

ASM5Sxx(C)A-HF Series

Working Peak Reverse Voltage: 10 to 43 V

Peak Pulse Power: 3600 W

RoHS Device

Halogen Free

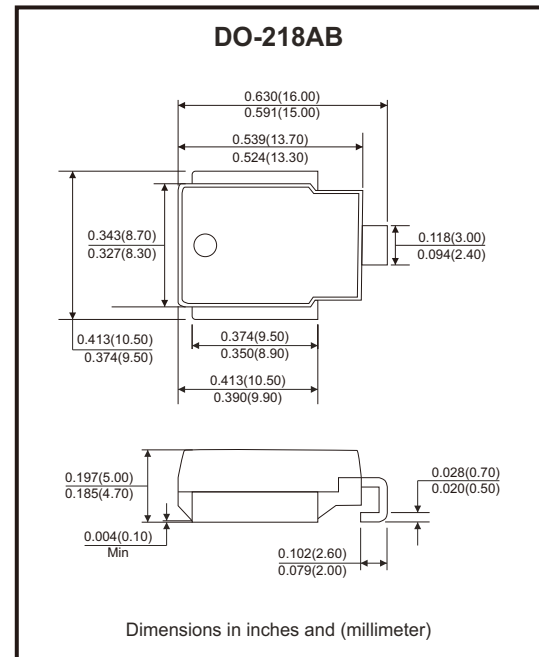


Features

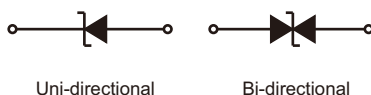
- Glass passivated junction technology.
- $T_J=175^{\circ}\text{C}$ capability suitable for high reliability and automotive requirement.
- 3600W peak pulse power capability with a 10/1000 μs waveform, repetition rate (duty cycles): 0.01%.
- Low leakage current.
- Low forward voltage drop for Uni-directional polarity.
- Both available in Uni-direction and Bi-directional polarity.
- Excellent clamping capability.
- Very fast response time.
- AEC-Q101 Qualified.

Mechanical data

- Case: DO-218AB, molded plastic.
- Molding compound: UL 94V-0 flammability.
- Polarity: Heatsink is anode.
- Terminal: Solderable per MIL-STD-750, method 2026.
- Mounting position: Any.



Circuit Diagram



Maximum Ratings ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

Characteristics	Symbol	Value	Units
Peak power dissipation with a 10/1000 μs waveform (Note 1)	P_{PP}	3600	W
Peak power dissipation with a 10/10,000 μs waveform for unidirectional polarity	P_{PP}	2800	W
Peak pulse current with a 10/1000 μs waveform (Note 1)	I_{PP}	See next table	A
Power dissipation on infinite heatsink at $T_L = 25^{\circ}\text{C}$	P_D	5	W
Peak forward surge current, 8.3ms single half sine-wave	I_{FSM}	500	A
Operating junction and storage temperature range	T_J, T_{STG}	-55 to +175	$^{\circ}\text{C}$

Notes: 1. Non-repetitive current pulse, per Fig.2 and derated above $T_a=25^{\circ}\text{C}$ per Fig.1 .

