



Lightning Surge Protection
Surface Mount Transient Voltage Suppressors
Reverse Stand-Off Voltage : 10 to 43 V
Peak Pulse Power: 3600 W
SM5Z Series

1. Features

- Optimized glass passivated chip
- $T_J = 175\text{ }^\circ\text{C}$ capability suitable for high reliability and automotive requirement
- 3600 W peak pulse power capability with a 10/1000 μs waveform, repetitive rate (duty cycle):0.01 %
- Meet ISO 7637-2 5a/5b and ISO 16750 load dump test (varied by test condition)
- AEC-Q101 qualified
- Low leakage current
- Low forward voltage drop
- Excellent clamping capability
- Very fast response time
- RoHS compliant

2. Mechanical Data

- Case: DO-218AB
- Molding compound: UL94V-0 flammability
- Polarity: Heatsink is anode

3. Maximum Ratings and Thermal Characteristics(25°C)

Parameter	Symbol	Value	Units
Peak power dissipation with a 10/1000 μs waveform ⁽¹⁾	P_{PP}	3600	W
Peak power dissipation with a 10/10,000 μs waveform ⁽¹⁾	P_{PP}	2800	W
Peak pulse current with a 10/1000 μs waveform ⁽¹⁾	I_{PP}	See Next Table	A
Power dissipation on infinite heatsink at $T_L = 75\text{ }^\circ\text{C}$	P_D	5.0	W
Peak forward surge current, 8.3 ms single half sine-wave	I_{FSM}	500	A
Operating junction and Storage Temperature Range	T_J, T_{STG}	-55 to + 175	$^\circ\text{C}$

Note:

(1) Non-repetitive current pulse per Fig.2 and derated above $T_A = 25\text{ }^\circ\text{C}$ per Fig.1

 FUZETEC TECHNOLOGY CO., LTD.	NO.	SM5Z Series		
	Product Specification and Approval Sheet	Version	P1	Page

4. Electrical Characteristics (TA=25°C unless otherwise noted)

Part Number (Uni)	Breakdown Voltage V _{BR} @I _T			Maximum Reverse Leakage I _R @V _{RWM} (uA)	Maximum I _R @V _{RWM} T _J =175 (uA)	Working Peak Reverse Voltage V _{RWM} (V)	Maximum Reverse Surge Current I _{PP} (A) ⁽¹⁾	Maximum Clamping Voltage V _C @I _{PP} (V)
	Min (V)	Max (V)	IT (mA)					
SM5Z10A	11.1	12.3	5.0	15	250	10	212	17.0
SM5Z11A	12.2	13.5	5.0	10	150	11	198	18.2
SM5Z12A	13.3	14.7	5.0	10	150	12	181	19.9
SM5Z13A	14.4	15.9	5.0	10	150	13	167	21.5
SM5Z14A	15.6	17.2	5.0	10	150	14	155	23.2
SM5Z15A	16.7	18.5	5.0	10	150	15	148	24.4
SM5Z16A	17.8	19.7	5.0	10	150	16	138	26.0
SM5Z17A	18.9	20.9	5.0	10	150	17	130	27.6
SM5Z18A	20.0	22.1	5.0	10	150	18	123	29.2
SM5Z20A	22.2	24.5	5.0	10	150	20	111	32.4
SM5Z22A	24.4	26.9	5.0	10	150	22	101	35.5
SM5Z24A	26.7	29.5	5.0	10	150	24	93	38.9
SM5Z26A	28.9	31.9	5.0	10	150	26	86	42.1
SM5Z28A	31.1	34.4	5.0	10	150	28	79	45.4
SM5Z30A	33.3	36.8	5.0	10	150	30	74	48.4
SM5Z33A	36.7	40.6	5.0	10	150	33	68	53.3
SM5Z36A	40.0	44.2	5.0	10	150	36	62	58.1
SM5Z40A	44.4	49.1	5.0	10	150	40	56	64.5
SM5Z43A	47.8	52.8	5.0	10	150	43	52	69.4

Note:

1. Surge current waveform is defined at 10/1000uS waveform
2. For all types maximum VF = 2.0 V at IF = 100 A measured on 8.3 ms single half sine-wave or equivalent square wave, duty cycle = 4 pulses per minute maximum



