WON-TOP ELECTRONICS

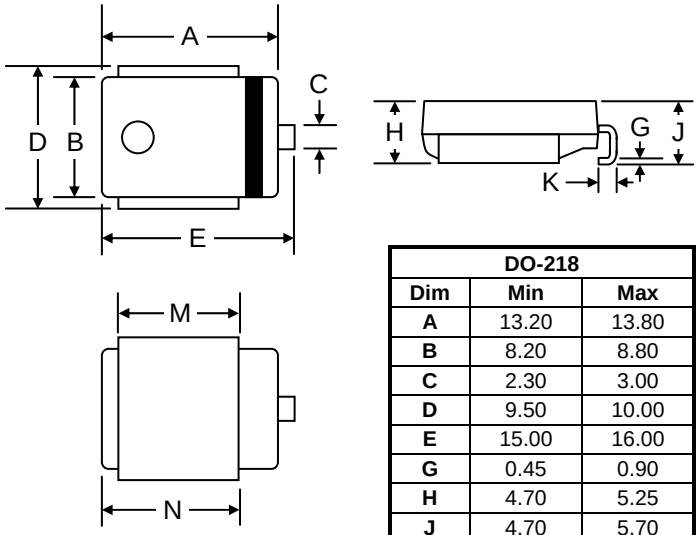
SM5S10A – SM5S36A

3600W AUTOMOTIVE SURFACE MOUNT TRANSIENT VOLTAGE SUPPRESSOR

RoHS Pb

Features

- ***AEC-Q101 Qualified***
- ***Ideally Suited for Load Dump Protection***
- Glass Passivated Die Construction
- Low Leakage Current
- Low Forward Voltage Drop
- High Surge Capability
- Meets ISO7637-2 and ISO16750-2 Surge Specification
- Plastic Material – UL Flammability 94V-0



DO-218		
Dim	**Min**	**Max**
A	13.20	13.80
B	8.20	8.80
C	2.30	3.00
D	9.50	10.00
E	15.00	16.00
G	0.45	0.90
H	4.70	5.25
J	4.70	5.70
K	1.50	2.50
M	8.70	9.30
N	9.70	10.30
All Dimensions in mm		

Mechanical Data

- Case: DO-218, Molded Plastic
- Terminals: Plated Leads Solderable per MIL-STD-202, Method 208
- Polarity: Anode to Heatsink
- Weight: 2.73 grams (approx.)
- Marking: Device Code
- **Lead Free: For RoHS / Lead Free Version, Add "-LF" Suffix to Part Number, See Page 5**

Maximum Ratings @T_A=25°C unless otherwise specified

Characteristic		Symbol	Value	Unit
Peak Pulse Power Dissipation (Note 1)	on 10/1000µS Waveform	P_{PPM}	3600	W
	on 10/10000µS Waveform		2800	
Peak Pulse Current (Note 1)		I_{PPM}	See Table 1	A
Peak Forward Surge Current (Note 2)		I_{FSM}	500	A
Maximum Instantaneous Forward Voltage at I_F = 100A (Note 3)		V_F	1.8	V
Power Dissipation on Infinite Heatsink at T_C = 25°C		P_D	5.0	W
Typical Thermal Resistance, Junction to Case		$R_{\theta JC}$	1.1	°C/W
Operating and Storage Temperature Range		T_J, T_{STG}	-55 to +175	°C

Note: 1. Pulse waveform definition per Figure 5 and derated above T_C = 25°C per Figure 1.
2. Measured on 8.3ms single half sine-wave, duty cycle = 4 pulses per minute maximum.
3. Measured on a 300µS square pulse width.

