

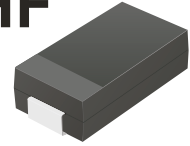
## ATV30C5V0-HF Thru. ATV30C441-HF

Working Peak Reverse Voltage: 5.0 to 440 Volts

Power Dissipation: 3000 Watts

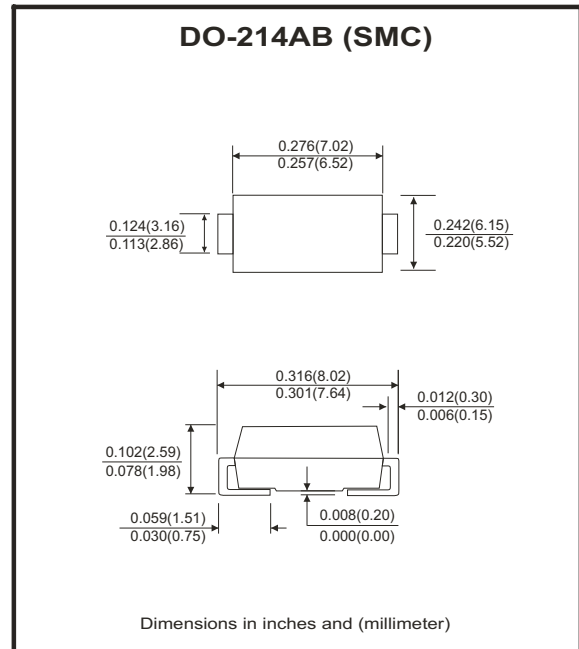
RoHS Device

Halogen Free



### Features

- Ideally for surface mount applications.
- Easy pick and place.
- Plastic package has Underwriters Lab. flammability classification 94V-0.
- Typical IR less than 1 $\mu$ A above 10V.
- Fast response time: typically less than 1nS for uni-direction, less than 5nS for bi-direction, from 0V to BV min.
- Comply with AEC-Q101
- Use in sensitive electronic protection against voltage transients induced by inductive load switching and lighting on ICs, MOSFET, signal lines of sensor units for consumer, computer, industrial, automotive and telecommunication.



### Mechanical data

- Case: JEDEC DO-214AB, molded plastic.
- Terminals: solderable per MIL-STD-750, method 2026.
- Polarity: Color band denotes cathode end except Bipolar.
- Approx. weight: 0.21 grams

### 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%.

Characteristics	Symbol	Value	Units
Peak power dissipation on 10/1000 $\mu$ S waveform (Note 1)	P <sub>PP</sub>	3000	W
Peak pulse current on 10/1000 $\mu$ S waveform (Note 1)	I <sub>PP</sub>	See Next Table	A
Steady state power dissipation at T <sub>L</sub> =75°C	P <sub>D</sub>	6.0	W
Peak forward surge current, 8.3ms single half sine-wave superimposed on rated load, uni-directional only (Note 2)	I <sub>FSM</sub>	300	A
Maximum instantaneous forward voltage at 100A for uni-directional only (Note 3)	V <sub>F</sub>	3.5/5.0	V
Operating junction temperature	T <sub>J</sub>	-55 to +150	°C
Storage temperature range	T <sub>STG</sub>	-55 to +150	°C

Notes:

1. Non-repetitive current pulse, per Fig. 5 and derated above T<sub>A</sub>=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. V<sub>F</sub><3.5V for devices of V<sub>BR</sub><200V and V<sub>F</sub><5.0V for devices of V<sub>BR</sub>>201V

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## RATING AND CHARACTERISTIC CURVES (ATV30C5V0-HF Thru. ATV30C441-HF)

