Surface Mount Transient Voltage Suppressor Rectifiers

Reverse Voltage 5.0 ~ 550 V

600 Watt Peak Pulse Power

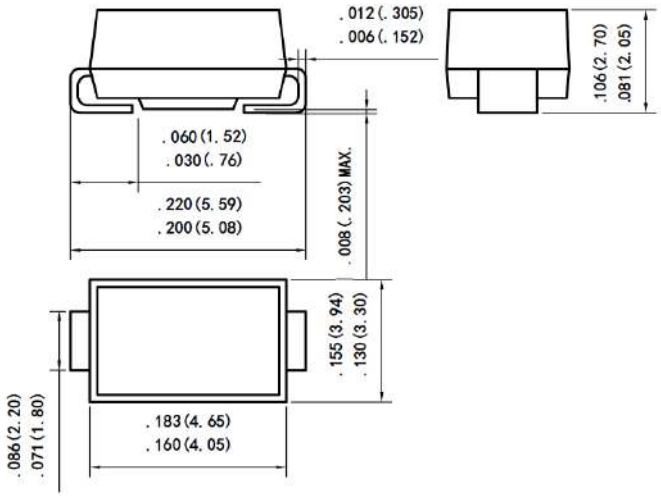
Features

- 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: DO214AA/(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