WON-TOP ELECTRONICS

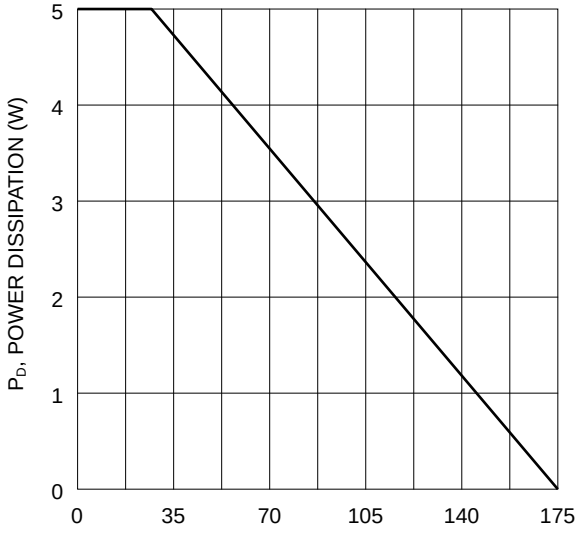


Fig. 1 Steady State Power Derating Curve

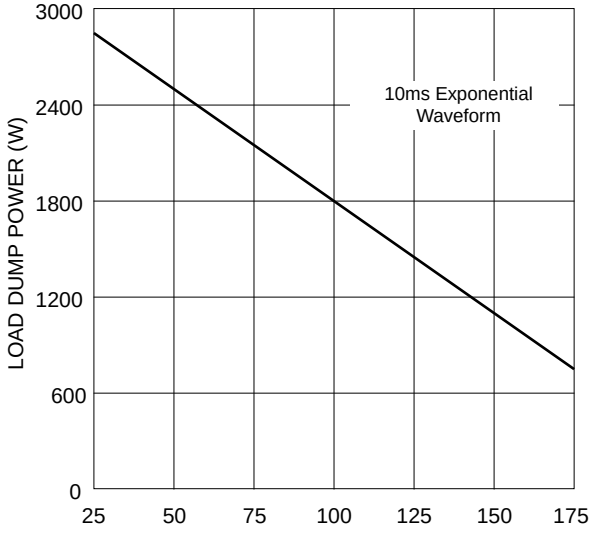


Fig. 2 Load Dump Power Characteristics

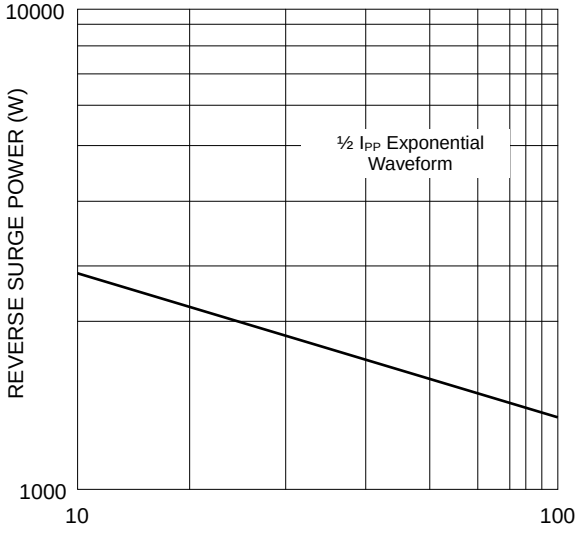


Fig. 3 Reverse Power Capability

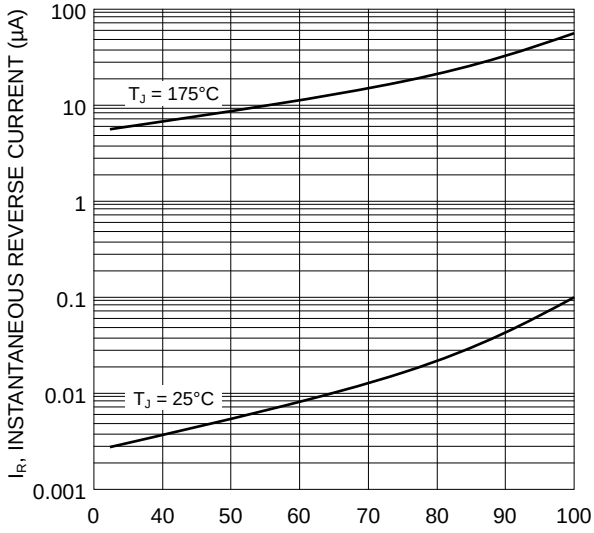


Fig. 4 Typical Reverse Characteristics

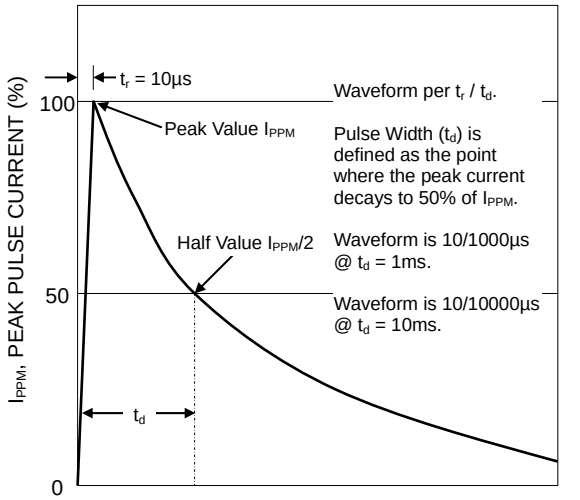


Fig. 5 Pulse Waveform Definition

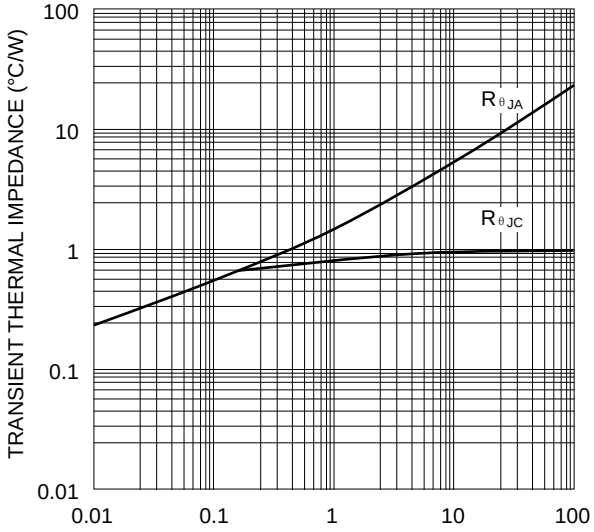


Fig. 6 Typical Transient Thermal Impedance

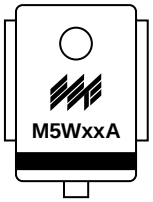
Electrical Characteristics (@T_A=25°C unless otherwise specified) Table 1

Part Number	Device Marking Code	Breakdown Voltage V_{BR} (V) @ I_T		Test Current I_T (mA)	Reverse Stand-Off Voltage V_{WM} (V)	Max. Reverse Leakage @ V_{WM} T_J = 25°C I_R (μA)	Max. Reverse Leakage @ V_{WM} T_J = 175°C I_R (μA)	Peak Pulse Current (1) I_{PPM} (A)	Max. Clamping Voltage @ I_{PPM} V_C (V)
