



*DC COMPONENTS CO., LTD.*

RECTIFIER SPECIALISTS

SMF5.0A  
THRU  
SMF200A

**TECHNICAL SPECIFICATIONS OF TRANSIENT VOLTAGE SUPPRESSOR**

**VOLTAGE RANGE - 5.0 to 220Volts      PEAK PULSE POWER - 200 Watts**

**FEATURES**

- \* Glass passivated junction
- \* 200 Watts Peak Pulse Power capability on 10/1000  $\mu$ s waveform
- \* Excellent clamping capability
- \* Low inductance
- \* Fast response time

**MECHANICAL DATA**

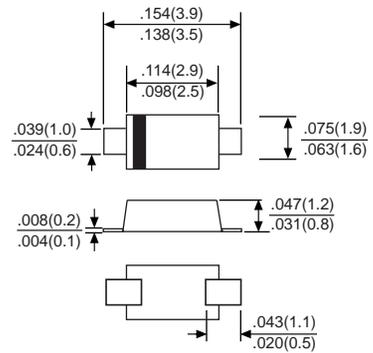
- \* Case: Molded plastic
- \* Epoxy: UL 94V-0 rate flame retardant
- \* Lead: MIL-STD-202E, Method 208 guaranteed
- \* Polarity: Color band denotes positive end (cathode) except bidirectional types
- \* Mounting position: Any
- \* Weight: 0.017 gram

**MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS**

Ratings at 25°C ambient temperature unless otherwise specified.  
Single phase, half wave, 60Hz, resistive or inductive load.  
For capacitive load, derate current by 20%.



SOD-123FL



Dimensions in inches and (millimeters)

**DEVICES FOR BIPOLAR APPLICATIONS**

For Bidirectional use C or CA suffix (e.g. SMF5.0C, SMF220CA).

Electrical characteristics apply in both directions

	SYMBOL	VALUE	UNITS
Peak Pulse Power Dissipation on 10/1000 $\mu$ s waveform (Note1, FIG.1)	PPPM	200	Watts
Steady State Power Dissipation at TA = 25°C Lead Lengths .375"(9.5mm) (Note 2)	P <sub>M(AV)</sub>	1.0	Watts
Peak Forward Surge Current, 8.3ms single half sine-wave superimposed on rated load(JEDEC Method) (Note 3)	I <sub>FSM</sub>	20	Amps
Operating and Storage Temperature Range	T <sub>J</sub> , T <sub>STG</sub>	-55 to + 150	°C

- NOTES : 1. Non-repetitive current pulse, per Fig.3 and derated above TA = 25°C per Fig. 2.  
2. Mounted on Copper Leaf area of 0.2 X 0.2" ( 5.0 X 5.0mm ) per Fig. 5  
3. 8.3ms single half sine-wave or equivalent square wave, duty cycle = 4 pulses per minute maximum.

