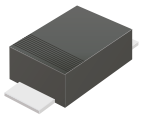
ATV04WF5V0J-HF Thru. ATV04WF850J-HF

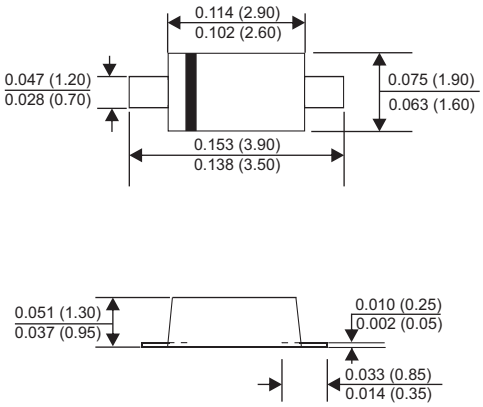
Working Voltage: 5 to 85 Volts
Peak Pulse Power: 400 Watts
RoHS Device
Halogen Free



Features

- Glass passivated chip.
- Maximum 400W peak pulse power capability with capability with a 10/1000μs waveform, repetitive rate (duty cycle): 0.01%.
- Low leakage.
- Uni polar unit.
- Excellent clamping capability.
- Very fast response time.
- Comply with AEC-Q101.

SOD-123

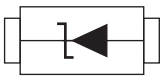


Dimensions in inches and (millimeter)

Mechanical data

- Case: Molded plastic.
- Epoxy: UL 94V-0 rate flame retardant.
- Lead: Solderable per MIL-STD-750, method 2026.
- Polarity: Color band denotes cathode end.
- Mounting position: Any.

Circuit Diagram



Maximum Rating (T_A=25°C unless otherwise noted)

Parameter	Symbol	Value	Unit
Peak power dissipation with a 10/1000μs waveform (Note 1, 3)	P_{PP}	400	W
Peak pulse current with a 10/1000μs waveform (Note 1)	I_{PP}	See next table	A
Peak forward surge current, 8.3 ms single half sine-wave unidirectional only (Note 2)	I_{FSM}	30	A
Max. instantaneous forward voltage at 25A for unidirectional only	V_F	3.5	V
Operating junction temperature range	T_J	-55 to +150	°C
Storage temperature range	T_{STG}	-55 to +150	°C

Notes:
1. Non-repetitive current pulse per Fig.3 and derated above T_A=25°C per Fig.1
2. Measured on 8.3 ms single half sine-wave or equivalent square wave, duty cycle = 4 pulses per minute maximum.
3. ATV04WF5V0J-HF~ATV04WF150J-HF peak pulse power dissipation is 350W max.

RATING AND CHARACTERISTIC CURVES (ATV04WF5V0J-HF thru. ATV04WF850J-HF)

