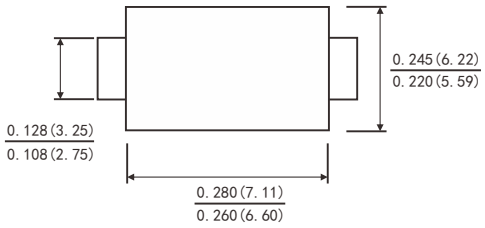
AUTOMOTIVE TRANSIENT VOLTAGE SUPPRESSOR PEAK PULSE POWER-1500 Watts

FEATURES

- 1500 Watts Pulse capability
- Excellent clamping capability
- Low incremental surge resistance
- Fast response time
- High temperature soldering guaranteed: 260°C/10 seconds at terminals
- Component inaccordance to RoHS 2015/863/EU
- **AEC-Q101 qualified and PPAP capable**

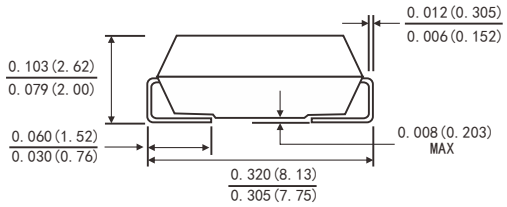
AEC-Q101 Qualified

SMC(DO-214AB)



MECHANICAL DATA

- Case: JEDEC SMC(DO-214AB) molded plastic body
- Terminals: Solder Plated
- Polarity: By cathode band denotes uni-directional device, none cathode band denotes bi-directional device.



Dimensions in inches and (millimeters)

DEVICES FOR BIDIRECTIONAL APPLICATIONS

- 1. For bi-directional use C suffix for Types .
- 2. Electrical characteristics apply in both directions.

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

(Rating at 25°C ambient temperature unless otherwise specified)

Parameter		Symbols	Value	Units
Peak Pulse Power Dissipation at on 10/1000μs Waveform (Note 1. 2)		P_{PK}	1500	Watts
Peak forward surge current, 8. 3ms single half sine-wave superimposed on rated load (JEDEC method) (Note 2)		I_{FSM}	200	Amps
Operating jumction and storage temperature range		T_J, T_{STG}	-55 to 150	°C
Power dissipation,on infinite heat sink at T_L=75℃		P_D	6.5	W
Maximum instantaneous forward voltage at 100A for unidirectional only(Note 3)		V_F	3.5	W
Thermal Resistance(Typical)	junction to ambient	$R_{\theta JA}$	75	℃/W
	junction to lead	$R_{\theta JL}$	15	

Note: 1.Non repetitive current pulse and derated above T_A=25℃

2.Measured on 8.3ms single half sine-wave or equivalent square wave, duty cycle=4 pulses per minute maximum

3.V_F=3.5V Max for devices of V_{BR}≤48V

Electrical Characteristics (TA=25℃ unless otherwise noted)

Part Number (Uni)	Part Number (Bi)	Breakdown Voltage V_{BR}@I_T			Maximum Reverse Leakage I_R @ V_{RWM} (μA)	Working Peak Reverse Voltage V_{RWM} (V)	Maximum Reverse Surge Current I_{PP}(2) (A)	Maximum Clamping Voltage Vc @ I_{PP} (V)
		Min(V)	Max (V)	I_T(1)(mA)				
1.5SMC12A-V	1.5SMC12CA-V	11.40	12.60	1	5	10.2	89.8	16.7
1.5SMC13A-V	1.5SMC13CA-V	12.35	13.65	1	5	11.1	82.4	18.2
1.5SMC15A-V	1.5SMC15CA-V	14.25	15.75	1	1	12.8	70.8	21.2
1.5SMC16A-V	1.5SMC16CA-V	15.20	16.80	1	1	13.6	66.7	22.5
1.5SMC18A-V	1.5SMC18CA-V	17.10	18.90	1	1	15.3	59.5	25.2
1.5SMC20A-V	1.5SMC20CA-V	19.00	21.00	1	1	17.1	54.2	27.7
1.5SMC22A-V	1.5SMC22CA-V	20.90	23.10	1	1	18.8	49.0	30.6
1.5SMC24A-V	1.5SMC24CA-V	22.80	25.20	1	1	20.5	45.2	33.2
1.5SMC27A-V	1.5SMC27CA-V	25.65	28.35	1	1	23.1	40.0	37.5
1.5SMC30A-V	1.5SMC30CA-V	28.50	31.50	1	1	25.6	36.2	41.4
1.5SMC33A-V	1.5SMC33CA-V	31.35	34.65	1	1	28.2	32.8	45.7
1.5SMC36A-V	1.5SMC36CA-V	34.20	37.80	1	1	30.8	30.1	50.0
1.5SMC39A-V	1.5SMC39CA-V	37.05	40.95	1	1	33.3	27.8	53.9
1.5SMC43A-V	1.5SMC43CA-V	40.85	45.15	1	1	36.8	25.3	59.3
1.5SMC47A-V	1.5SMC47CA-V	44.65	49.35	1	1	40.2	23.2	64.8
1.5SMC51A-V	1.5SMC51CA-V	48.45	53.55	1	1	43.6	21.4	70.1
1.5SMC56A-V	1.5SMC56CA-V	53.20	58.80	1	1	47.8	19.5	77.0
1.5SMC62A-V	1.5SMC62CA-V	58.90	65.10	1	1	53.0	17.7	85.0
1.5SMC68A-V	1.5SMC68CA-V	64.60	71.40	1	1	58.1	16.3	92.0
1.5SMC75A-V	1.5SMC75CA-V	71.25	78.75	1	1	64.1	14.6	103
1.5SMC82A-V	1.5SMC82CA-V	77.90	86.10	1	1	70.1	13.3	113
1.5SMC91A-V	1.5SMC91CA-V	86.45	95.35	1	1	77.8	12.0	125
1.5SMC100A-V	1.5SMC100CA-V	95.00	105.00	1	1	85.5	11.0	137
1.5SMC110A-V	1.5SMC110CA-V	104.50	115.50	1	1	94	9.9	152
1.5SMC120A-V	1.5SMC120CA-V	114.00	126.00	1	1	102	9.1	165
1.5SMC130A-V	1.5SMC130CA-V	123.50	136.50	1	1	111	8.4	179
1.5SMC150A-V	1.5SMC150CA-V	142.50	157.50	1	1	128	7.3	207
1.5SMC160A-V	1.5SMC160CA-V	152.00	168.00	1	5	136	6.9	219
1.5SMC170A-V	1.5SMC170CA-V	161.50	178.50	1	5	145	6.4	234
1.5SMC180A-V	1.5SMC180CA-V	171.00	189.00	1	5	154	6.1	246
1.5SMC200A-V	1.5SMC200CA-V	190.00	210.00	1	5	171	5.5	274
1.5SMC220A-V	1.5SMC220CA-V	209.00	231.00	1	5	185	4.6	328