# RATING AND CHARACTERISTIC CURVES (SMF5.0A THRU SMF220CA)

FIG. 1  
PEAK PULSE POWER RATING CURVE

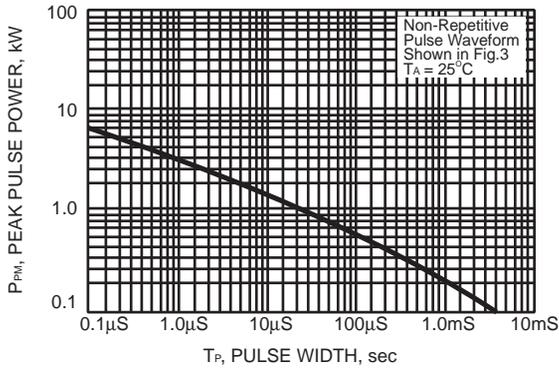


FIG. 2  
PULSE DERATING CURVE

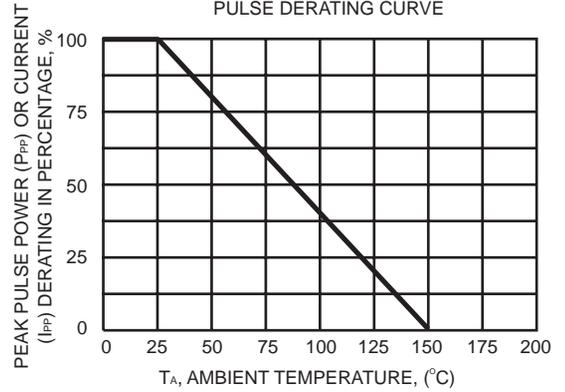


FIG. 3  
PULSE WAVEFORM

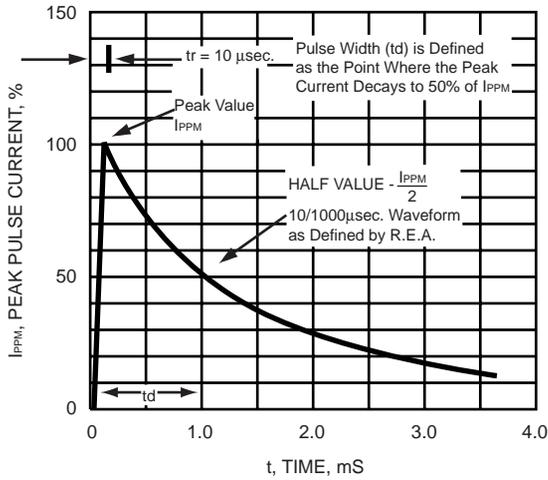


FIG. 4  
TYPICAL JUNCTION CAPACITANCE

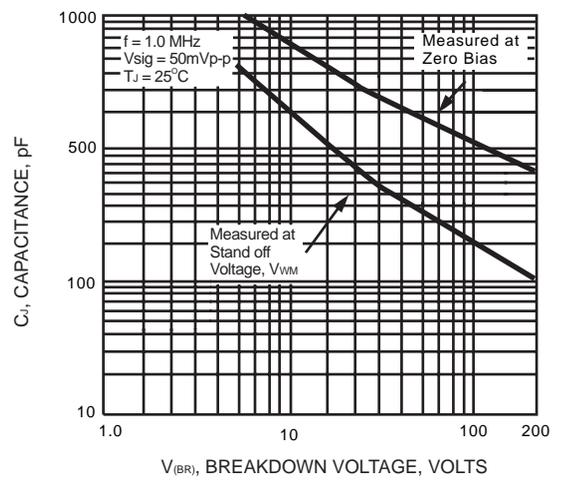
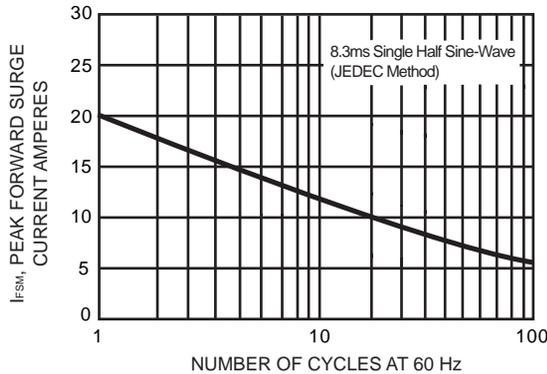


FIG. 5  
MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT UNIDIRECTIONAL



## SMF (200W) SERIES TRANSIENT VOLTAGE SUPPRESSORS

TYPE	Reverse Stand-off Voltage	Breakdown Voltage @ I <sub>T</sub>		Test Current	Maximum Reverse Leakage @ V <sub>RWM</sub>		Maximum Clamping Voltage @ I <sub>PP</sub>	Maximum Peak Pulse Current
	V <sub>RWM</sub> V	V <sub>BR</sub>		I <sub>T</sub> mA	I <sub>R</sub>		V <sub>c</sub> V	I <sub>PP</sub> A
		Min.	Max.		UNI-	BI-		
		V	V		μA	μA		
SMF5.0A	5.0	6.40	7.00	10	400	800	9.2	21.74
SMF6.0A	6.0	6.67	7.37	10	400	800	10.2	19.42
SMF6.5A	6.5	7.22	7.98	10	250	500	11.2	17.86
SMF7.0A	7.0	7.78	8.60	10	100	200	12.0	16.67
SMF7.5A	7.5	8.33	9.21	1	50	100	12.9	15.50
SMF8.0A	8.0	8.89	9.83	1	25	50	13.6	14.71
SMF8.5A	8.5	9.44	10.4	1	10	20	14.4	13.89
SMF9.0A	9.0	10.0	11.1	1	5	10	15.4	12.99
SMF10A	10	11.1	12.3	1	2.5		17.0	11.76
SMF11A	11	12.2	13.5	1	2.5		18.2	10.99
SMF12A	12	13.3	14.7	1	1		19.9	10.05
SMF13A	13	14.4	15.9	1	1		21.5	9.30
SMF14A	14	15.6	17.2	1	1		23.2	8.62
SMF15A	15	16.7	18.5	1	1		24.4	8.20
SMF16A	16	17.8	19.7	1	1		26.0	7.69
SMF17A	17	18.9	20.9	1	1		27.6	7.25
SMF18A	18	20.0	22.1	1	1		29.2	6.85
SMF19A	19	21.1	23.3	1	1		30.6	6.54
SMF20A	20	22.2	24.5	1	1		32.4	6.17
SMF22A	22	24.4	26.9	1	1		35.5	5.63
SMF24A	24	26.7	29.5	1	1		38.9	5.14
SMF26A	26	28.9	31.9	1	1		42.1	4.75
SMF28A	28	31.1	34.4	1	1		45.4	4.41
SMF30A	30	33.3	36.8	1	1		48.4	4.13
SMF33A	33	36.7	40.6	1	1		53.3	3.75
SMF36A	36	40.0	44.2	1	1		58.1	3.44
SMF40A	40	44.4	49.1	1	1		64.5	3.10
SMF43A	43	47.8	52.8	1	1		69.4	2.88
SMF45A	45	50.0	55.3	1	1		72.7	2.75
SMF48A	48	53.3	58.9	1	1		77.4	2.58
SMF51A	51	56.7	62.7	1	1		82.4	2.43
SMF54A	54	60.0	66.3	1	1		87.1	2.30
SMF58A	58	64.4	71.2	1	1		93.6	2.14
SMF60A	60	66.7	73.7	1	1		96.8	2.07
SMF64A	64	71.1	78.6	1	1		103	1.94
SMF70A	70	77.8	86.0	1	1		113	1.77
SMF75A	75	83.3	92.1	1	1		121	1.65
SMF78A	78	86.7	95.8	1	1		126	1.59
SMF80A	80	88.8	97.6	1	1		129	1.55
SMF85A	85	94.4	104	1	1		137	1.46
SMF90A	90	100	111	1	1		146	1.37
SMF100A	100	111	123	1	1		162	1.23
SMF110A	110	122	135	1	1		177	1.13
SMF120A	120	133	147	1	1		193	1.04
SMF130A	130	144	159	1	1		209	0.96
SMF140A	140	155	171	1	1		224	0.89
SMF150A	150	167	185	1	1		243	0.82
SMF160A	160	178	197	1	1		259	0.77
SMF170A	170	189	209	1	1		275	0.73
SMF180A	180	200	220	1	1		292	0.68
SMF190A	190	211	232	1	1		308	0.65
SMF200A	200	224	247	1	1		324	0.62
SMF220A	220	246	272	1	1		356	0.56

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