Surface Mount Transient Voltage Suppressor Rectifiers

Reverse Voltage 5.8 ~ 509 V
600 Watt Peak Pulse Power

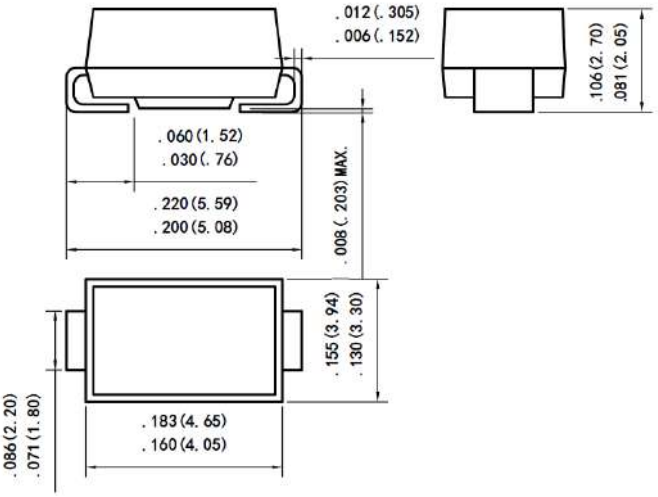
Features

- Glass passivated chip
- 600 W peak pulse power capability with a 10/1000 us waveform, repetitive rate (duty cycle):0.01 %
- Excellent clamping capability
- Low reverse leakage
- Very fast response time
- Lead and body according with RoHS standard

Mechanical Data

- Case: DO-214AA/(SMB) Molded plastic
- Lead: Solderable per MIL-STD-750, method 2026
- Epoxy: UL 94V-0 rate flame retardant
- System: Accreditation through IATF16949 System
- High reliability grade (AEC Q101 qualified)
- Mounting position: Any

DO-214AA/(SMB)



Unit: inch (mm)

Maximum Ratings & Characteristics Ratings at 25℃ ambient temperature unless otherwise specified.

Parameter	Symbols	Value	Unit
Peak power dissipation with a 10/1000 us waveform(1)	P_{PP}	600	W
Peak pulse current wih a 10/1000 us waveform(1)	I_{PP}	See Next Table	A
Power dissipation on infinite heatsink at TL = 75 °C	P_D	5.0	W
Peak forward surge current, 8.3 ms single half sinewave unidirectional only(2)	I_{FSM}	100	A
Maximum instantaneous forward voltage at 50 A for unidirectional only(3)	V_F	3.5/6.5	V
Operating junction and storage temperature range	T_J , T_{STG}	-55 to +150	℃

Note:

1)Non-repetitive current pulse per Fig.5 and derated above TA= 25 °C per Fig.1 ;