Fig.1- Pulse Derating Curve

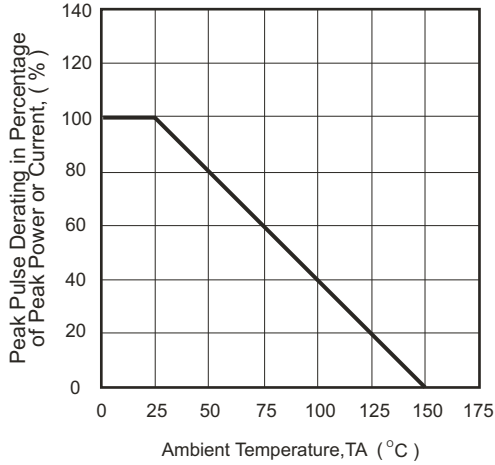


Fig.2- Max. Non-Repetitive Surge Current

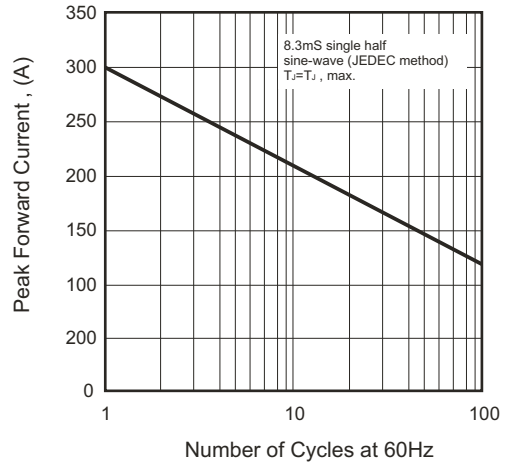


Fig.3- Steady State Power Derating Curve

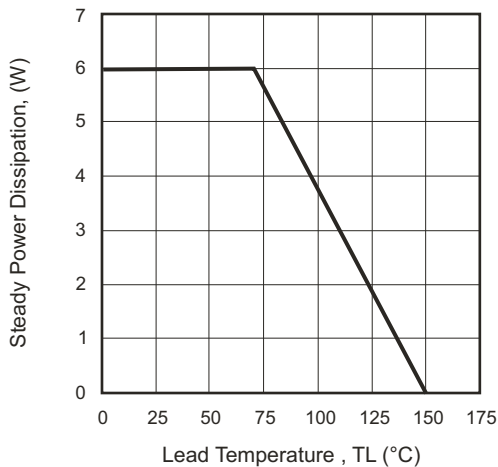


Fig.4- Peak Pulse Power Rating Curve

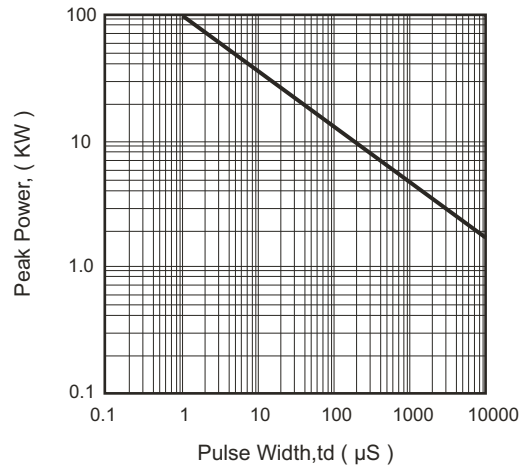


Fig.5- Pulse Waveform

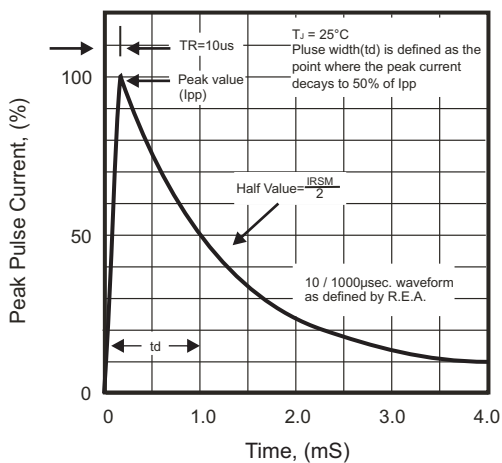
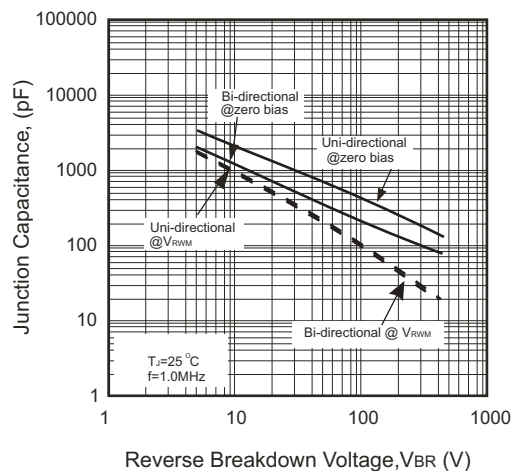


