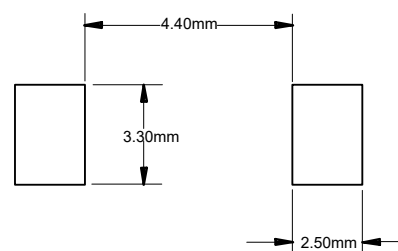
SMC (DO-214AB)
(LEAD FRAME)



DIMENSIONS

DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	0.079	0.103	2.00	2.62	
B	0.108	0.128	2.75	3.25	
C	0.002	0.008	0.051	0.203	
D	0.006	0.012	0.152	0.305	
E	0.030	0.060	0.76	1.52	
F	0.305	0.320	7.75	8.13	
G	0.260	0.280	6.60	7.11	
H	0.220	0.245	5.59	6.22	

Suggested Solder Pad Layout



Thermal Characteristics

Parameter	Symbol	Value	Unit
Operating Junction Temperature Range	T_J	-55 to +175	°C
Storage Temperature Range	T_{STG}	-55 to +175	°C
Typical Thermal Resistance Junction to Lead	$R_{\theta JL}$	15	°C/W
Typical Thermal Resistance Junction to Ambient	$R_{\theta JA}$	75	°C/W
Typical Thermal Resistance Junction to Case	$R_{\theta JC}$	13	°C/W

Note:

