SM8S SERIES

SURFACE MOUNT TRANSIENT VOLTAGE SUPPRESSOR

Stand-off Voltage: 10 to 43 Volts
Peak Pulse Power: 6600W(10/1000μs)
: 5200W(10/10,000μs)

FEATURES :

* Excellent clamping capability
* Low incremental surge resistance
* Fast response time : typically less then 1.0 ps from 0 volt to $V_{BR(min.)}$
* Dual Diode construction
* Pb / RoHS Free

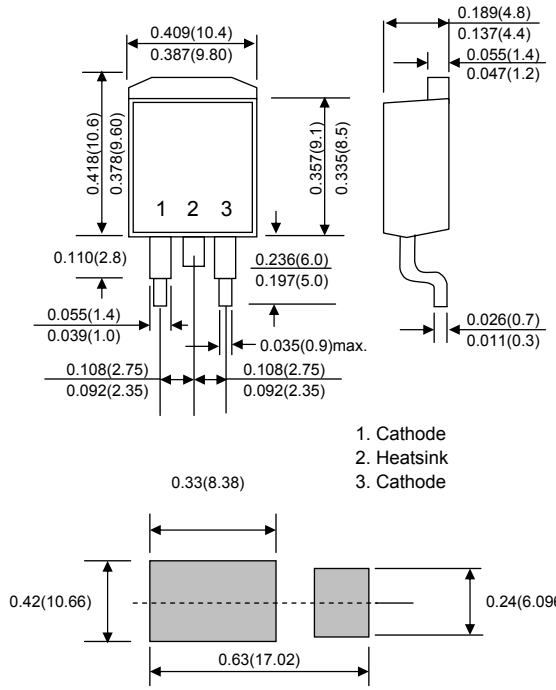
MECHANICAL DATA

* Case : D^2PAK(TO-263)
* Epoxy : UL94V-O rate flame retardant
* Lead : Surface Mount per J-STD-020C, Method 208 guaranteed
* Polarity : Heatsink is Anode
* Mounting position : Any
* Weight : 1.7 grams (approximately)

DEVICES FOR BIPOLAR APPLICATIONS

For Bi-directional use C or CA Suffix
Electrical characteristics apply in both directions

D^2PAK



Dimensions in inches and (millimeters)

Maximum Ratings and Thermal Characteristics (T_C = 25°C unless otherwise noted)

Rating	Symbol	Value	Unit
Peak Pulse Power Dissipation with 10/1000μs waveform 10/10,000μs waveform	P_{PPM}	6600 5200	W
Steady State Power Dissipation	P_D	8.0	W
Peak Forward Surge Current, 8.3ms Single Half Sine-Wave	I_{FSM}	700	A
Typical Thermal Resistance Junction to Case	$R_{\theta JC}$	0.9	°C/W
Operating and Storage Temperature Range	T_J, T_{STG}	- 55 to + 175	°C

ELECTRICAL CHARACTERISTICS (Ta = 25°C)

TYPE	Breakdown Voltage @ I_T			Reverse Stand off Voltage	Maximum Reverse Leakage @ V_{RWM}	Maximum Reverse Leakage @ V_{RM}	Maximum Peak Pulse Current at 10/1000μs	Maximum Clamping Voltage @ I_{PPM}
	V_{BR} (V)		I_T	V_{RWM}	I_D	I_D (T_C=175°C)	I_{PPM}	V_C
	Min.	Max.	(mA)	(V)	(μA)	(μA)	(A)	(V)
SM8S10	11.1	13.6	5.0	10	15	250	351	18.8
SM8S10A	11.1	12.3	5.0	10	15	250	388	17.0
SM8S11	12.2	14.9	5.0	11	10	150	328	20.1
SM8S11A	12.2	13.5	5.0	11	10	150	363	18.2
SM8S12	13.3	16.3	5.0	12	10	150	300	22.0
SM8S12A	13.3	14.7	5.0	12	10	150	332	19.9
SM8S13	14.4	17.6	5.0	13	10	150	277	23.8
SM8S13A	14.4	15.9	5.0	13	10	150	307	21.5
SM8S14	15.6	19.1	5.0	14	10	150	256	25.8
SM8S14A	15.6	17.2	5.0	14	10	150	284	23.2
SM8S15	16.7	20.4	5.0	15	10	150	245	26.9
SM8S15A	16.7	18.5	5.0	15	10	150	270	24.4
SM8S16	17.8	21.8	5.0	16	10	150	229	28.8
SM8S16A	17.8	19.7	5.0	16	10	150	254	26.0
SM8S17	18.9	23.1	5.0	17	10	150	216	30.5
SM8S17A	18.9	20.9	5.0	17	10	150	239	27.6
SM8S18	20.0	24.4	5.0	18	10	150	205	32.2
SM8S18A	20.0	22.1	5.0	18	10	150	226	29.2
SM8S20	22.2	27.1	5.0	20	10	150	184	35.8
SM8S20A	22.2	24.5	5.0	20	10	150	204	32.4
SM8S22	24.4	29.8	5.0	22	10	150	168	39.4
SM8S22A	24.4	26.9	5.0	22	10	150	168	35.5
SM8S24	26.7	32.6	5.0	24	10	150	153	43.0
SM8S24A	26.7	29.5	5.0	24	10	150	170	38.9
SM8S26	28.9	35.3	5.0	26	10	150	142	46.6
SM8S26A	28.9	31.9	5.0	26	10	150	157	42.1
SM8S28	31.1	38.0	5.0	28	10	150	132	50.1
SM8S28A	31.1	34.4	5.0	28	10	150	145	45.4
SM8S30	33.3	40.7	5.0	30	10	150	123	53.5
SM8S30A	33.3	36.8	5.0	30	10	150	136	48.4
SM8S33	36.7	44.9	5.0	33	10	150	112	59.0
SM8S33A	36.7	40.6	5.0	33	10	150	124	53.3
SM8S36	40.0	48.9	5.0	36	10	150	103	64.3
SM8S36A	40.0	44.2	5.0	36	10	150	114	58.1
SM8S40	44.4	54.3	5.0	40	10	150	92	71.4
SM8S40A	44.4	49.1	5.0	40	10	150	102	64.5
SM8S43	47.8	58.4	5.0	43	10	150	86	76.7
SM8S43A	47.8	52.8	5.0	43	10	150	95	69.4