Fig.1 - Pulse Derating Curve

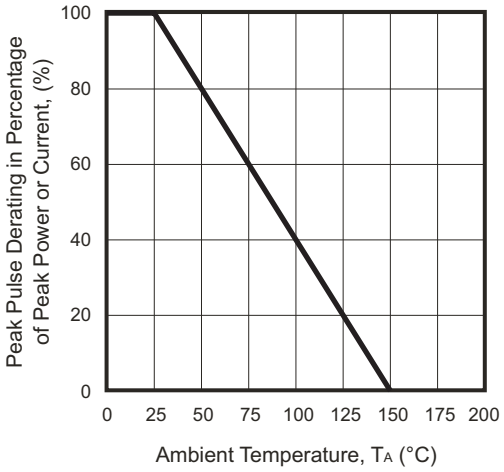


Fig.2 - Maximum Non-Repetitive Surge Current

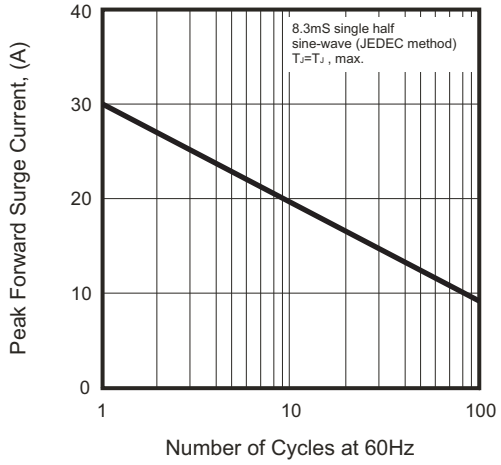


Fig.3 - Pulse Waveforem

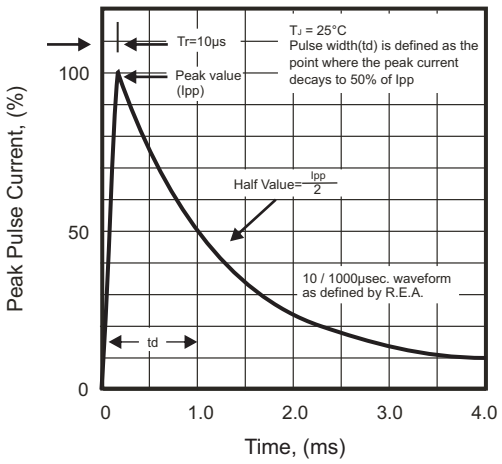


Fig.4 - Typical Junction Capacitance

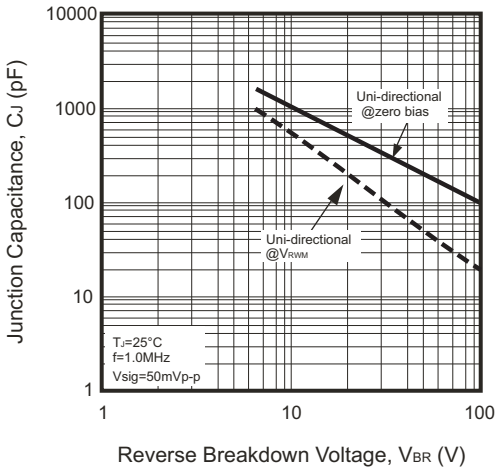
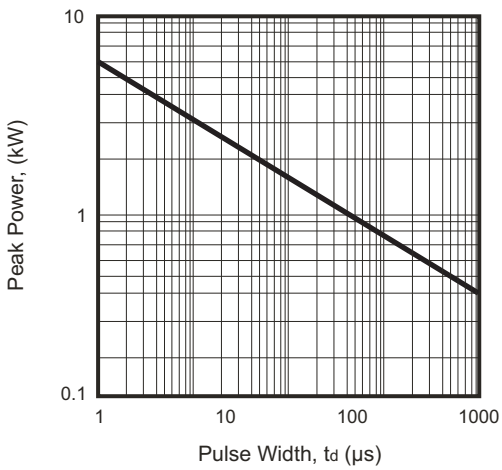


Fig.5 - Steady State Power Derating Curve



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

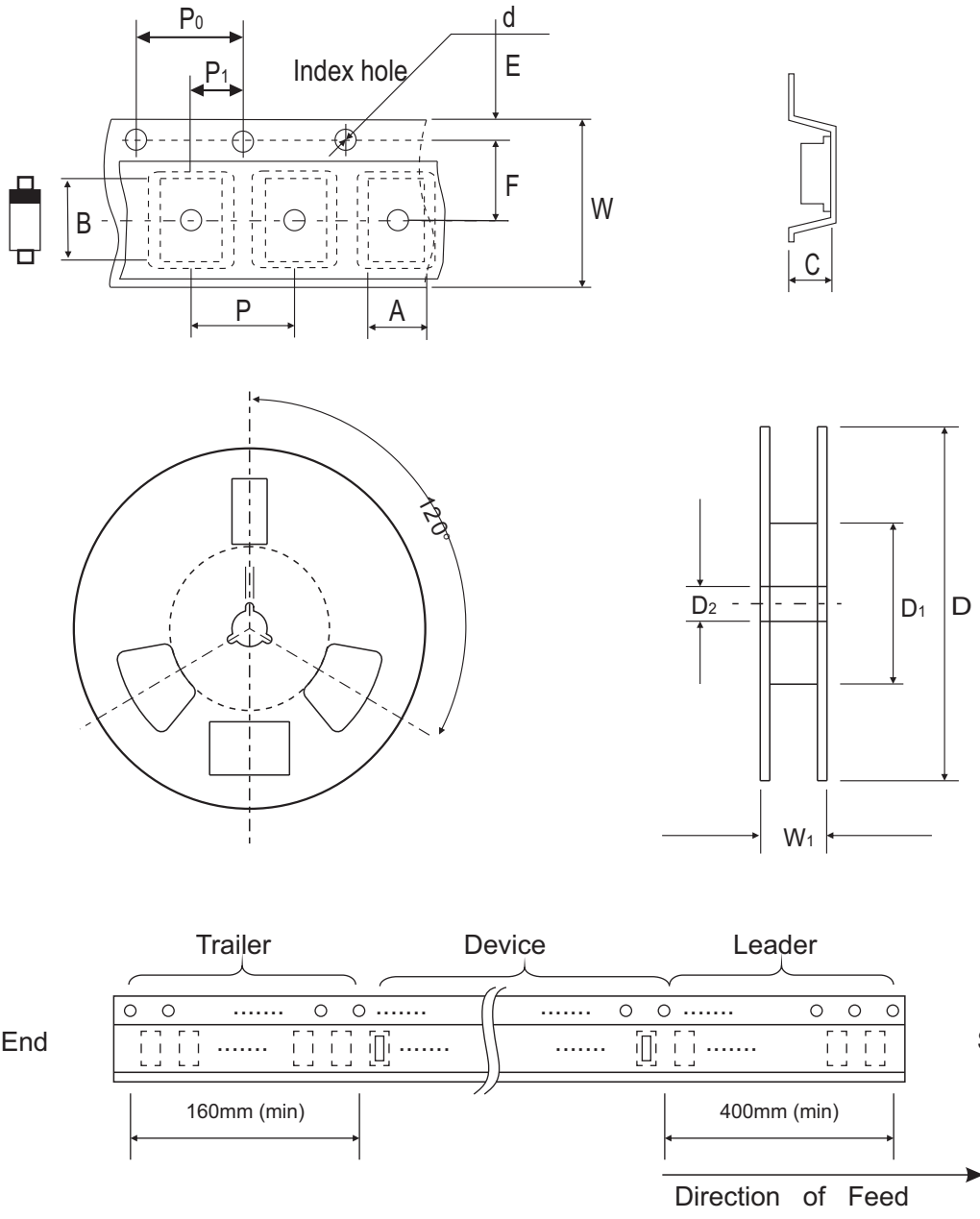
Electrical Characteristics (at T_A=25°C unless otherwise specified)