Notes：

(1) Pulse Test：tp≤50ms .

(2) Surge current waveform per Fig. 3 and derated per Fig.2.

FIG. 1–PEAK PULSE POWER CURVE

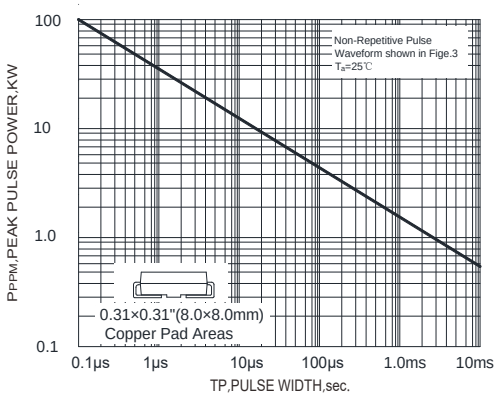


FIG. 2–PULSE DERATING CURVE

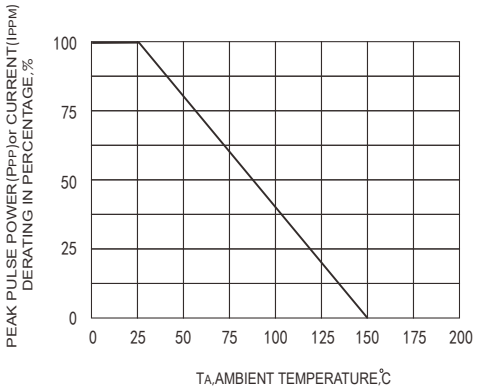


FIG. 3–PULSE WAVEFORM

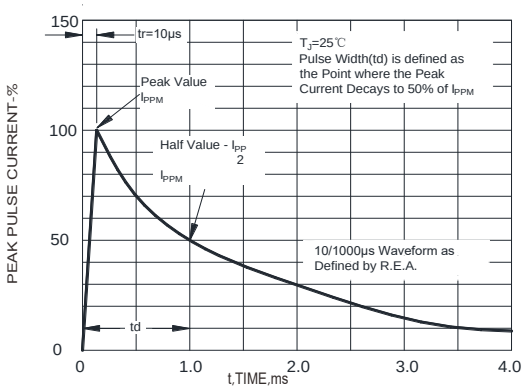


FIG. 4–MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

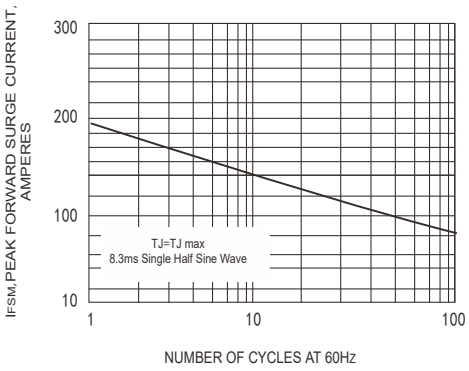


FIG. 5– STEADY STATE POWER DERATING CURVE

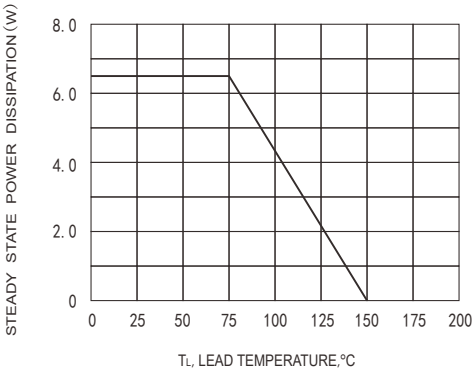


FIG. 6– TYPICAL TRANSIENT THERMAL IMPEDANCE