

**Surface Mount Transient Voltage Suppressor Rectifiers**

**Reverse Voltage 5.0- 200V**  
**2000 Watt Peak Pulse Power**

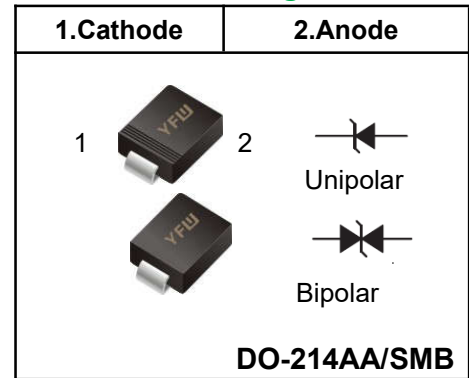
**FEATURES**

- ◆ Glass passivated chip
- ◆ 2000 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
- ◆ Polarity: Color band denotes cathode end except Bipolar
- ◆ Mounting position: Any

**Pinning**



**Limiting Values(TA = 25 °C, unless otherwise specified)**

Symbol	Parameter	Conditions	value	Unit
P <sub>PP</sub>	Peak power dissipation with a 10/1000 us waveform(1)	-	2000	W
I <sub>PP</sub>	Peak pulse current with a 10/1000 us waveform(1)	-	See Next Table	A
P <sub>D</sub>	Power dissipation on infinite heatsink	at TL = 75 °C	5.0	W
I <sub>FSM</sub>	Peak forward surge current, 8.3 ms single half sinewave unidirectional only(2)	-	100	A
V <sub>F</sub>	Maximum instantaneous forward voltage at 50 A for unidirectional only(3)	-	3.5/6.5	V
T <sub>J</sub> , T <sub>STG</sub>	Operating junction and storage temperature range	-	-55 to +150	°C

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)V<sub>F</sub><3.5V for devices of VBR<200V and V<sub>F</sub><6.5V for devices of VBR>201V。

