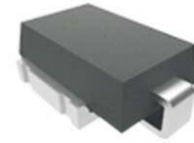


ATV46SM6 - G Series

Working Voltage: 10 to 43 Volts

Peak Pulse Power: 4600 Watts

RoHS Device

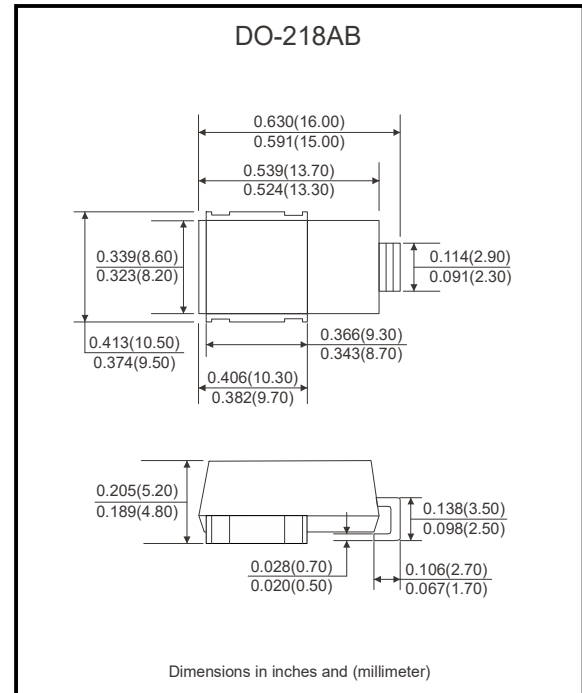


Features

- Optimized glass passivated chip.
- 4600W peak pulse power capability with a 10/1000 μ s waveform, repetitive rate (duty cycle):0.01%
- Meets ISO 7637-2 5a/5b and ISO 16750 load dump test (varied by test condition).
- Low leakage.
- Uni-directional polarity.
- Excellent clamping capability.
- Very fast response time.
- RoHS compliant.
- AEC-Q101 qualified
- Low forward voltage drop

Mechanical Data

- Case: DO-218AB
- Epoxy: UL 94V-0 rate flame retardant.
- Polarity: Heatsink is anode.



Circuit Diagram



Maximum Ratings and Electrical Characteristics

Rating at 25°C ambient temperature unless otherwise specified.
Single phase, half wave, 60Hz, resistive or inductive load.
For capacitive load, derate current by 20%.

Parameter	Symbol	Value	Units
Peak power dissipation with a 10/1000 μ s waveform (Note 1)	P _{PP}	4600	W
Peak power dissipation with a 10/10,000 μ s waveform	P _{PP}	3600	W
Peak pulse current with a 10/1000 μ s waveform (Note 1)	I _{PP}	See Next Table	A
Power dissipation on infinite heatsink at T _L =25°C	P _D	6.0	W
Peak forward surge current, 8.3ms single half sine-wave uni-directional only	I _{FSM}	600	A
Operation junction temperature range	T _J	-55 to +175	°C
Storage temperature range	T _{STG}	-55 to +175	°C

Note: 1. Non-repetitive current pulse per Fig.2 and derated above T_A=25°C per Fig.1

Company reserves the right to improve product design , functions and reliability without notice.

REV:A

Rating and Characteristics Curves (ATV46SM6-G Series)