Part No.	Device Marking Code	Breakdown Voltage V_{BR} @ I_T			Maximum Reverse Leakage @V_{RWM}	Working Peak Reverse Voltage	Maximum Reverse Surge Current	Maximum Clamping Voltage @I_{PP}
	Uni	Min. (V)	Max. (V)	I_T (mA)	I_R (uA)	V_{RWM} (V)	I_{PP} (A)	V_C (V)
ATV04WF5V0J-HF	KE	6.40	7.00	10	800	5.0	38.0	9.2
ATV04WF6V0J-HF	KG	6.67	7.37	10	800	6.0	33.8	10.3
ATV04WF6V5J-HF	KK	7.22	7.98	10	500	6.5	31.2	11.2
ATV04WF7V0J-HF	KM	7.78	8.60	10	200	7.0	29.1	12.0
ATV04WF7V5J-HF	KP	8.33	9.21	1	100	7.5	27.1	12.9
ATV04WF8V0J-HF	KR	8.89	9.83	1	50	8.0	25.7	13.6
ATV04WF8V5J-HF	KT	9.44	10.40	1	20	8.5	24.3	14.4
ATV04WF9V0J-HF	KV	10.00	11.10	1	10	9.0	22.7	15.4
ATV04WF100J-HF	KX	11.10	12.30	1	5	10.0	20.5	17.0
ATV04WF110J-HF	KZ	12.20	13.50	1	1	11.0	19.2	18.2
ATV04WF120J-HF	LE	13.30	14.70	1	1	12.0	17.5	19.9
ATV04WF130J-HF	LG	14.40	15.90	1	1	13.0	16.2	21.5
ATV04WF140J-HF	LK	15.60	17.20	1	1	14.0	15.0	23.2
ATV04WF150J-HF	LM	16.70	18.50	1	1	15.0	14.3	24.4
ATV04WF160J-HF	LP	17.80	19.70	1	1	16.0	15.4	26.0
ATV04WF170J-HF	LR	18.90	20.90	1	1	17.0	14.5	27.6
ATV04WF180J-HF	LT	20.00	22.10	1	1	18.0	13.7	29.2
ATV04WF200J-HF	LV	22.20	24.50	1	1	20.0	12.3	32.4
ATV04WF220J-HF	LX	24.40	26.90	1	1	22.0	11.3	35.5
ATV04WF240J-HF	LZ	26.70	29.50	1	1	24.0	10.3	38.9
ATV04WF260J-HF	ME	28.90	31.90	1	1	26.0	9.5	42.1
ATV04WF280J-HF	MG	31.10	34.40	1	1	28.0	8.8	45.4
ATV04WF300J-HF	MK	33.30	36.80	1	1	30.0	8.3	48.4
ATV04WF330J-HF	MM	36.70	40.60	1	1	33.0	7.5	53.3
ATV04WF360J-HF	MP	40.00	44.20	1	1	36.0	6.9	58.1
ATV04WF400J-HF	MR	44.40	49.10	1	1	40.0	6.2	64.5
ATV04WF430J-HF	MT	47.80	52.80	1	1	43.0	5.8	69.4
ATV04WF450J-HF	MV	50.00	55.30	1	1	45.0	5.5	72.7
ATV04WF480J-HF	MX	53.30	58.90	1	1	48.0	5.2	77.4
ATV04WF510J-HF	MZ	56.70	62.70	1	1	51.0	4.9	82.4