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

3)VF<3.5V for devices of VBR<200V and VF<6.5V for devices of VBR>201V。

Part Number		Device Marking Code		Reverse Stand-off Voltage	Breakdown Voltage V_{BR} @ I_T		Test Current	Max. Clamping Voltage @ I_{PP}	Max. Peak Pulse Current	Max. Reverse Leakage @ V_{RWM}
UNI-POLAR	BI-POLAR	UNI	BI	V_{RWM}(V)	Min.(V)	Max.(V)	I_T(mA)	$V_{C\ MAX.}$(V)	I_{PP}(A)	I_R(uA)
TP6SMB6.8A	TP6SMB6.8CA	6V8A	6V8C	5.8	6.45	7.14	10	10.5	58.10	1000
TP6SMB7.5A	TP6SMB7.5CA	7V5A	7V5C	6.4	7.13	7.88	10	11.3	54.00	500
TP6SMB8.2A	TP6SMB8.2CA	8V2A	8V2C	7.0	7.79	8.61	10	12.1	50.40	200
TP6SMB9.1A	TP6SMB9.1CA	9V1A	9V1C	7.8	8.65	9.55	1	13.4	45.50	50
TP6SMB10A	TP6SMB10CA	10A	10C	8.6	9.50	10.50	1	14.5	42.10	10
TP6SMB11A	TP6SMB11CA	11A	11C	9.4	10.50	11.60	1	15.6	39.10	5
TP6SMB12A	TP6SMB12CA	12A	12C	10.2	11.40	12.60	1	16.7	36.50	5
TP6SMB13A	TP6SMB13CA	13A	13C	11.1	12.40	13.70	1	18.2	33.50	1
TP6SMB15A	TP6SMB15CA	15A	15C	12.8	14.30	15.80	1	21.2	28.80	1
TP6SMB16A	TP6SMB16CA	16A	16C	13.6	15.20	16.80	1	22.5	27.10	1
TP6SMB18A	TP6SMB18CA	18A	18C	15.3	17.10	18.90	1	25.5	24.20	1
TP6SMB20A	TP6SMB20CA	20A	20C	17.1	19.00	21.00	1	27.7	22.00	1
TP6SMB22A	TP6SMB22CA	22A	22C	18.8	20.90	23.10	1	30.6	19.90	1
TP6SMB24A	TP6SMB24CA	24A	24C	20.5	22.80	25.20	1	33.2	18.40	1
TP6SMB27A	TP6SMB27CA	27A	27C	23.1	25.70	28.40	1	37.5	16.30	1
TP6SMB30A	TP6SMB30CA	30A	30C	25.6	28.50	31.50	1	41.4	14.70	1
TP6SMB33A	TP6SMB33CA	33A	33C	28.2	31.40	34.70	1	45.7	13.30	1
TP6SMB36A	TP6SMB36CA	36A	36C	30.8	34.20	37.80	1	49.9	12.20	1
TP6SMB39A	TP6SMB39CA	39A	39C	33.3	37.10	41.00	1	53.9	11.30	1
TP6SMB43A	TP6SMB43CA	43A	43C	36.8	40.90	45.20	1	59.3	10.30	1
TP6SMB47A	TP6SMB47CA	47A	47C	40.2	44.70	49.40	1	64.8	9.40	1
TP6SMB51A	TP6SMB51CA	51A	51C	43.6	48.50	53.60	1	70.1	8.70	1