Fig.1 - Pulse Derating Curve

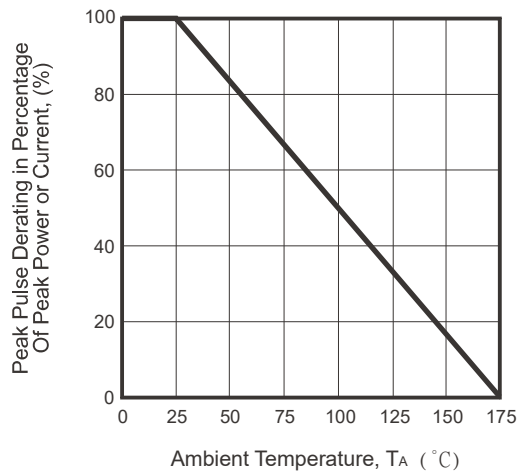


Fig.2 - Pulse Waveform

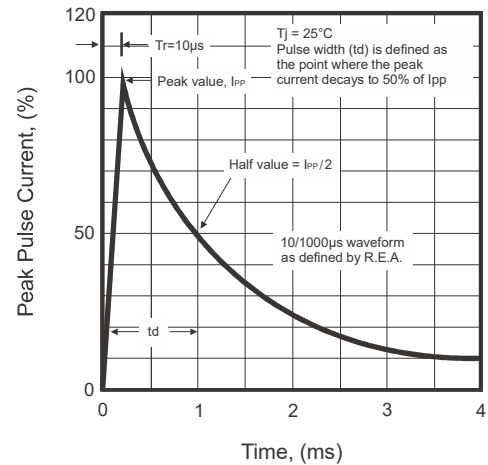


Fig.3 - Steady State Power Derating Curve

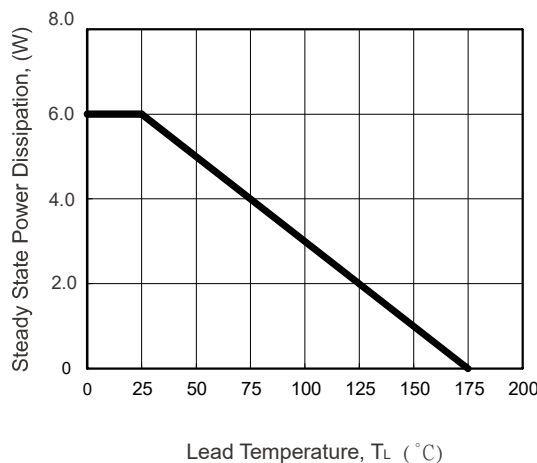
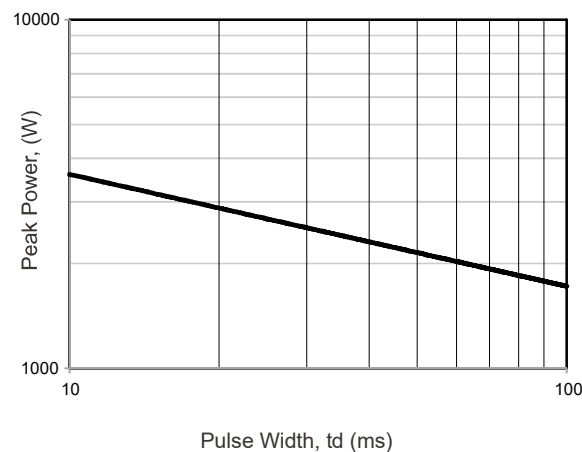


Fig.4 - Peak Pulse Power Rating Curve



Electrical Characteristics (ATV46SM610A-G Thru. ATV46SM643A-G)

