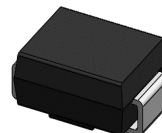


## 600W, 6.8 - 91V Transient Voltage Suppressors

### Features

- Very fast response time
- Glass passivated junction
- Moisture sensitivity: level 1, per J-STD-020
- Available in unidirectional and bidirectional
- Plastic package has underwriters Laboratory Flammability Classification 94V-0
- Halogen-free according to IEC 61249-2-21 definition
- 600 W peak pulse power capability with a 10/1000  $\mu$ s waveform
- AEC-Q101 qualified



SMB (DO-214AA)

### Applications

- SMPS
- Adapters
- Monitor

#### Absolute Maximum Ratings (TA=25°C unless otherwise noted)

Parameter	Symbol	Ratings	Unit
Peak power dissipation with a 10/1000 $\mu$ s waveform	P <sub>PPM</sub>	600	W
Peak pulse current with a 10/1000 $\mu$ s waveform	I <sub>PPM</sub>	See Next Table	A
Power dissipation, on infinite heat sink at T <sub>L</sub> =75°C	P <sub>D</sub>	3.75	W
Peak forward surge current, 8.3ms single half-sine wave	I <sub>FSM</sub>	100	A
Operating junction and storage temperature range	T <sub>J</sub> , T <sub>STG</sub>	-55 to +150	°C

#### Thermal-Mechanical Specifications (TA=25°C unless otherwise noted)

Parameter	Symbol	Typ	Unit
Thermal Resistance, Junction to Ambient	R <sub>thJA</sub>	85	°C /W
Thermal Resistance, Junction to Case	R <sub>thJC</sub>	15	°C /W
Thermal Resistance, Junction to Lead	R <sub>thJL</sub>	20	°C /W

## Electrical Characteristics (TA = 25 °C unless otherwise noted)

Part Number (Uni)	Part Number (Bi)	Marking		Breakdown Voltage VBR (Volts)		Test Current I <sub>T</sub> (mA)	Stand off Voltage V <sub>WM</sub> (V)	Maximum reverse leakage at V <sub>WM</sub> I <sub>D</sub> (µA)	Maximum Peak Pulse Current I <sub>ppM</sub> (A)	Maximum Clamping Voltage at I <sub>ppM</sub> V <sub>C</sub> (Volts)
		UNI	BI							
				Min	Max					
AP6SMB6.8AS	AP6SMB6.8CAS	A6V8AS	A6V8CS	6.45	7.14	10.0	5.80	1000	57.1	10.5
AP6SMB7.5AS	AP6SMB7.5CAS	A7V5AS	A7V5CS	7.13	7.88	10.0	6.40	500	53.1	11.3
AP6SMB8.2AS	AP6SMB8.2CAS	A8V2AS	A8V2CS	7.79	8.61	10	7.02	200	49.6	12.1
AP6SMB9.1AS	AP6SMB9.1CAS	A9V1AS	A9V1CS	8.65	9.55	1.0	7.78	50	44.8	13.4
AP6SMB10AS	AP6SMB10CAS	A10AS	A10CS	9.50	10.5 0	1.0	8.55	10	41.4	14.5
AP6SMB11AS	AP6SMB11CAS	A11AS	A11CS	10.5	11.6	1.0	9.40	5.0	38.5	15.6
AP6SMB12AS	AP6SMB12CAS	A12AS	A12CS	11.4	12.6	1.0	10.2	5.0	35.9	16.7
AP6SMB13AS	AP6SMB13CAS	A13AS	A13CS	12.4	13.7	1.0	11.1	5.0	33.0	18.2
AP6SMB15AS	AP6SMB15CAS	A15AS	A15CS	14.3	15.8	1.0	12.8	1.0	28.3	21.2
AP6SMB16AS	AP6SMB16CAS	A16AS	A16CS	15.2	16.8	1.0	13.6	1.0	26.7	22.5
AP6SMB18AS	AP6SMB18CAS	A18AS	A18CS	17.1	18.9	1.0	15.3	1.0	23.8	25.2
AP6SMB20AS	AP6SMB20CAS	A20AS	A20CS	19.0	21.0	1.0	17.1	1.0	21.7	27.7
AP6SMB22AS	AP6SMB22CAS	A22AS	A22CS	20.9	23.1	1.0	18.8	1.0	19.6	30.6
AP6SMB24AS	AP6SMB24CAS	A24AS	A24CS	22.8	25.2	1.0	20.5	1.0	18.1	33.2
AP6SMB27AS	AP6SMB27CAS	A27AS	A27CS	25.7	28.4	1.0	23.1	1.0	16.0	37.5
AP6SMB30AS	AP6SMB30CAS	A30AS	A30CS	28.5	31.5	1.0	25.6	1.0	14.5	41.4
AP6SMB33AS	AP6SMB33CAS	A33AS	A33CS	31.4	34.7	1.0	28.2	1.0	13.1	45.7
AP6SMB36AS	AP6SMB36CAS	A36AS	A36CS	34.2	37.8	1.0	30.8	1.0	12.0	49.9
AP6SMB39AS	AP6SMB39CAS	A39AS	A39CS	37.1	41.0	1.0	33.3	1.0	11.1	53.9
AP6SMB43AS	AP6SMB43CAS	A43AS	A43CS	40.9	45.2	1.0	36.8	1.0	10.1	59.3
AP6SMB47AS	AP6SMB47CAS	A47AS	A47CS	44.7	49.4	1.0	40.2	1.0	9.3	64.8
AP6SMB51AS	AP6SMB51CAS	A51AS	A51CS	48.5	53.6	1.0	43.6	1.0	8.6	70.1
AP6SMB56AS	AP6SMB56CAS	A56AS	A56CS	53.2	58.8	1.0	47.8	1.0	7.8	77.0
AP6SMB62AS	AP6SMB62CAS	A62AS	A62CS	58.9	65.1	1.0	53.0	1.0	7.1	85.0
AP6SMB68AS	AP6SMB68CAS	A68AS	A68CS	64.6	71.4	1.0	58.1	1.0	6.5	92.0
AP6SMB75AS	AP6SMB75CAS	A75AS	A75CS	71.3	78.8	1.0	64.1	1.0	5.8	103
AP6SMB82AS	AP6SMB82CAS	A82AS	A82CS	77.9	86.1	1.0	70.1	1.0	5.3	113
AP6SMB91AS	AP6SMB91CAS	A91AS	A91CS	86.5	95.5	1.0	77.8	1.0	4.8	125