## Electrical Characteristics

Part Number		Device Marking Code		Reverse Stand-off Voltage	Breakdown Voltage <small>V<sub>BR @T</sub></small>		Test Current	Max. Clamping Voltage @ I <sub>PP</sub>	Max. Peak Pulse Current	Max. Reverse Leakage @ V <sub>RWM</sub>
UNI-POLAR	BI-POLAR	UNI	BI	V <sub>RWM</sub> (V)	Min.(V)	Max.(V)	I <sub>T</sub> (mA)	V <sub>C MAX.</sub> (V)	I <sub>PP</sub> (A)	I <sub>R</sub> (uA)
2.0SMBJ5.0A	2.0SMBJ5.0CA	2KKE	2KAE	5.0	6.40	7.00	10	9.2	217.7	800
2.0SMBJ6.0A	2.0SMBJ6.0CA	2KKG	2KAG	6.0	6.67	7.37	10	10.3	194.3	800
2.0SMBJ6.5A	2.0SMBJ6.5CA	2KKK	2KAK	6.5	7.22	7.98	10	11.2	178.7	500
2.0SMBJ7.0A	2.0SMBJ7.0CA	2KKM	2KAM	7.0	7.78	8.60	10	12.0	166.7	200
2.0SMBJ7.5A	2.0SMBJ7.5CA	2KKP	2KAP	7.5	8.33	9.21	1	12.9	155.3	100
2.0SMBJ8.0A	2.0SMBJ8.0CA	2KKR	2KAR	8.0	8.89	9.83	1	13.6	147.3	50
2.0SMBJ8.5A	2.0SMBJ8.5CA	2KKT	2KAT	8.5	9.44	10.40	1	14.4	139.0	20
2.0SMBJ9.0A	2.0SMBJ9.0CA	2KKV	2KAV	9.0	10.00	11.10	1	15.4	130.0	10
2.0SMBJ10A	2.0SMBJ10CA	2KKX	2KAX	10.0	11.10	12.30	1	17.0	117.7	5
2.0SMBJ11A	2.0SMBJ11CA	2KKZ	2KAZ	11.0	12.20	13.50	1	18.2	110.0	1
2.0SMBJ12A	2.0SMBJ12CA	2KLE	2KBE	12.0	13.30	14.70	1	19.9	100.7	1
2.0SMBJ13A	2.0SMBJ13CA	2KLG	2KBG	13.0	14.40	15.90	1	21.5	93.3	1
2.0SMBJ14A	2.0SMBJ14CA	2KLG	2KBG	14.0	15.60	17.20	1	23.2	86.3	1
2.0SMBJ15A	2.0SMBJ15CA	2KLM	2KBM	15.0	16.70	18.50	1	24.4	82.0	1
2.0SMBJ16A	2.0SMBJ16CA	2KLP	2KBP	16.0	17.80	19.70	1	26.0	77.0	1
2.0SMBJ17A	2.0SMBJ17CA	2KLR	2KBR	17.0	18.90	20.90	1	27.6	72.7	1
2.0SMBJ18A	2.0SMBJ18CA	2KLT	2KBT	18.0	20.00	22.10	1	29.2	68.7	1
2.0SMBJ20A	2.0SMBJ20CA	2KLV	2KBV	20.0	22.20	24.50	1	32.4	62.0	1
2.0SMBJ22A	2.0SMBJ22CA	2KLX	2KBX	22.0	24.40	26.90	1	35.5	56.3	1
2.0SMBJ24A	2.0SMBJ24CA	2KLZ	2KBZ	24.0	26.70	29.50	1	38.9	51.7	1
2.0SMBJ26A	2.0SMBJ26CA	2KME	2KCE	26.0	28.90	31.90	1	42.1	47.7	1