DO214AA/(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)
TSMBJ5.0A	TSMBJ5.0CA	KE	AE	5.0	6.40	7.00	10	9.2	65.3	800
TSMBJ6.0A	TSMBJ6.0CA	KG	AG	6.0	6.67	7.37	10	10.3	58.3	800
TSMBJ6.5A	TSMBJ6.5CA	KK	AK	6.5	7.22	7.98	10	11.2	53.6	500
TSMBJ7.0A	TSMBJ7.0CA	KM	AM	7.0	7.78	8.60	10	12.0	50.0	200
TSMBJ7.5A	TSMBJ7.5CA	KP	AP	7.5	8.33	9.21	1	12.9	46.6	100
TSMBJ8.0A	TSMBJ8.0CA	KR	AR	8.0	8.89	9.83	1	13.6	44.2	50
TSMBJ8.5A	TSMBJ8.5CA	KT	AT	8.5	9.44	10.40	1	14.4	41.7	20
TSMBJ9.0A	TSMBJ9.0CA	KV	AV	9.0	10.00	11.10	1	15.4	39.0	10
TSMBJ10A	TSMBJ10CA	KX	AX	10.0	11.10	12.30	1	17.0	35.3	5
TSMBJ11A	TSMBJ11CA	KZ	AZ	11.0	12.20	13.50	1	18.2	33.0	1
TSMBJ12A	TSMBJ12CA	LE	BE	12.0	13.30	14.70	1	19.9	30.2	1
TSMBJ13A	TSMBJ13CA	LG	BG	13.0	14.40	15.90	1	21.5	28.0	1
TSMBJ14A	TSMBJ14CA	LK	BK	14.0	15.60	17.20	1	23.2	25.9	1
TSMBJ15A	TSMBJ15CA	LM	BM	15.0	16.70	18.50	1	24.4	24.6	1
TSMBJ16A	TSMBJ16CA	LP	BP	16.0	17.80	19.70	1	26.0	23.1	1
TSMBJ17A	TSMBJ17CA	LR	BR	17.0	18.90	20.90	1	27.6	21.8	1
TSMBJ18A	TSMBJ18CA	LT	BT	18.0	20.00	22.10	1	29.2	20.6	1
TSMBJ20A	TSMBJ20CA	LV	BV	20.0	22.20	24.50	1	32.4	18.6	1
TSMBJ22A	TSMBJ22CA	LX	BX	22.0	24.40	26.90	1	35.5	16.9	1
TSMBJ24A	TSMBJ24CA	LZ	BZ	24.0	26.70	29.50	1	38.9	15.5	1
TSMBJ26A	TSMBJ26CA	ME	CE	26.0	28.90	31.90	1	42.1	14.3	1
TSMBJ28A	TSMBJ28CA	MG	CG	28.0	31.10	34.40	1	45.4	13.3	1
TSMBJ30A	TSMBJ30CA	MK	CK	30.0	33.50	36.80	1	48.4	12.4	1
TSMBJ33A	TSMBJ33CA	MM	CM	33.0	36.70	40.60	1	53.3	11.3	1
TSMBJ36A	TSMBJ36CA	MP	CP	36.0	40.00	44.20	1	58.1	10.4	1
TSMBJ40A	TSMBJ40CA	MR	CR	40.0	44.40	49.10	1	64.5	9.3	1
TSMBJ43A	TSMBJ43CA	MT	CT	43.0	47.80	52.80	1	69.4	8.7	1
TSMBJ45A	TSMBJ45CA	MV	CV	45.0	50.00	55.30	1	72.7	8.3	1
TSMBJ48A	TSMBJ48CA	MX	CX	48.0	53.30	58.90	1	77.4	7.8	1
TSMBJ51A	TSMBJ51CA	MZ	CZ	51.0	56.70	62.70	1	82.4	7.3	1
TSMBJ54A	TSMBJ54CA	NE	DE	54.0	60.00	66.30	1	87.1	6.9	1
TSMBJ58A	TSMBJ58CA	NG	DG	58.0	64.40	71.20	1	93.6	6.5	1
TSMBJ60A	TSMBJ60CA	NK	DK	60.0	66.70	73.70	1	96.8	6.2	1
TSMBJ64A	TSMBJ64CA	NM	DM	64.0	71.10	78.60	1	103.0	5.9	1
TSMBJ70A	TSMBJ70CA	NP	DP	70.0	77.80	86.00	1	113.0	5.3	1
TSMBJ75A	TSMBJ75CA	NR	DR	75.0	83.30	92.10	1	121.0	5.0	1
TSMBJ78A	TSMBJ78CA	NT	DT	78.0	86.70	95.80	1	126.0	4.8	1
TSMBJ85A	TSMBJ85CA	NV	DV	85.0	94.4	104.0	1	137.0	4.4	1
TSMBJ90A	TSMBJ90CA	NX	DX	90.0	100.0	111.0	1	146.0	4.1	1
TSMBJ100A	TSMBJ100CA	NZ	DZ	100.0	111.0	123.0	1	162.0	3.7	1
TSMBJ110A	TSMBJ110CA	PE	EE	110.0	122.0	135.0	1	177.0	3.4	1
TSMBJ120A	TSMBJ120CA	PG	EG	120.0	133.0	147.0	1	193.0	3.1	1
TSMBJ130A	TSMBJ130CA	PK	EK	130.0	144.0	159.0	1	209.0	2.9	1
TSMBJ150A	TSMBJ150CA	PM	EM	150.0	167.0	185.0	1	243.0	2.5	1
TSMBJ160A	TSMBJ160CA	PP	EP	160.0	178.0	197.0	1	259.0	2.3	1
TSMBJ170A	TSMBJ170CA	PR	ER	170.0	189.0	209.0	1	275.0	2.2	1
TSMBJ180A	TSMBJ180CA	PT	ET	180.0	201.0	222.0	1	292.0	2.1	1
TSMBJ190A	TSMBJ190CA	PA	EC	190.0	209.0	243.0	1	308.0	2.0	1
TSMBJ200A	TSMBJ200CA	PV	EV	200.0	224.0	247.0	1	324.0	1.9	1
TSMBJ210A	TSMBJ210CA	PB	ED	210.0	231.0	268.0	1	340.0	1.8	1
TSMBJ220A	TSMBJ220CA	PX	EX	220.0	246.0	272.0	1	356.0	1.7	1
TSMBJ250A	TSMBJ250CA	PZ	EZ	250.0	279.0	309.0	1	405.0	1.5	1
TSMBJ300A	TSMBJ300CA	QE	FE	300.0	335.0	371.0	1	486.0	1.3	1
TSMBJ350A	TSMBJ350CA	QG	FG	350.0	391.0	432.0	1	567.0	1.1	1
TSMBJ400A	TSMBJ400CA	QK	FK	400.0	447.0	494.0	1	648.0	0.9	1
TSMBJ440A	TSMBJ440CA	QM	FM	440.0	492.0	543.0	1	713.0	0.9	1
TSMBJ480A	TSMBJ480CA	QP	FP	480.0	536.0	593.0	1	750.0	0.8	1
TSMBJ500A	TSMBJ500CA	QV	FV	500.0	558.0	618.0	1	762.0	0.8	1
TSMBJ520A	TSMBJ520CA	QR	FR	520.0	578.0	640.0	1	762.0	0.8	1
TSMBJ550A	TSMBJ550CA	QT	FT	550.0	615.0	680.0	1	860.0	0.7	1