5. Mounted on 0.31 x 0.31" (8.0 x 8.0 mm) copper pads to each terminal.

Electrical Characteristics @ 25°C Unless Otherwise Specified

MCC Part Number		Working Peak Reverse Voltage	Breakdown Voltage V_{BR} @ I_T			Maximum Clamping Voltage @ I_{PP}	Maximum Reverse Surge Current	Maximum Reverse Leakage @ V_{RWM}	Device Marking Code	
(Uni)	(Bi)	$V_{RWM}(V)$	Min (V)	Max (V)	I_T (mA)	$V_C(V)$	$I_{PP}(A)$	$I_R(\mu A)$	Uni	Bi
SMCJ1.5KE6.8AQ	SMCJ1.5KE6.8CAQ	5.8	6.46	7.14	10	10.5	142.9	1000	6V8A	6V8C
SMCJ1.5KE7.5AQ	SMCJ1.5KE7.5CAQ	6.4	7.13	7.88	10	11.3	132.7	500	7V5A	7V5C
SMCJ1.5KE8.2AQ	SMCJ1.5KE8.2CAQ	7.0	7.79	8.61	10	12.1	124.9	200	8V2A	8V2C
SMCJ1.5KE9.1AQ	SMCJ1.5KE9.1CAQ	7.8	8.65	9.56	1	13.4	111.9	50	9V1A	9V1C
SMCJ1.5KE10AQ	SMCJ1.5KE10CAQ	8.6	9.50	10.50	1	14.5	103.5	10	10A	10C
SMCJ1.5KE11AQ	SMCJ1.5KE11CAQ	9.4	10.45	11.55	1	15.6	96.2	5	11A	11C
SMCJ1.5KE12AQ	SMCJ1.5KE12CAQ	10.2	11.40	12.60	1	16.7	89.8	5	12A	12C
SMCJ1.5KE13AQ	SMCJ1.5KE13CAQ	11.1	12.35	13.65	1	18.2	82.4	5	13A	13C
SMCJ1.5KE15AQ	SMCJ1.5KE15CAQ	12.8	14.25	15.75	1	21.2	70.8	1	15A	15C
SMCJ1.5KE16AQ	SMCJ1.5KE16CAQ	13.6	15.20	16.80	1	22.5	66.7	1	16A	16C
SMCJ1.5KE18AQ	SMCJ1.5KE18CAQ	15.3	17.10	18.90	1	25.2	59.5	1	18A	18C
SMCJ1.5KE20AQ	SMCJ1.5KE20CAQ	17.1	19.00	21.00	1	27.7	54.2	1	20A	20C
SMCJ1.5KE22AQ	SMCJ1.5KE22CAQ	18.8	20.90	23.10	1	30.6	49.0	1	22A	22C
SMCJ1.5KE24AQ	SMCJ1.5KE24CAQ	20.5	22.80	25.20	1	33.2	45.2	1	24A	24C
SMCJ1.5KE27AQ	SMCJ1.5KE27CAQ	23.1	25.65	28.35	1	37.5	40.0	1	27A	27C
SMCJ1.5KE30AQ	SMCJ1.5KE30CAQ	25.6	28.50	31.50	1	41.4	36.2	1	30A	30C
SMCJ1.5KE33AQ	SMCJ1.5KE33CAQ	28.2	31.35	34.65	1	45.7	32.8	1	33A	33C
SMCJ1.5KE36AQ	SMCJ1.5KE36CAQ	30.8	34.20	37.80	1	50.0	30.1	1	36A	36C
SMCJ1.5KE39AQ	SMCJ1.5KE39CAQ	33.3	37.05	40.95	1	53.9	27.8	1	39A	39C
SMCJ1.5KE43AQ	SMCJ1.5KE43CAQ	36.8	40.85	45.15	1	59.3	25.3	1	43A	43C
SMCJ1.5KE47AQ	SMCJ1.5KE47CAQ	40.2	44.65	49.35	1	64.8	23.2	1	47A	47C
SMCJ1.5KE51AQ	SMCJ1.5KE51CAQ	43.6	48.45	53.55	1	70.1	21.4	1	51A	51C
SMCJ1.5KE56AQ	SMCJ1.5KE56CAQ	47.8	53.20	58.80	1	77.0	19.5	1	56A	56C
SMCJ1.5KE62AQ	SMCJ1.5KE62CAQ	53.0	58.90	65.10	1	85.0	17.7	1	62A	62C
SMCJ1.5KE68AQ	SMCJ1.5KE68CAQ	58.1	64.60	71.40	1	92.0	16.3	1	68A	68C
SMCJ1.5KE75AQ	SMCJ1.5KE75CAQ	64.1	71.25	78.75	1	103.0	14.6	1	75A	75C
SMCJ1.5KE82AQ	SMCJ1.5KE82CAQ	70.1	77.90	86.10	1	113.0	13.3	1	82A	82C
SMCJ1.5KE91AQ	SMCJ1.5KE91CAQ	77.8	86.45	95.35	1	125.0	12.0	1	91A	91C
SMCJ1.5KE100AQ	SMCJ1.5KE100CAQ	85.5	95.00	105.00	1	137.0	11.0	1	100A	100C
SMCJ1.5KE110AQ	SMCJ1.5KE110CAQ	94.0	104.50	115.50	1	152.0	9.9	1	110A	110C
SMCJ1.5KE120AQ	SMCJ1.5KE120CAQ	102.0	114.00	126.00	1	165.0	9.1	1	120A	120C
SMCJ1.5KE130AQ	SMCJ1.5KE130CAQ	111.0	123.50	136.50	1	179.0	8.4	1	130A	130C
SMCJ1.5KE150AQ	SMCJ1.5KE150CAQ	128.0	142.50	157.50	1	207.0	7.3	1	150A	150C
SMCJ1.5KE160AQ	SMCJ1.5KE160CAQ	136.0	152.00	168.00	1	219.0	6.9	1	160A	160C
SMCJ1.5KE170AQ	SMCJ1.5KE170CAQ	145.0	161.50	178.50	1	234.0	6.4	1	170A	170C
SMCJ1.5KE180AQ	SMCJ1.5KE180CAQ	154.0	171.00	189.00	1	246.0	6.1	1	180A	180C
SMCJ1.5KE200AQ	SMCJ1.5KE200CAQ	171.0	190.00	210.00	1	274.0	5.5	1	200A	200C
SMCJ1.5KE220AQ	SMCJ1.5KE220CAQ	185.0	209.00	231.00	1	328.0	4.6	1	220A	220C