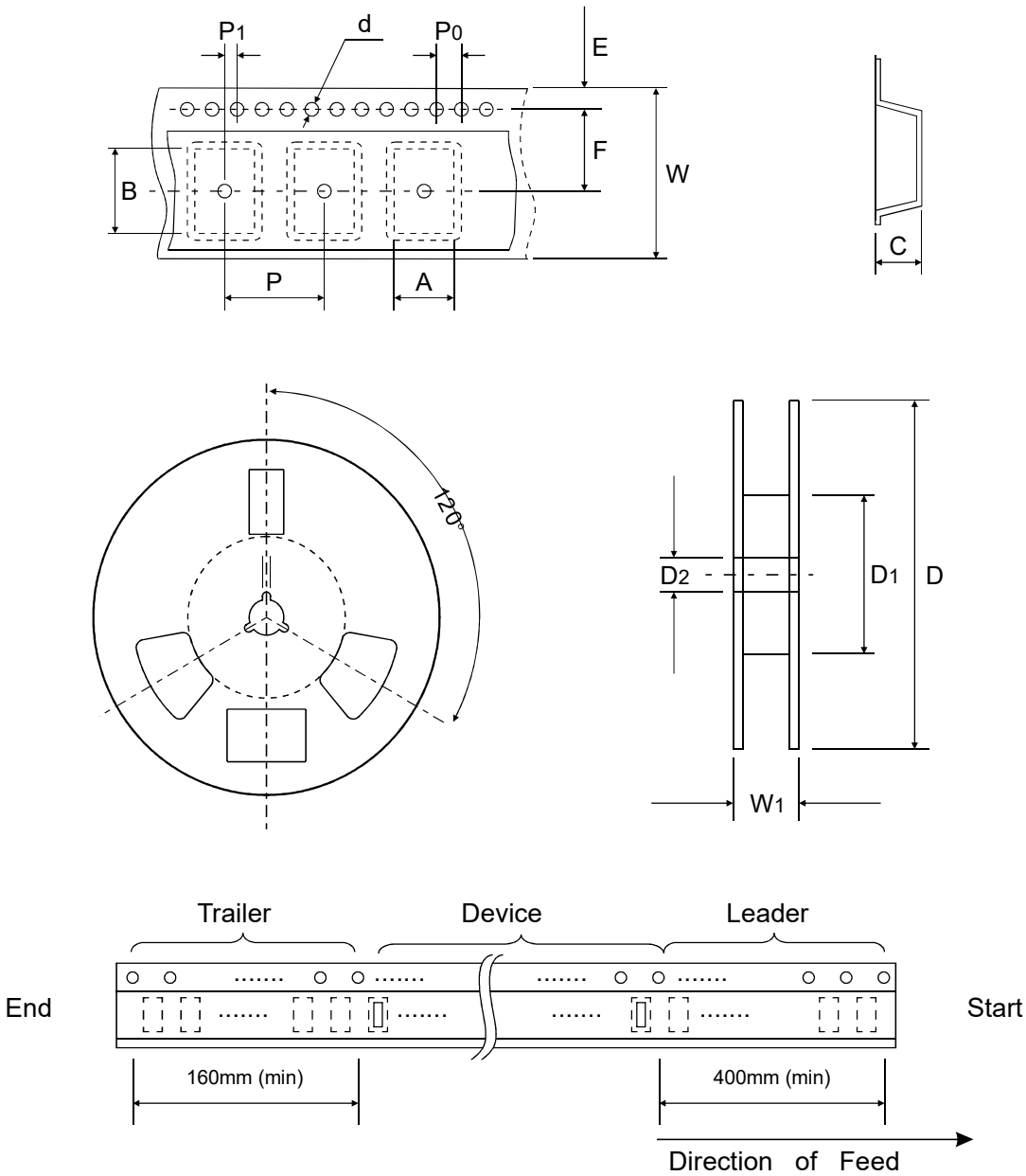
Part No.	Breakdown voltage V _{BR} @ I _T			Maximum Reverse Leakage @V _{RWM}	Maximum I _R @V _{RWM} T _J =175°C	Working Peak Reverse Voltage	Maximum Reverse Surge Current	Maximum Clamping Voltage @I _{PP}	Marking Code
	Min (V)	Max (V)	I _T (mA)	I _R (μA)	I _R (μA)	V _{RWM} (V)	I _{PP} (A) ⁽¹⁾	V _C (V)	
ATV46SM610A-G	11.10	12.30	5	15	250	10	271.0	17.0	10A
ATV46SM611A-G	12.20	13.50	5	10	150	11	253.0	18.2	11A
ATV46SM612A-G	13.30	14.70	5	10	150	12	231.0	19.9	12A
ATV46SM613A-G	14.40	15.90	5	10	150	13	214.0	21.5	13A
ATV46SM614A-G	15.60	17.20	5	10	150	14	198.0	23.2	14A
ATV46SM615A-G	16.70	18.50	5	10	150	15	189.0	24.4	15A
ATV46SM616A-G	17.80	19.70	5	10	150	16	177.0	26.0	16A
ATV46SM617A-G	18.90	20.90	5	10	150	17	167.0	27.6	17A
ATV46SM618A-G	20.00	22.10	5	10	150	18	158.0	29.2	18A
ATV46SM620A-G	22.20	24.50	5	10	150	20	142.0	32.4	20A
ATV46SM622A-G	24.40	26.90	5	10	150	22	130.0	35.5	22A
ATV46SM624A-G	26.70	29.50	5	10	150	24	118.0	38.9	24A
ATV46SM626A-G	28.90	31.90	5	10	150	26	109.0	42.1	26A
ATV46SM628A-G	31.10	34.40	5	10	150	28	101.0	45.4	28A
ATV46SM630A-G	33.30	36.80	5	10	150	30	95.0	48.4	30A
ATV46SM633A-G	36.70	40.60	5	10	150	33	86.0	53.3	33A
ATV46SM636A-G	40.00	44.20	5	10	150	36	79.0	58.1	36A
ATV46SM640A-G	44.40	49.10	5	10	150	40	71.0	64.5	40A
ATV46SM643A-G	47.80	52.80	5	10	150	43	66.0	69.4	43A