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

Part No	Breakdown voltage V _{BR} @ I _T			Maximum reverse leakage @V _{RWM} I _r (μA)	Maximum I _R @V _{RWM} T _J =175°C (μA)	Working peak reverse voltage V _{RWM} (V)	Maximum reverse surge current I _{PP} (A) (Note1)	Maximum clamping voltage @I _{PP} V _C (V)	Marking code	
	Min(V)	Max(V)	I _T (mA)						Uni	Bi
ASM5S10(C)A-HF	11.1	12.3	5	15	250	10	212	17.0	10A	10CA
ASM5S11(C)A-HF	12.2	13.5	5	10	150	11	198	18.2	11A	11CA
ASM5S12(C)A-HF	13.3	14.7	5	10	150	12	181	19.9	12A	12CA
ASM5S13(C)A-HF	14.4	15.9	5	10	150	13	167	21.5	13A	13CA
ASM5S14(C)A-HF	15.6	17.2	5	10	150	14	155	23.2	14A	14CA
ASM5S15(C)A-HF	16.7	18.5	5	10	150	15	148	24.4	15A	15CA
ASM5S16(C)A-HF	17.8	19.7	5	10	150	16	138	26.0	16A	16CA
ASM5S17(C)A-HF	18.9	20.9	5	10	150	17	130	27.6	17A	17CA
ASM5S18(C)A-HF	20.0	22.1	5	10	150	18	123	29.2	18A	18CA
ASM5S20(C)A-HF	22.2	24.5	5	10	150	20	111	32.4	20A	20CA
ASM5S22(C)A-HF	24.4	26.9	5	10	150	22	101	35.5	22A	22CA
ASM5S24(C)A-HF	26.7	29.5	5	10	150	24	93	38.9	24A	24CA
ASM5S26(C)A-HF	28.9	31.9	5	10	150	26	86	42.1	26A	26CA
ASM5S28(C)A-HF	31.1	34.4	5	10	150	28	79	45.4	28A	28CA
ASM5S30(C)A-HF	33.3	36.8	5	10	150	30	74	48.4	30A	30CA
ASM5S33(C)A-HF	36.7	40.6	5	10	150	33	68	53.3	33A	33CA
ASM5S36(C)A-HF	40.0	44.2	5	10	150	36	62	58.1	36A	36CA
ASM5S40(C)A-HF	44.4	49.1	5	10	150	40	56	64.5	40A	40CA
ASM5S43(C)A-HF	47.8	52.8	5	10	150	43	52	69.4	43A	43CA

Notes: 1. Surge current waveform is defined at 10/1000μs waveform.

2. For uni-directional part, the maximum. V_F=2V at I_F=100A measured on 8.3ms single half sine-wave or equivalent square wave, duty cycle=4 pulses per minute maximum.

3. For Bi-directional devices, use suffix CA.

Typical Rating and Characteristic Curves (ASM5S-HF Series)