2.0SMBJ28A	2.0SMBJ28CA	2KMG	2KCG	28.0	31.10	34.40	1	45.4	44.3	1
2.0SMBJ30A	2.0SMBJ30CA	2KMK	2KCK	30.0	33.50	36.80	1	48.4	41.3	1
2.0SMBJ33A	2.0SMBJ33CA	2KMM	2KCM	33.0	36.70	40.60	1	53.3	37.7	1
2.0SMBJ36A	2.0SMBJ36CA	2KMP	2KCP	36.0	40.00	44.20	1	58.1	34.7	1
2.0SMBJ40A	2.0SMBJ40CA	2KMR	2KCR	40.0	44.40	49.10	1	64.5	31.0	1
2.0SMBJ43A	2.0SMBJ43CA	2KMT	2KCT	43.0	47.80	52.80	1	69.4	29.0	1
2.0SMBJ45A	2.0SMBJ45CA	2KMV	2KCV	45.0	50.00	55.30	1	72.7	27.7	1
2.0SMBJ48A	2.0SMBJ48CA	2KMX	2KCX	48.0	53.30	58.90	1	77.4	26.0	1
2.0SMBJ51A	2.0SMBJ51CA	2KMZ	2KCZ	51.0	56.70	62.70	1	82.4	24.3	1
2.0SMBJ54A	2.0SMBJ54CA	2KNE	2KDE	54.0	60.00	66.30	1	87.1	23.0	1
2.0SMBJ58A	2.0SMBJ58CA	2KNG	2KDG	58.0	64.40	71.20	1	93.6	21.7	1
2.0SMBJ60A	2.0SMBJ60CA	2KNK	2KDK	60.0	66.70	73.70	1	96.8	20.7	1
2.0SMBJ64A	2.0SMBJ64CA	2KNM	2KDM	64.0	71.10	78.60	1	103.0	19.7	1
2.0SMBJ70A	2.0SMBJ70CA	2KNP	2KDP	70.0	77.80	86.00	1	113.0	17.7	1
2.0SMBJ75A	2.0SMBJ75CA	2KNR	2KDR	75.0	83.30	92.10	1	121.0	16.7	1
2.0SMBJ78A	2.0SMBJ78CA	2KNT	2KDT	78.0	86.70	95.80	1	126.0	16.0	1
2.0SMBJ85A	2.0SMBJ85CA	2KNV	2KDV	85.0	94.4	104.0	1	137.0	14.7	1
2.0SMBJ90A	2.0SMBJ90CA	2KNX	2KDX	90.0	100.0	111.0	1	146.0	13.7	1
2.0SMBJ100A	2.0SMBJ100CA	2KNZ	2KDZ	100.0	111.0	123.0	1	162.0	12.3	1
2.0SMBJ110A	2.0SMBJ110CA	2KPE	2KEE	110.0	122.0	135.0	1	177.0	11.3	1
2.0SMBJ120A	2.0SMBJ120CA	2KPG	2KEG	120.0	133.0	147.0	1	193.0	10.3	1
2.0SMBJ130A	2.0SMBJ130CA	2KPK	2KEK	130.0	144.0	159.0	1	209.0	9.7	1
2.0SMBJ150A	2.0SMBJ150CA	2KPM	2KEM	150.0	167.0	185.0	1	243.0	8.3	1
2.0SMBJ160A	2.0SMBJ160CA	2KPP	2KEP	160.0	178.0	197.0	1	259.0	7.7	1
2.0SMBJ170A	2.0SMBJ170CA	2KPR	2KER	170.0	189.0	209.0	1	275.0	7.3	1
2.0SMBJ180A	2.0SMBJ180CA	2KPT	2KET	180.0	201.0	222.0	1	292.0	7.0	1
2.0SMBJ190A	2.0SMBJ190CA	2KPA	2KEC	190.0	209.0	243.0	1	308.0	6.7	1
2.0SMBJ200A	2.0SMBJ200CA	2KPV	2KEV	200.0	224.0	247.0	1	324.0	6.3	1