TP6SMB56A	TP6SMB56CA	56A	56C	47.8	53.20	58.80	1	77.0	7.90	1
TP6SMB62A	TP6SMB62CA	62A	62C	53.0	58.90	65.10	1	85.0	7.20	1
TP6SMB68A	TP6SMB68CA	68A	68C	58.1	64.60	71.40	1	92.0	6.60	1
TP6SMB75A	TP6SMB75CA	75A	75C	64.1	71.30	78.80	1	103.0	5.90	1
TP6SMB82A	TP6SMB82CA	82A	82C	70.1	77.90	86.10	1	113.0	5.40	1
TP6SMB91A	TP6SMB91CA	91A	91C	77.8	86.50	95.50	1	125.0	4.90	1
TP6SMB100A	TP6SMB100CA	100A	100C	85.5	95.00	105.0	1	137.0	4.50	1
TP6SMB110A	TP6SMB110CA	110A	110C	94.0	105.0	116.0	1	152.0	4.00	1
TP6SMB120A	TP6SMB120CA	120A	120C	102.0	114.0	126.0	1	165.0	3.70	1
TP6SMB130A	TP6SMB130CA	130A	130C	111.0	124.0	137.0	1	179.0	3.40	1
TP6SMB150A	TP6SMB150CA	150A	150C	128.0	143.0	158.0	1	207.0	2.90	1
TP6SMB160A	TP6SMB160CA	160A	160C	136.0	152.0	168.0	1	219.0	2.80	1
TP6SMB170A	TP6SMB170CA	170A	170C	145.0	162.0	179.0	1	234.0	2.60	1
TP6SMB180A	TP6SMB180CA	180A	180C	154.0	171.0	189.0	1	246.0	2.50	1
TP6SMB200A	TP6SMB200CA	200A	200C	171.0	190.0	210.0	1	274.0	2.20	1
TP6SMB220A	TP6SMB220CA	220A	220C	185.0	209.0	231.0	1	328.0	1.90	1
TP6SMB250A	TP6SMB250CA	250A	250C	214.0	237.0	263.0	1	344.0	1.80	1
TP6SMB300A	TP6SMB300CA	300A	300C	256.0	285.0	315.0	1	414.0	1.50	1
TP6SMB350A	TP6SMB350CA	350A	350C	300.0	332.0	368.0	1	482.0	1.30	1
TP6SMB400A	TP6SMB400CA	400A	400C	342.0	380.0	420.0	1	548.0	1.10	1
TP6SMB440A	TP6SMB440CA	440A	440C	376.0	418.0	462.0	1	602.0	1.00	1
TP6SMB480A	TP6SMB480CA	480A	480C	408.0	456.0	504.0	1	658.0	0.90	1
TP6SMB510A	TP6SMB510CA	510A	510C	434.0	485.0	535.0	1	698.0	0.90	1
TP6SMB530A	TP6SMB530CA	530A	530C	450.0	503.0	556.0	1	725.0	0.80	1
TP6SMB540A	TP6SMB540CA	540A	540C	459.0	513.0	567.0	1	740.0	0.80	1
TP6SMB550A	TP6SMB550CA	550A	550C	467.0	522.5	577.5	1	760.0	0.80	1
TP6SMB600A	TP6SMB600CA	600A	600C	509.0	570.0	630.0	1	820.0	0.75	1