		Min.	Max.						
SM5S10A	M5W10A	11.1	12.3	5.0	10	15	250	211	17.0
SM5S11A	M5W11A	12.2	13.5	5.0	11	10	150	198	18.2
SM5S12A	M5W12A	13.3	14.7	5.0	12	10	150	181	19.9
SM5S13A	M5W13A	14.4	15.9	5.0	13	10	150	167	21.5
SM5S14A	M5W14A	15.6	17.2	5.0	14	10	150	155	23.2
SM5S15A	M5W15A	16.7	18.5	5.0	15	10	150	148	24.4
SM5S16A	M5W16A	17.8	19.7	5.0	16	10	150	138	26.0
SM5S17A	M5W17A	18.9	20.9	5.0	17	10	150	130	27.6
SM5S18A	M5W18A	20.0	22.1	5.0	18	10	150	123	29.2
SM5S20A	M5W20A	22.2	24.5	5.0	20	10	150	111	32.4
SM5S22A	M5W22A	24.4	26.9	5.0	22	10	150	101	35.5
SM5S24A	M5W24A	26.7	29.5	5.0	24	10	150	93	38.9
SM5S26A	M5W26A	28.9	31.9	5.0	26	10	150	86	42.1
SM5S28A	M5W28A	31.1	34.4	5.0	28	10	150	79	45.4
SM5S30A	M5W30A	33.3	36.8	5.0	30	10	150	74	48.4
SM5S33A	M5W33A	36.7	40.6	5.0	33	10	150	68	53.3
SM5S36A	M5W36A	40.0	44.2	5.0	36	10	150	62	58.1