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

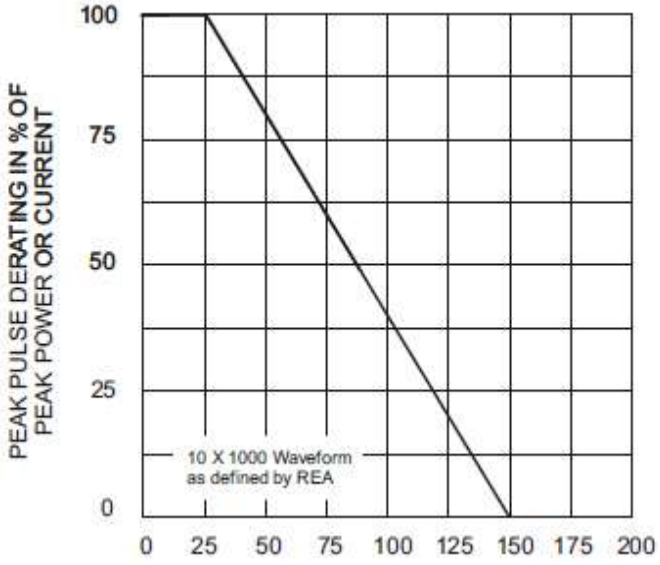


Fig. 1 - Pulse Derating Curve

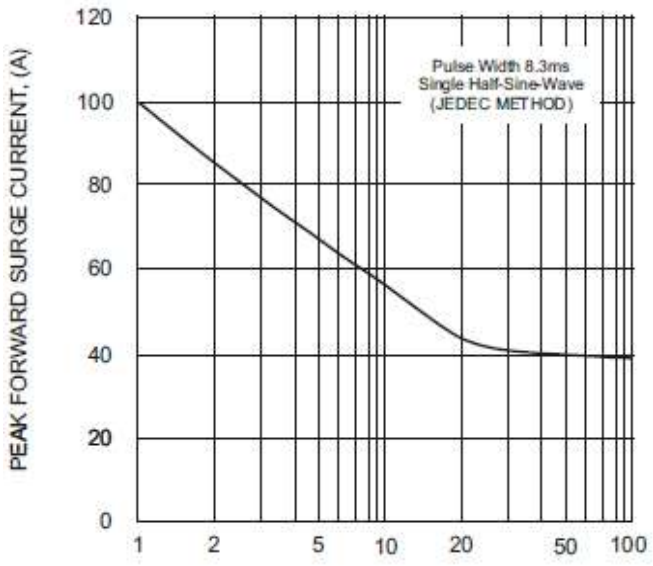


Fig. 2 - Maximum Non-Repetitive Surge Current

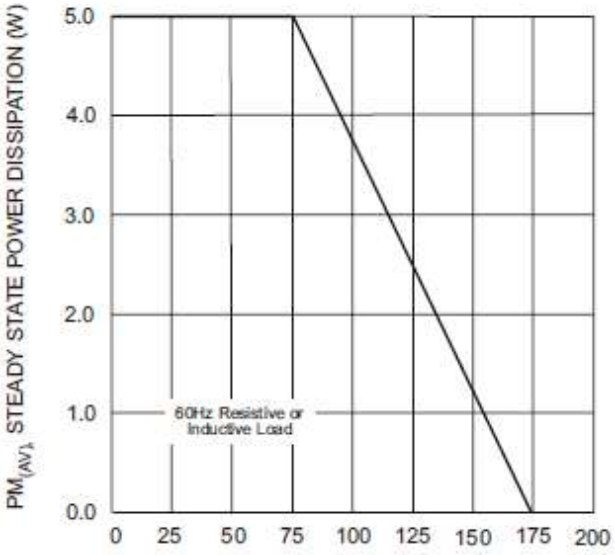