Ratings and Characteristics Curves (TA=25℃ unless otherwise noted)

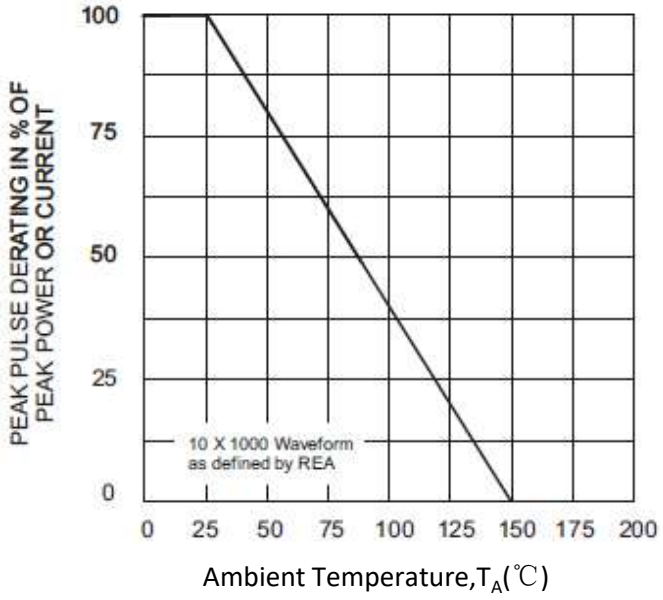


Fig. 1 - Pulse Derating Curve

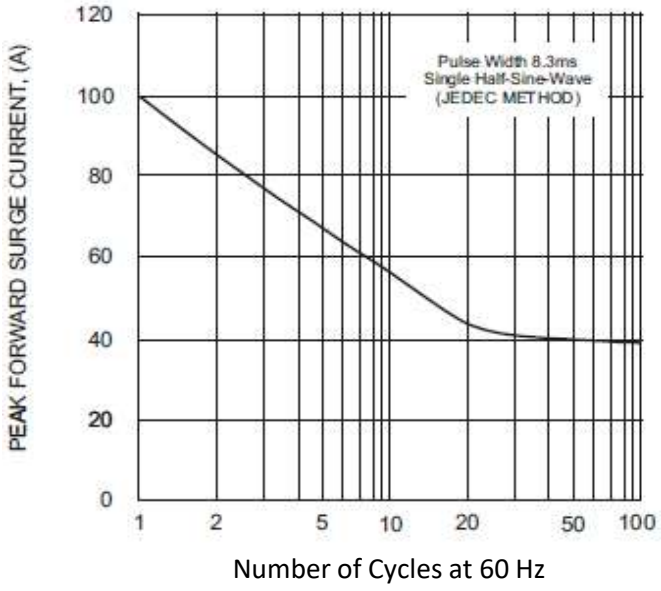


Fig. 2 - Maximum Non-Repetitive Surge Current

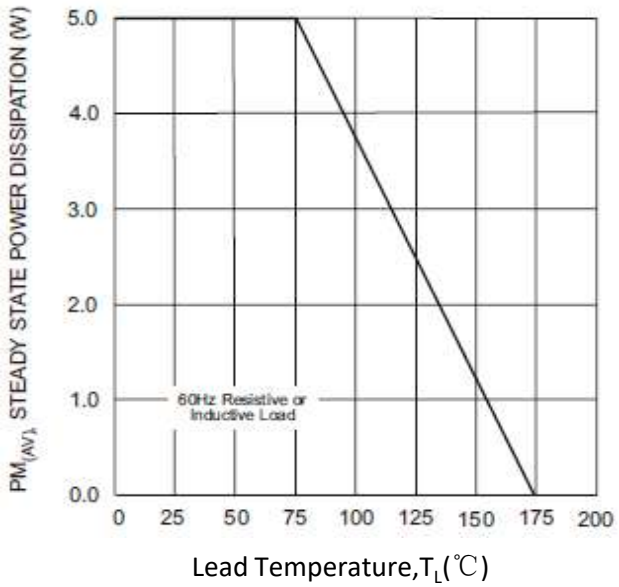


Fig. 3 - Steady State Power Derating Curve

Fig. 4 - Peak Pulse Power Rating Curve

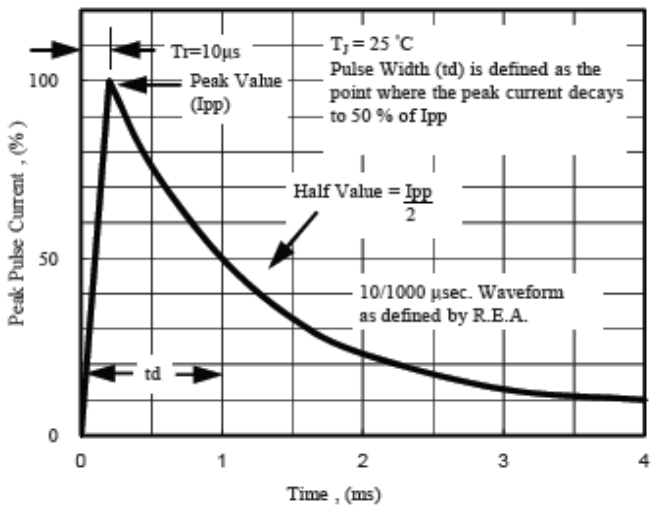


Fig. 5 - Pulse Waveform

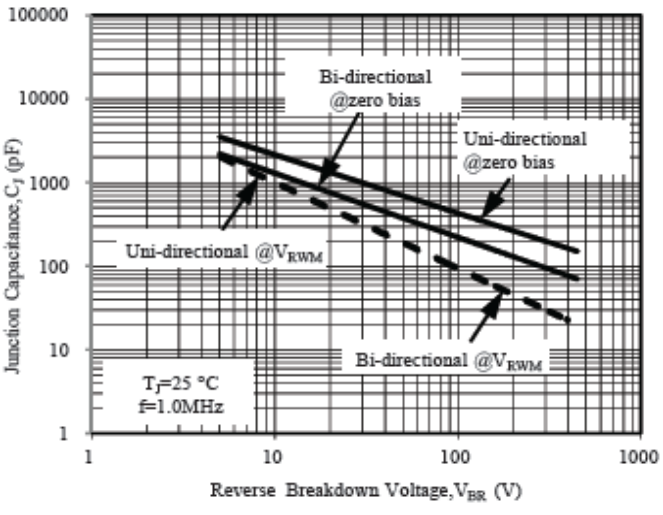


Fig. 6 - Typical Junction Capacitance