NOTE:

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

2. For all types maximum V_F = 1.9 V at I_F = 100 A measured on 8.3 ms single half sine-wave or equivalent square wave, duty cycle = 4 pulses

Reel Taping Specification

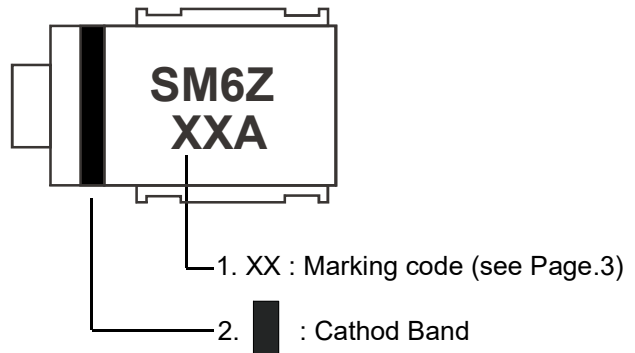


DO-218AB	SYMBOL	A	B	C	d	D	D1	D2
	(mm)	10.77 ± 0.10	16.33 ± 0.10	6.02 ± 0.10	1.50 + 0.10	330 ± 2.00	50 (MIN.)	20.2 (MIN.)
	(inch)	0.424 ± 0.004	0.643 ± 0.004	0.237 ± 0.004	0.059 + 0.004	13.00 ± 0.079	1.97 (MIN.)	0.795 (MIN.)

DO-218AB	SYMBOL	E	F	P	P0	P1	W	W1
	(mm)	1.75 ± 0.10	11.50 ± 0.10	16.00 ± 0.10	4.00 ± 0.10	2.00 ± 0.10	24.00 + 0.30 - 0.10	30.4 (MAX.)
	(inch)	0.069 ± 0.004	0.453 ± 0.004	0.630 ± 0.004	0.157 ± 0.004	0.079 ± 0.004	0.945 + 0.012 - 0.004	1.197 (MAX.)

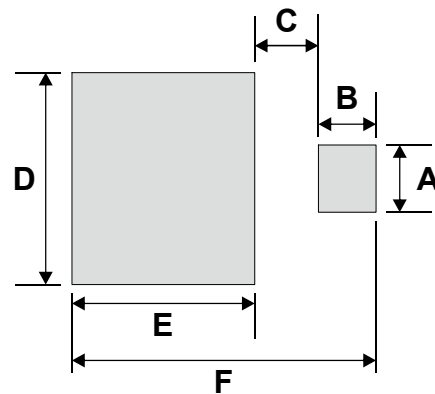
Marking Code

Part Number	Marking Code
ATV46SM610A-G ~ ATV46SM643A-G	See page.3



Suggested PAD Layout

SIZE	DO-218AB	
	(mm)	(inch)
A	3.50	0.138
B	3.00	0.118
C	3.30	0.130
D	11.00	0.433
E	9.50	0.374
F	15.80	0.622



Standard Packaging

Case Type	REEL PACK	
	REEL (pcs)	Reel Size (inch)
DO-218AB	500	13