Curve Characteristics

Fig. 1 - Peak Pulse Power Rating Curve

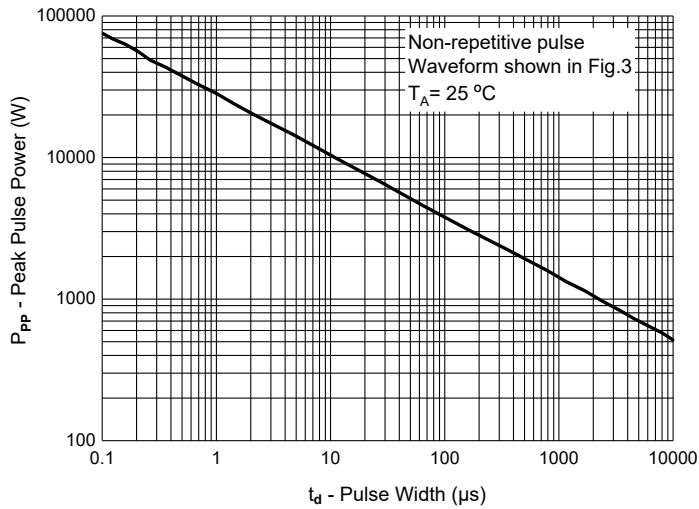


Fig. 2 - Typical Junction Capacitance

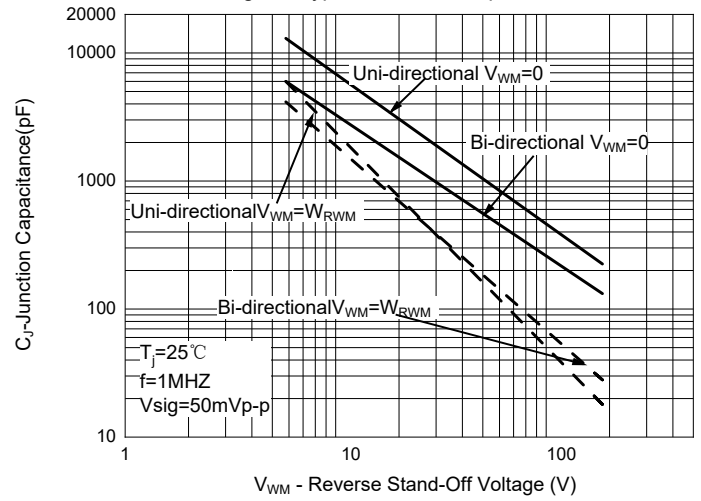


Fig. 3 - Pulse Waveform

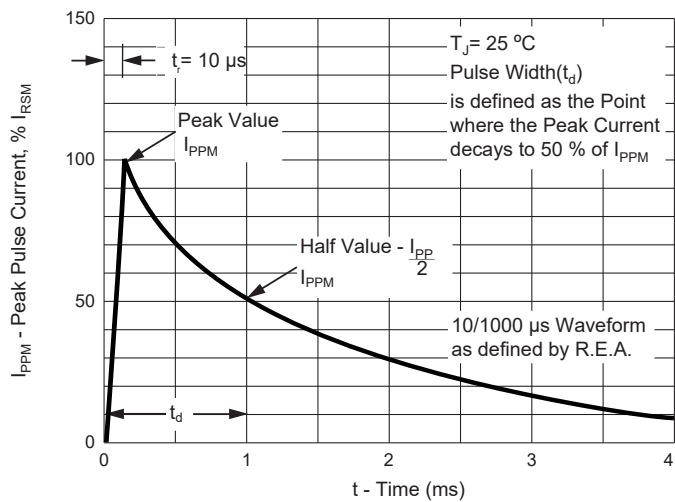
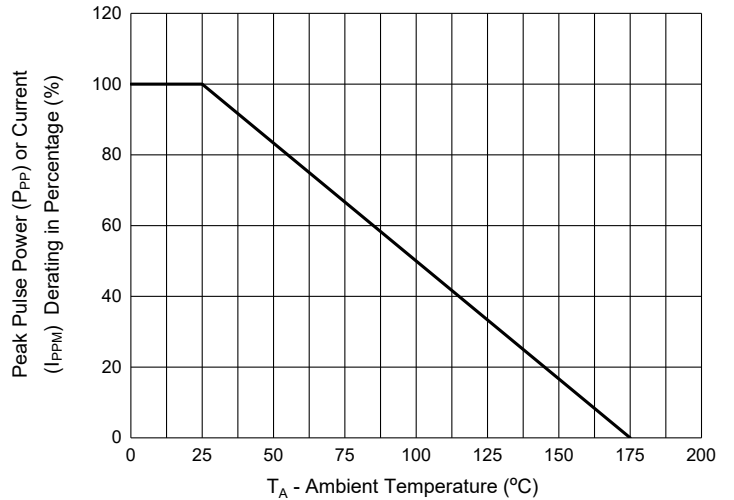


Fig. 4 - Pulse Derating Curve



Ordering Information

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

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