Notes:

(1) For all types maximum V_F = 1.8V at I_F = 100A measured on 8.3ms single half sine-wave or equivalent square wave, duty cycle = 4 pulses per minute maximum

(2) " SM S " will be omitted in marking on the diode.

RATING AND CHARACTERISTIC CURVES (SM8S SERIES)

FIG. 1 - POWER DERATING CURVE

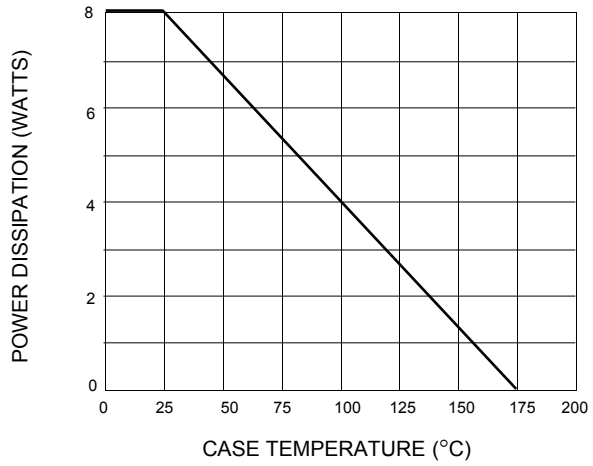


FIG. 2 - LOAD DUMP POWER CHARACTERISTICS (10ms EXPONENTIAL WAVEFORM)

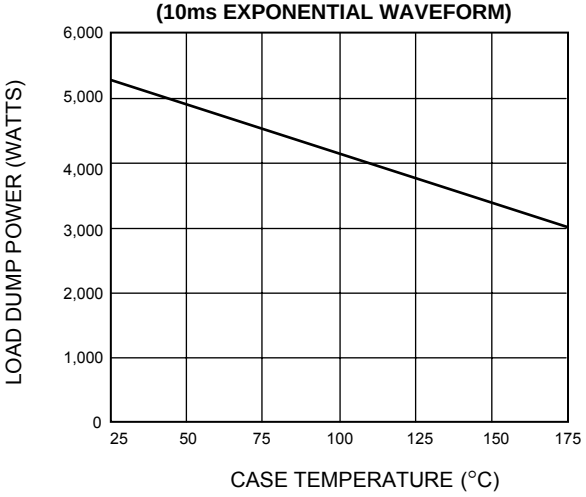


FIG. 3 - PULSE WAVEFORM

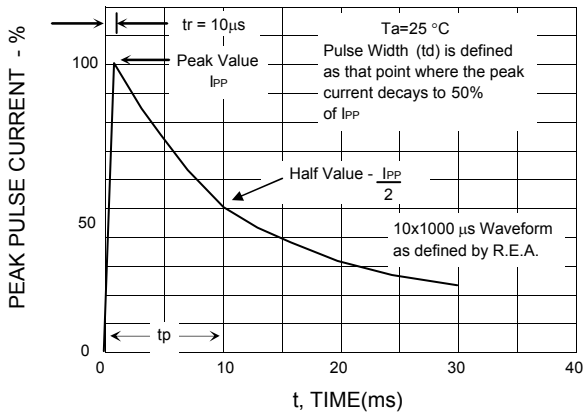


FIG. 4 - REVERSE POWER CAPABILITY

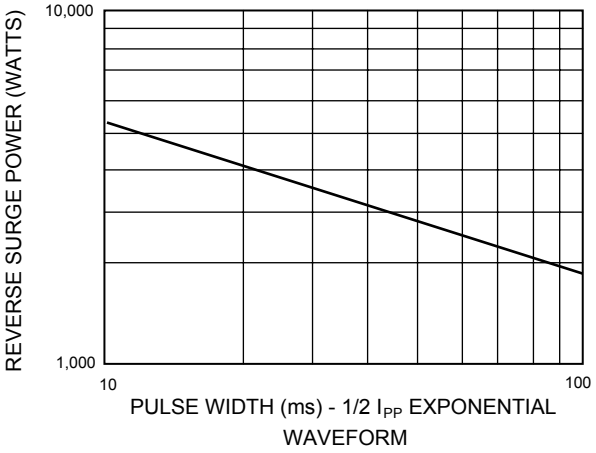


FIG. 5 - TYPICAL TRANSIENT THERMAL IMPEDANCE