Note:

1. Mounted on copper pad area of 0.2x0.2" (5.0 x 5.0mm) to each terminal.

## Ratings and Characteristics Curves (T<sub>A</sub> = 25°C unless otherwise noted)

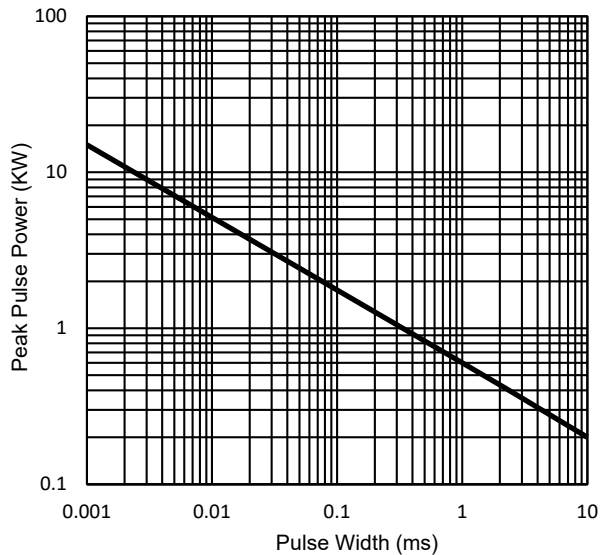


Fig.1 -Peak Pulse Power Derating Curve

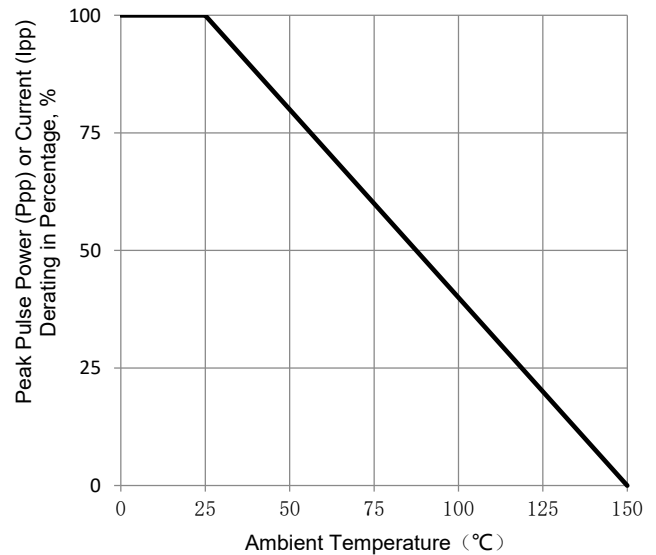


Fig.2 - Maximum Non-Repetitive Surge Current

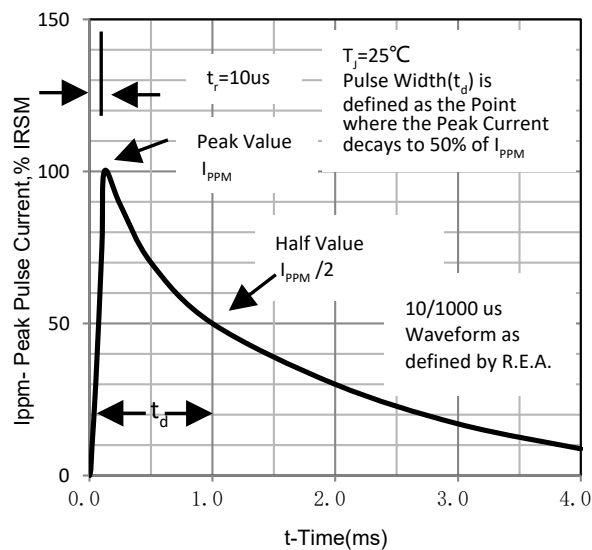