Fig. 3 - Steady State Power Derating Curve

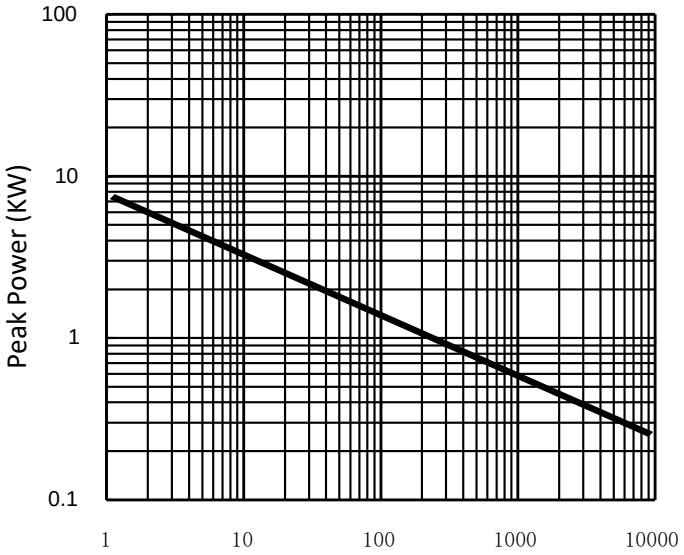


Fig. 4 - Peak Pulse Power Rating Curve

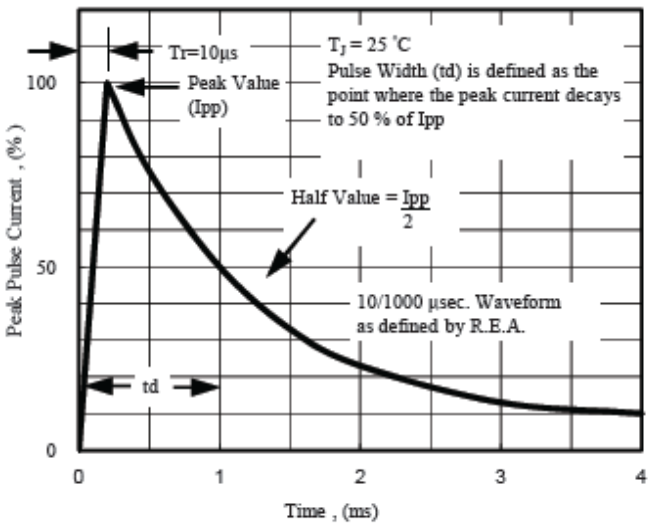


Fig. 5 - Pulse Waveform

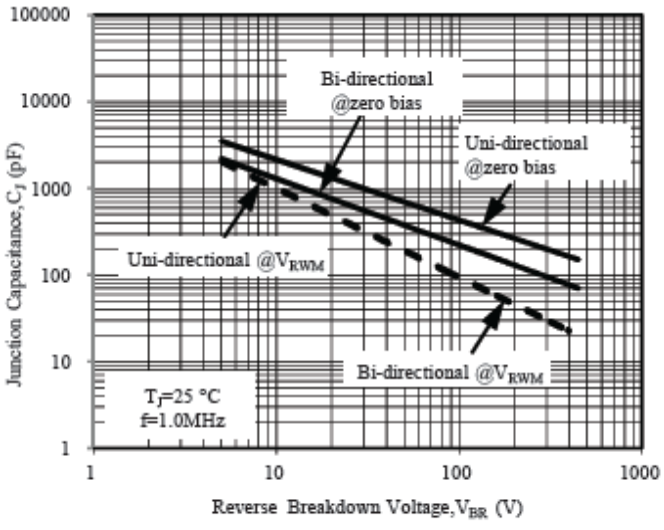


Fig. 6 - Typical Junction Capacitance