Fig.1 - Power Derating Curve

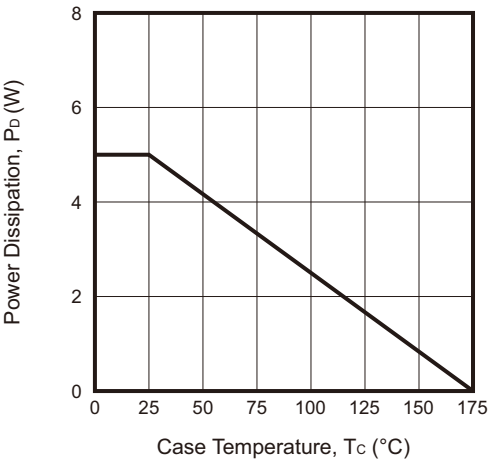


Fig.2 - Pulse Waveform

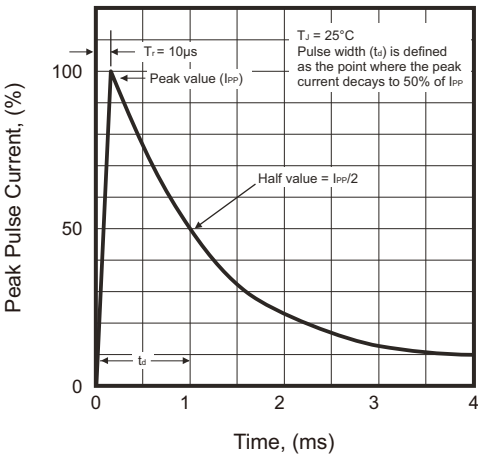


Fig.3 - Typical Thermal Impedance

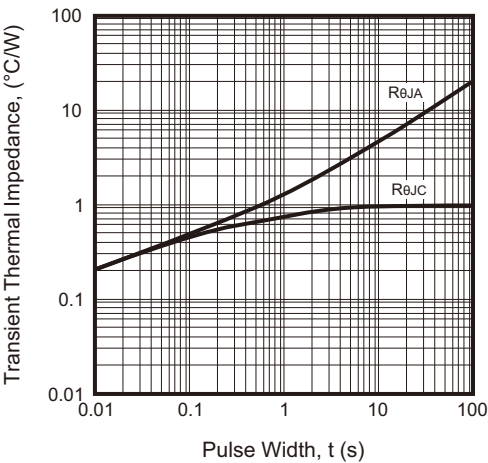


Fig.4 - Peak Pulse Power Rating Curve

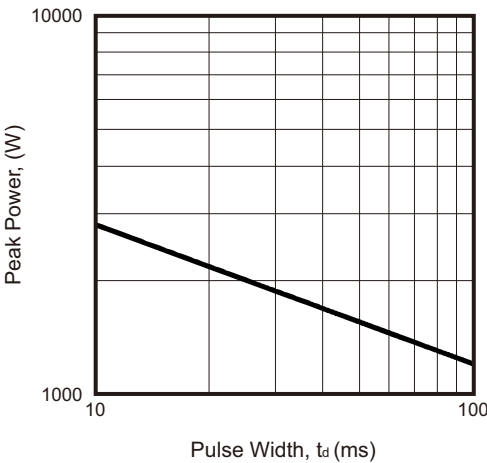
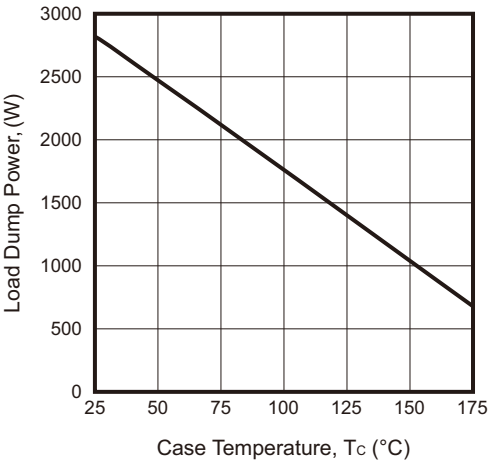
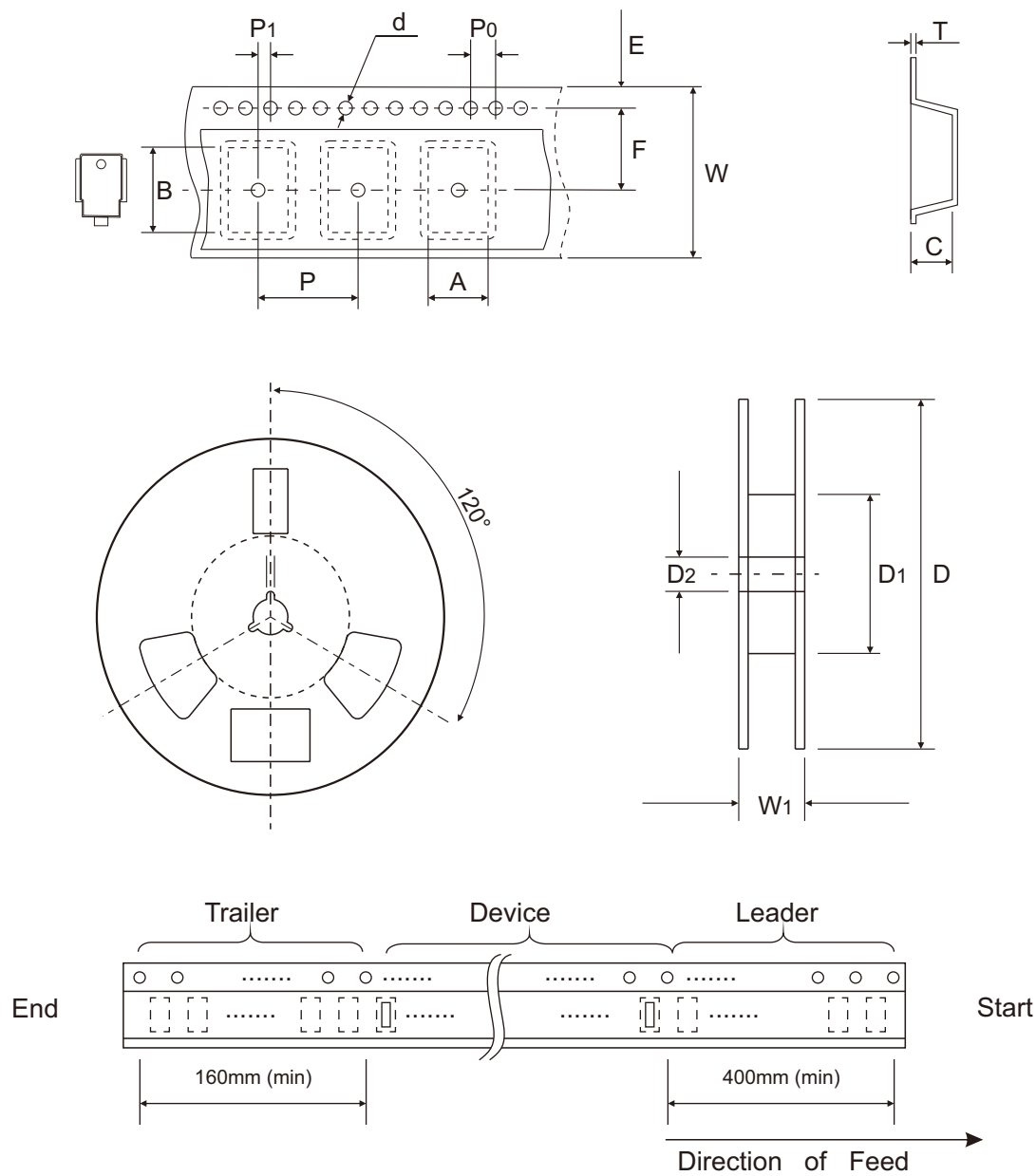