Fig.3 - Typical Forward Voltage Characteristics

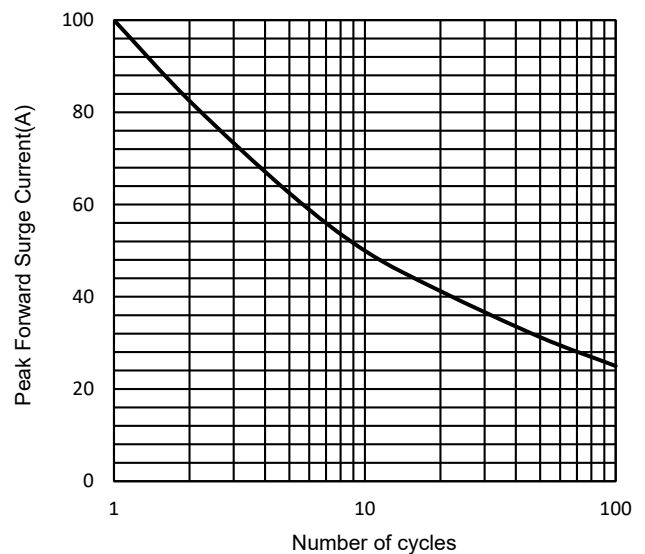
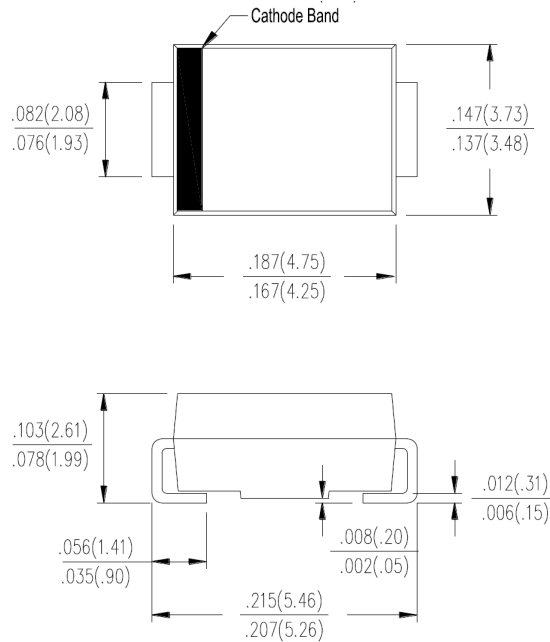


Fig.4 - Typical Reverse Current Characteristics

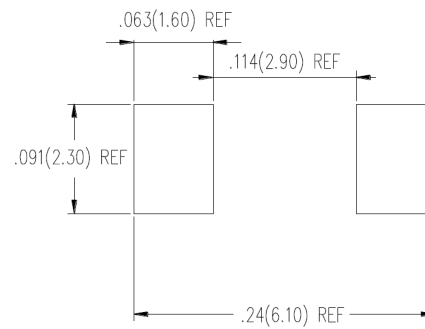
## Package Outline Dimensions

in inches (millimeters)

### SMB (DO-214AA)



### Mounting Pad Layout



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