



SM5S10A(CA) - SM5S36A(CA)

SURFACE MOUNT AUTOMOTIVE TRANSIENT VOLTAGE SUPPRESSOR DIODE

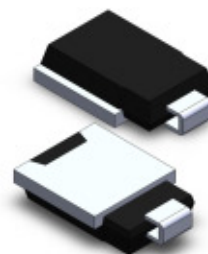
VOLTAGE RANGE: 10 - 36V
POWER: 3600Watts

Features

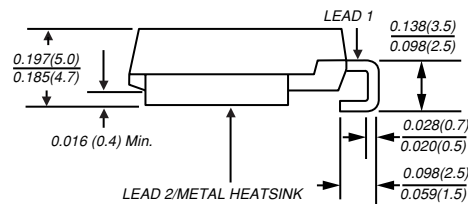
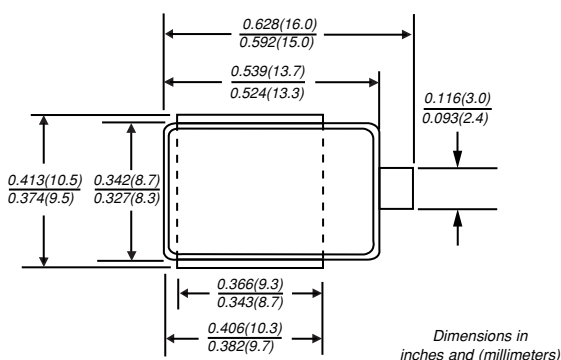
- Ideally suited for load dump protection
- Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- Integrally molded heatsink provides a very low thermal resistance for maximum heat dissipation
- Low leakage current at $T_J = 175^\circ\text{C}$
- High temperature soldering guaranteed: 260C for 10 seconds at terminals

Mechanical Data

- Case: DO-218AB
- Mounting Position: Any
- Weight: 0.091 oz., 2.58 g



DO-218AB



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

Characteristic	Symbol	Value	Unit
Peak pulse power dissipation with 10/1000μs waveform	PPPM	3600	W
10/10,000μs waveform		2800	
Steady state power dissipation	P _D	5.0	W
Peak pulse current with a 10/1000μs waveform ⁽¹⁾	I _{PPM}	See Table 1	A
Peak forward surge current, 8.3ms single half sine-wave	I _{FSM}	500	A
Typical thermal resistance junction to case	R _{θJC}	1.0	°C/W
Operating junction and storage temperature range	T _J , T _{STG}	-55 to +175	°C

Notes: (1) Non-repetitive current pulse derated above T_A = 25°C



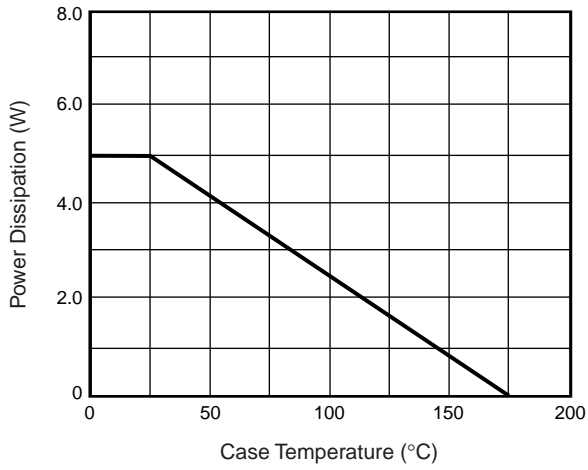
Electrical Characteristics (T_C= 25 °C unless otherwise noted)