Electrical Characteristics (at T_A=25°C unless otherwise specified)

Part No.	Device Marking Code	Breakdown Voltage V_{BR} @ I_T			Maximum Reverse Leakage @V_{RWM}	Working Peak Reverse Voltage	Maximum Reverse Surge Current	Maximum Clamping Voltage @I_{PP}
	Uni	Min. (V)	Max. (V)	I_T (mA)	I_R (uA)	V_{RWM} (V)	I_{PP} (A)	V_C (V)
ATV04WF540J-HF	NE	60.00	66.30	1	1	54.0	4.6	87.1
ATV04WF580J-HF	NG	64.40	71.20	1	1	58.0	4.3	93.6
ATV04WF600J-HF	NK	66.70	73.70	1	1	60.0	4.1	96.8
ATV04WF640J-HF	NM	71.10	78.60	1	1	64.0	3.9	103.0
ATV04WF700J-HF	NP	77.80	86.00	1	1	70.0	3.5	113.0
ATV04WF750J-HF	NR	83.30	92.10	1	1	75.0	3.3	121.0
ATV04WF780J-HF	NT	86.70	95.80	1	1	78.0	3.2	126.0
ATV04WF850J-HF	NV	94.40	104.00	1	1	85.0	2.9	137.0

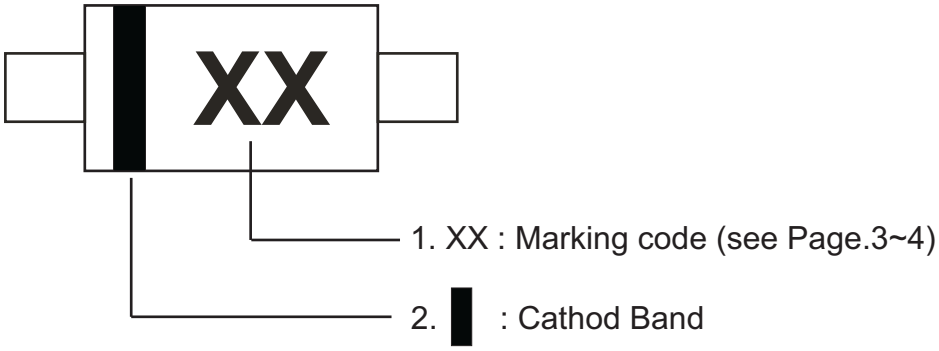
Reel Taping Specification



	SYMBOL	A	B	C	d	D	D_1	D_2
SOD-123	(mm)	1.85 ± 0.10	3.94 ± 0.10	1.57 ± 0.10	1.55 ± 0.05	178.00 ± 1.00	50.00 Min.	13.00 ± 0.20
	(inch)	0.073 ± 0.004	0.155 ± 0.004	0.062 ± 0.004	0.061 ± 0.002	7.008 ± 0.039	1.969 Min.	0.512 ± 0.008

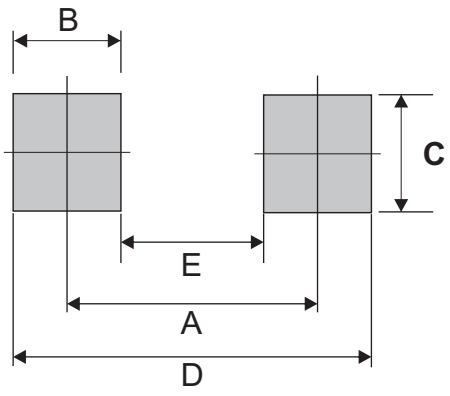
	SYMBOL	E	F	P	P_0	P_1	W	W_1
SOD-123	(mm)	1.75 ± 0.10	3.50 ± 0.05	4.00 ± 0.10	4.00 ± 0.10	2.00 ± 0.05	8.00 ± 0.10	11.40 Max.
	(inch)	0.069 ± 0.004	0.138 ±0.002	0.157 ± 0.004	0.157 ± 0.004	0.079 ± 0.002	0.315 ± 0.004	0.449 Max.

Marking Code



Suggested PAD Layout

SIZE	SOD-123	
	(mm)	(inch)
A	2.90	0.114
B	1.30	0.051
C	1.40	0.055
D	4.20	0.165
E	1.60	0.063



Standard Packaging

Case Type	REEL PACK	
	REEL (pcs)	Reel Size (inch)
SOD-123	3,000	7