5. Ratings and Characteristic Curves (TA=25°C unless otherwise noted)

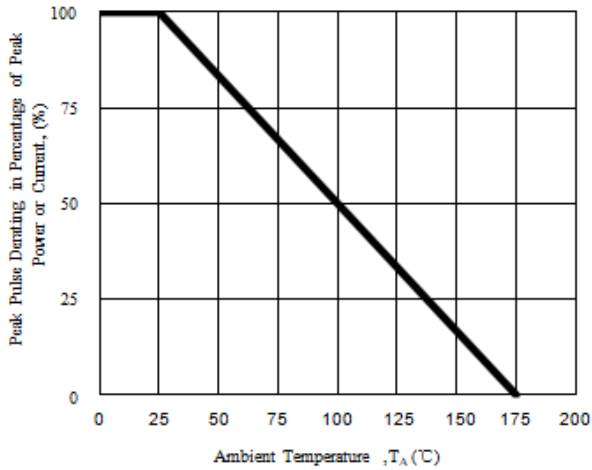


Fig. 1 - Pulse Derating Curve

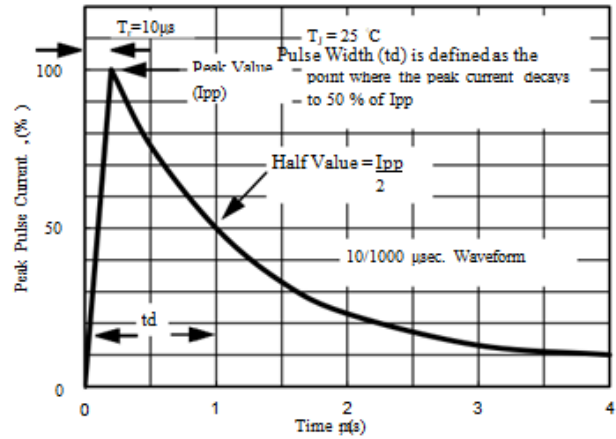


Fig. 2 - Pulse Waveform

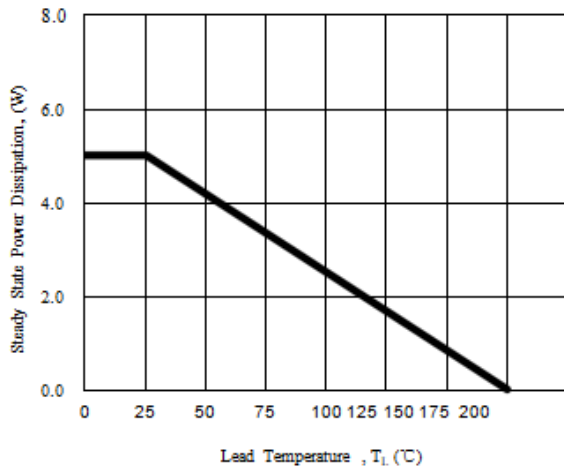


Fig. 3 - Steady State Power Derating Curve

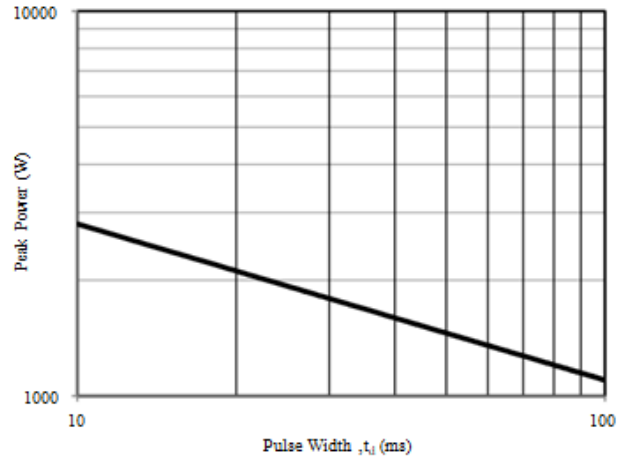
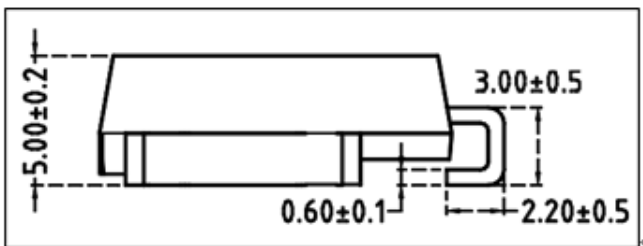
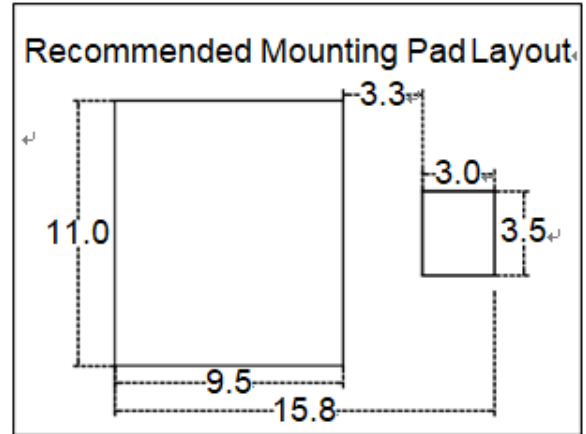
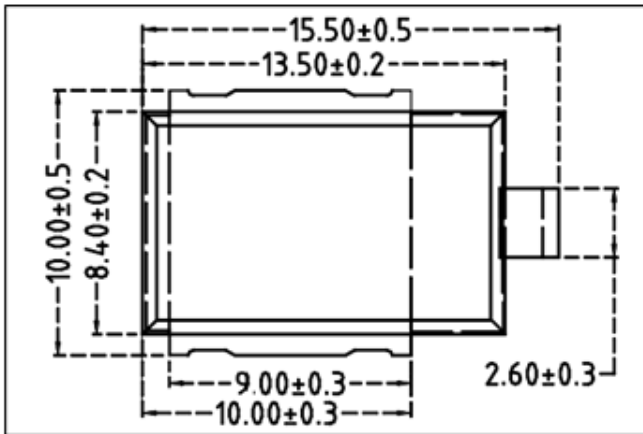


Fig. 4 - Peak Pulse Power Rating Curve



6. Package Outline Dimensions (millimeters)



Preliminary