Note: 1. Measured at 10/1000μS surge pulse waveform.

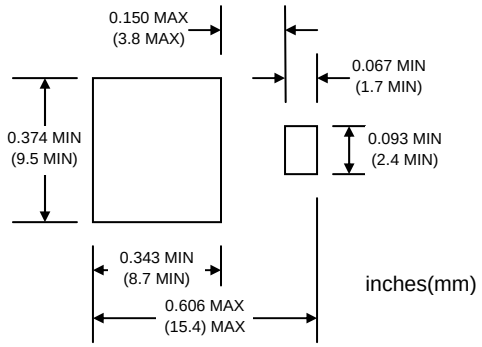
WON-TOP ELECTRONICS

MARKING INFORMATION



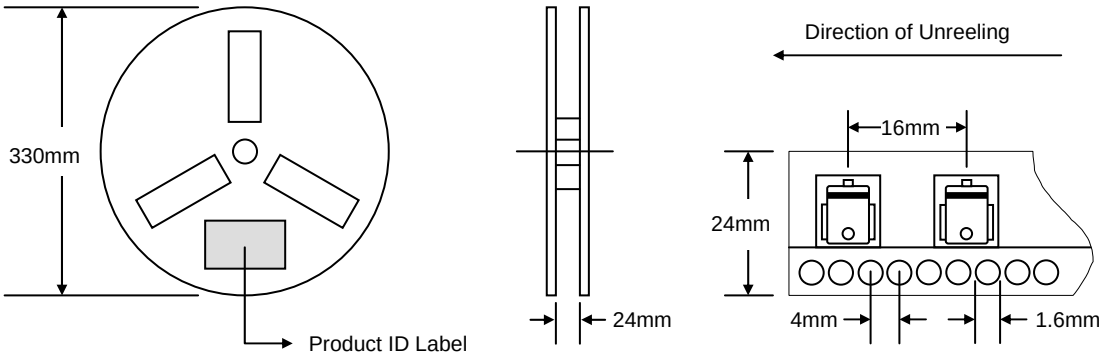
Cathode = Polarity Band
M5WxxA = Device Code, See Table 1

RECOMMENDED FOOTPRINT



PACKAGING INFORMATION

TAPE & REEL



Reel Diameter (mm)	Quantity (PCS)	Inner Box Size L x W x H (mm)	Quantity (PCS)	Carton Size L x W x H (mm)	Quantity (PCS)	Approx. Gross Weight (KG)
330	500	360 x 340 x 52	500	382 x 360 x 470	4,000	18.5

Note: 1. Anti-static plastic reel, blue color.
2. Components are packed in accordance with EIA standard 481-1 and 481-2.

ORDERING INFORMATION

Product No.	Package Type	Shipping Quantity
SM5SxxA-T3	DO-218	500/Tape & Reel

1. Shipping quantity given is for minimum packing quantity only. For minimum order quantity, please consult the Sales Department.
2. **To order Lead Free version (with Lead Free finish), add "-LF" suffix to part number above. For example, SM5S10A-T3-LF.**

Won-Top Electronics Co., Ltd.
No. 44 Yu Kang North 3rd Road,
Chine Chen Dist., Kaohsiung 806, Taiwan
Phone: 886-7-822-5408 or 886-7-822-5410
Fax: 886-7-822-5417
Email: sales@wontop.com
Internet: http://www.wontop.com

We power your everyday.