Device Type	Breakdown Voltage V _(BR) (V)		Test Current I _T	Stand-off Voltage V _{WM}	Maximum Reverse Leakage at V _{WM} I _D	Maximum Reverse Leakage at V _{WM} T _c = 175°C	Max. Peak Pulse Current at 10/1000µs Waveform	Maximum Clamping Voltage at I _{PPM} V _C
	Min.	Max.	(mA)	(V)	(µA)	I _D (µA)	(A)	(V)
SM5S10CA	11.1	13.6	5.0	10.0	15	250	191	18.8
SM5S10A	11.1	12.3	5.0	10.0	15	250	212	17.0
SM5S11CA	12.2	14.9	5.0	11.0	10	150	179	20.1
SM5S11A	12.2	13.5	5.0	11.0	10	150	198	18.2
SM5S12CA	13.3	16.3	5.0	12.0	10	150	164	22.0
SM5S12A	13.3	14.7	5.0	12.0	10	150	181	19.9
SM5S13CA	14.4	17.6	5.0	13.0	10	150	151	23.8
SM5S13A	14.4	15.9	5.0	13.0	10	150	167	21.5
SM5S14CA	15.6	19.1	5.0	14.0	10	150	140	25.8
SM5S14A	15.6	17.2	5.0	14.0	10	150	155	23.2
SM5S15CA	16.7	20.4	5.0	15.0	10	150	134	26.9
SM5S15A	16.7	18.5	5.0	15.0	10	150	148	24.4
SM5S16CA	17.8	21.8	5.0	16.0	10	150	125	28.8
SM5S16A	17.8	19.7	5.0	16.0	10	150	138	26.0
SM5S17CA	18.9	23.1	5.0	17.0	10	150	118	30.5
SM5S17A	18.9	20.9	5.0	17.0	10	150	130	27.6
SM5S18CA	20.0	24.4	5.0	18.0	10	150	112	32.2
SM5S18A	20.0	22.1	5.0	18.0	10	150	123	29.2
SM5S20CA	22.2	27.1	5.0	20.0	10	150	101	35.8
SM5S20A	22.2	24.5	5.0	20.0	10	150	111	32.4
SM5S22CA	24.4	29.8	5.0	22.0	10	150	91	39.4
SM5S22A	24.4	26.9	5.0	22.0	10	150	101	35.5
SM5S24CA	26.7	32.6	5.0	24.0	10	150	84	43.0
SM5S24A	26.7	29.5	5.0	24.0	10	150	93	38.9
SM5S26CA	28.9	35.3	5.0	26.0	10	150	77	46.6
SM5S26A	28.9	31.9	5.0	26.0	10	150	86	42.1
SM5S28CA	31.1	38.0	5.0	28.0	10	150	72	50.1
SM5S28A	31.1	34.4	5.0	28.0	10	150	79	45.4
SM5S30CA	33.3	40.7	5.0	30.0	10	150	67	53.5
SM5S30A	33.3	36.8	5.0	30.0	10	150	74	48.4
SM5S33CA	36.7	44.9	5.0	33.0	10	150	61	59.0
SM5S33A	36.7	40.6	5.0	33.0	10	150	68	53.3
SM5S36CA	40.0	48.9	5.0	36.0	10	150	56	64.3
SM5S36A	40.0	44.2	5.0	36.0	10	150	62	58.1

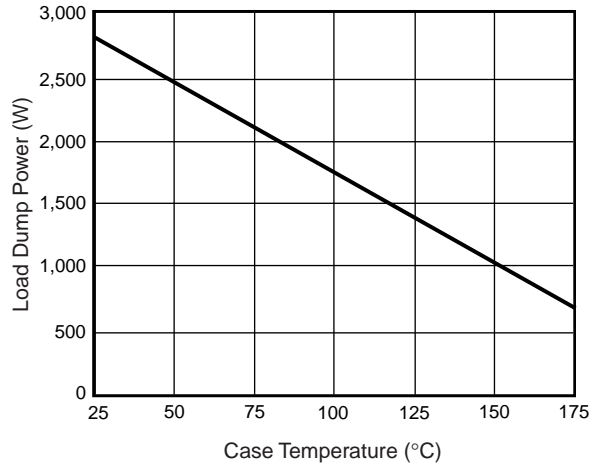
Note: For all types maximum V_F = 2.0V at I_F = 100A measured on 8.3ms single half sine-wave or equivalent square wave, duty cycle = 4 pulses per minute maximum



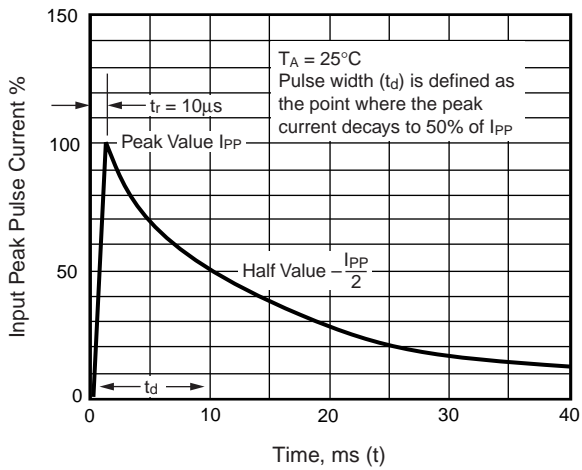
Power Derating Curve



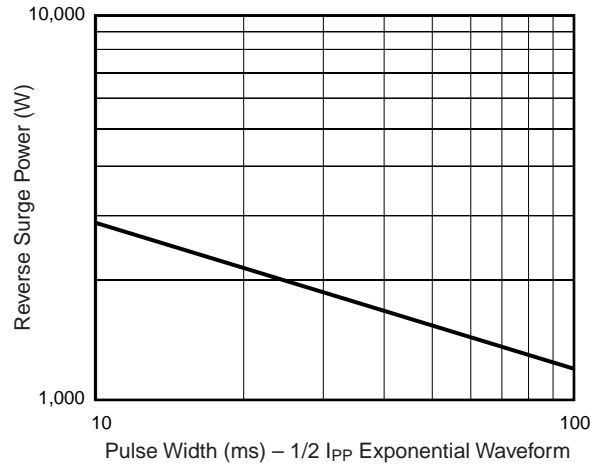
Load Dump Power Characteristics (10ms Exponential Waveform)



Pulse Waveform



Reverse Power Capability



Typical Transient Thermal Impedance