Ratings and Characteristic Curves

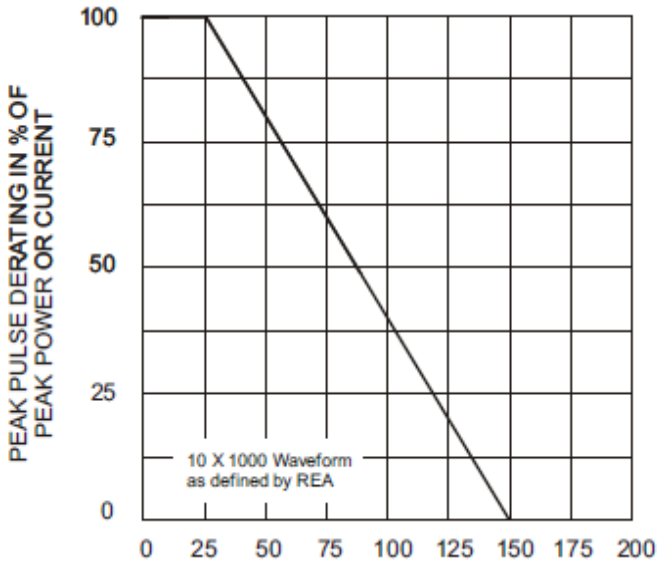


Fig. 1 - Pulse Derating Curve

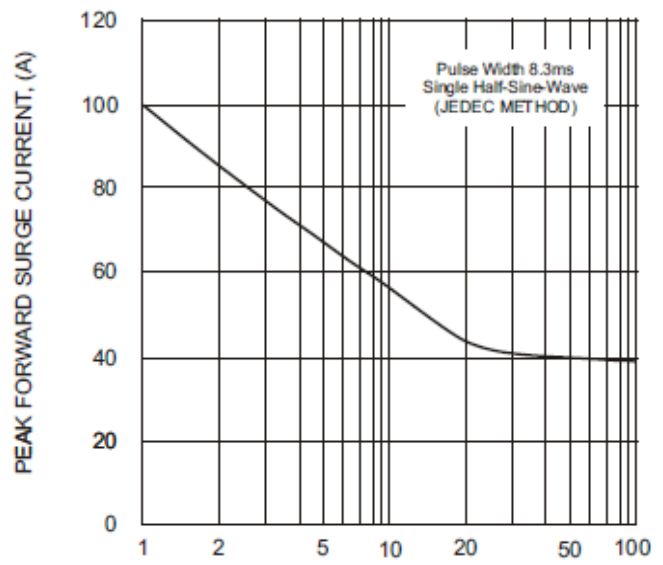


Fig. 2 - Maximum Non-Repetitive Surge Current

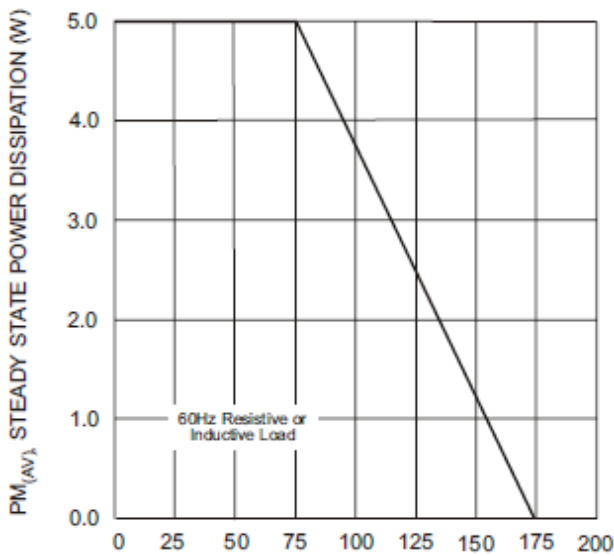


Fig. 3 - Steady State Power Derating Curve

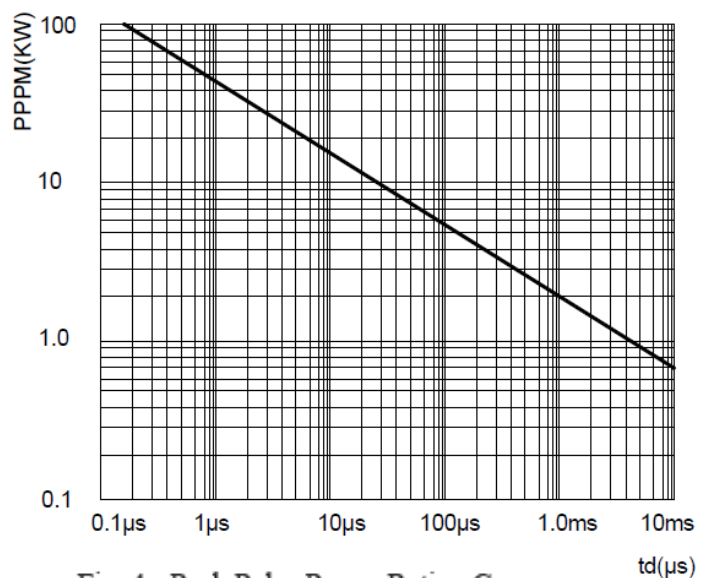


Fig. 4 - Peak Pulse Power Rating Curve

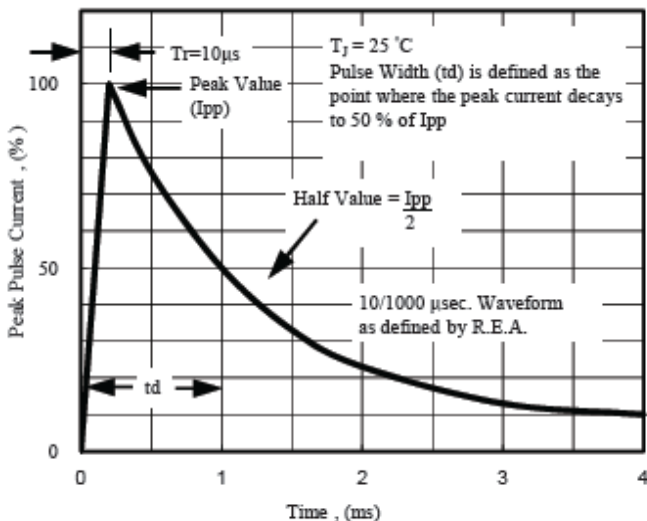


Fig. 5 - Pulse Waveform

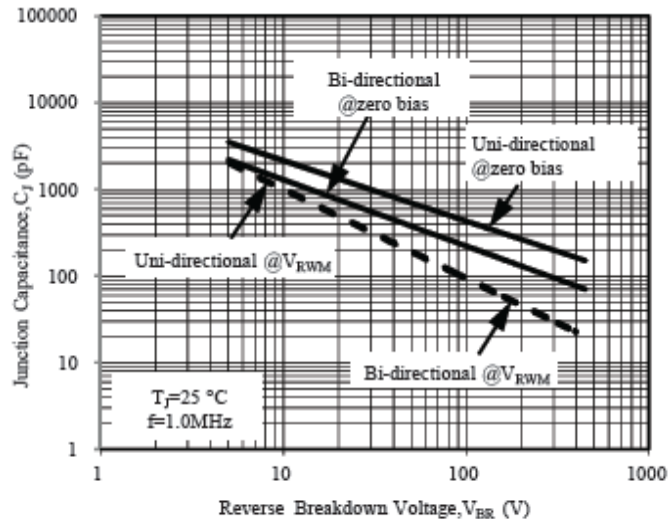
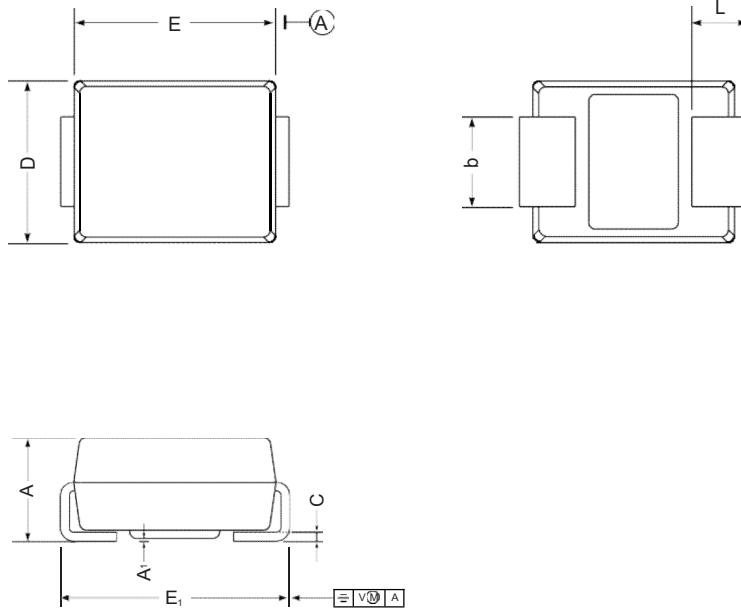


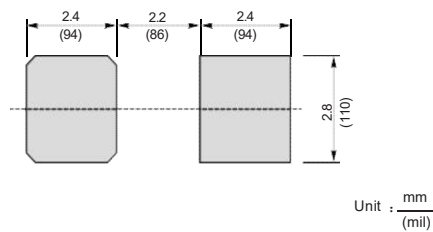
Fig. 6 - Typical Junction Capacitance

Plastic surface mounted package; 2 leads



UNIT		A	E	D	E <sub>1</sub>	A <sub>1</sub>	L	C	b
mm	max	2.44	4.70	3.94	5.59	0.20	1.5	0.305	2.2
	min	2.13	4.06	3.3	5.08	0.05	0.8	0.152	1.9
mil	max	96	185	155	220	7.9	59	12	87
	min	84	160	130	200	2.0	32	6	75

The recommended mounting pad size



Summary of Packing Options

Package	Packing Description	Packing Quantity	Industry Standard
DO-214AA SMB	Tape/Reel, 13" reel	3000	EIA-481-1