Fig.5 - Load Dump Power Characteristics



Reel Taping Specification

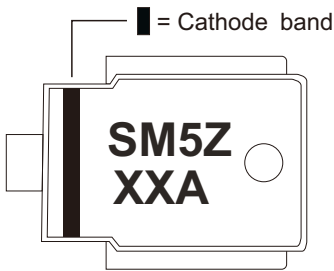


DO-218AB	SYMBOL	A	B	C	d	D	D1	D2
	(mm)	10.77 ± 0.20	16.33 ± 0.20	6.02 ± 0.20	1.50 ± 0.10	330.00 Max	60.00 Min	13.00 + 0.50 - 0.20
	(inch)	0.424 ± 0.008	0.643 ± 0.008	0.237 ± 0.008	0.059 ± 0.004	12.992 Max	2.362 Min	0.512 + 0.020 - 0.008

DO-218AB	SYMBOL	E	F	P	P0	P1	T	W	W1
	(mm)	1.75 ± 0.10	11.50 ± 0.10	16.00 ± 0.10	4.00 ± 0.10	2.00 ± 0.10	0.60 Max	24.00 ± 0.30	30.40 Max
	(inch)	0.069 ± 0.004	0.453 ± 0.004	0.630 ± 0.004	0.157 ± 0.004	0.079 ± 0.004	0.024 Max	0.945 ± 0.012	1.197 Max

Marking Code

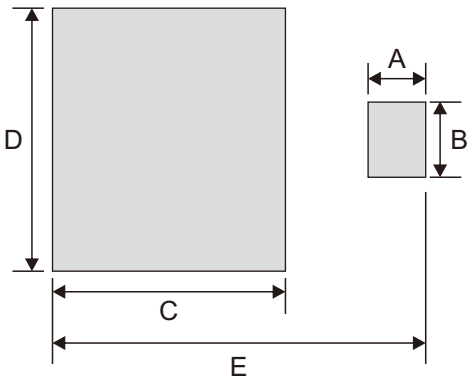
Part Number	Marking Code
ASM5Sxx(C)A-HF Series	See Page 2



XXA/XXCA : Marking code (see Page.2)

Suggested P.C.B. PAD Layout

SIZE	DO-218AB	
	(mm)	(inch)
A	2.90	0.114
B	3.00	0.118
C	9.60	0.378
D	10.50	0.413
E	15.30	0.602



Standard Packaging

Case Type	REEL PACK	
	REEL (pcs)	Reel Size (inch)
DO-218AB	750	13