Fig.6- Typical Junction Capacitance



# SMD Transient Voltage Suppressor



## Electrical Characteristics (ATV30C5V0-HF Thru. ATV30C441-HF)

Part No	Absolute Maximum Rating (Ta= 25°C)					Electrical Characteristic (Ta= 25°C)				
	V <sub>RWM</sub>	V <sub>BR</sub> Min.	V <sub>BR</sub> Max.	I <sub>T</sub>	I <sub>FSM</sub>	Max. V <sub>C</sub>	I <sub>R</sub> @V <sub>RWM</sub>	Marking Code		
	(V)	(V)	(V)	(mA)	(A)@8.3mS	(V)	I <sub>PP</sub> (A)	(uA)	Uni	Bi
ATV30C5V0J(B)-HF	5.0	6.40	7.00	50	300	9.2	326.09	5000	RDE	DDE
ATV30C6V0J(B)-HF	6.0	6.67	7.37	50	300	10.3	291.26	5000	RDG	DDG
ATV30C6V5J(B)-HF	6.5	7.22	7.98	50	300	11.2	267.86	2000	RDK	DDK
ATV30C7V0J(B)-HF	7.0	7.78	8.60	50	300	12.0	250.00	1000	PDM	DDM
ATV30C7V5J(B)-HF	7.5	8.33	9.21	5	300	12.9	232.56	250	PDP	DDP
ATV30C8V0J(B)-HF	8.0	8.89	9.83	5	300	13.6	220.59	150	PDR	DDR
ATV30C8V5J(B)-HF	8.5	9.44	10.40	5	300	14.4	208.33	50	PDT	DDT
ATV30C9V0J(B)-HF	9.0	10.00	11.10	5	300	15.4	194.81	20	PDV	DDV
ATV30C100J(B)-HF	10.0	11.10	12.30	5	300	17.0	176.47	15	PDX	DDX
ATV30C110J(B)-HF	11.0	12.20	13.50	5	300	18.2	164.84	2	PDZ	DDZ
ATV30C120J(B)-HF	12.0	13.30	14.70	5	300	19.9	150.75	2	PEE	DEE
ATV30C130J(B)-HF	13.0	14.40	15.90	5	300	21.5	139.53	2	PEG	DEG
ATV30C140J(B)-HF	14.0	15.60	17.20	5	300	23.2	129.31	2	PEK	DEK
ATV30C150J(B)-HF	15.0	16.70	18.50	5	300	24.4	122.95	2	PEM	DEM
ATV30C160J(B)-HF	16.0	17.80	19.70	5	300	26.0	115.38	2	PEP	DEP
ATV30C170J(B)-HF	17.0	18.90	20.90	5	300	27.6	108.70	2	PER	DER
ATV30C180J(B)-HF	18.0	20.00	22.10	5	300	29.2	102.74	2	PET	DET
ATV30C190J(B)-HF	19.0	21.10	23.30	5	300	30.8	97.47	2	PEB	DEB
ATV30C200J(B)-HF	20.0	22.20	24.50	5	300	32.4	92.59	2	PEV	DEV
ATV30C220J(B)-HF	22.0	24.40	26.90	5	300	35.5	84.51	2	PEX	DEX
ATV30C240J(B)-HF	24.0	26.70	29.50	5	300	38.9	77.12	2	PEZ	DEZ
ATV30C260J(B)-HF	26.0	28.90	31.90	5	300	42.1	71.26	2	PFE	DFE
ATV30C280J(B)-HF	28.0	31.10	34.40	5	300	45.4	66.08	2	PFG	DFG
ATV30C300J(B)-HF	30.0	33.30	36.80	5	300	48.4	61.98	2	PFK	DFK
ATV30C330J(B)-HF	33.0	36.70	40.60	5	300	53.3	56.29	2	PFM	DFM
ATV30C360J(B)-HF	36.0	40.00	44.20	5	300	58.1	51.64	2	PFP	DFP
ATV30C400J(B)-HF	40.0	44.40	49.10	5	300	64.5	46.51	2	PFR	DFR
ATV30C430J(B)-HF	43.0	47.80	52.80	5	300	69.4	43.23	2	PFT	DFT
ATV30C450J(B)-HF	45.0	50.00	55.30	5	300	72.7	41.27	2	PFV	DFV
ATV30C480J(B)-HF	48.0	53.30	58.90	5	300	77.4	38.76	2	PFX	DFX
ATV30C510J(B)-HF	51.0	56.70	62.70	5	300	82.4	36.41	2	PFZ	DFZ
ATV30C540J(B)-HF	54.0	60.00	66.30	5	300	87.1	34.44	2	RGE	DGE
ATV30C580J(B)-HF	58.0	64.40	71.20	5	300	93.6	32.05	2	PGG	DGG
ATV30C600J(B)-HF	60.0	66.70	73.70	5	300	96.8	30.99	2	PGK	DGK
ATV30C640J(B)-HF	64.0	71.10	78.60	5	300	103.0	29.13	2	PGM	DGM
ATV30C700J(B)-HF	70.0	77.80	86.00	5	300	113.0	26.55	2	PGP	DGP
ATV30C750J(B)-HF	75.0	83.30	92.10	5	300	121.0	24.79	2	PGR	DGR
ATV30C780J(B)-HF	78.0	86.70	95.80	5	300	126.0	23.81	2	PGT	DGT
ATV30C800J(B)-HF	80.0	88.80	97.60	5	300	129.6	23.15	2	PGB	DGB
ATV30C850J(B)-HF	85.0	94.40	104.00	5	300	137.0	21.90	2	PGV	DGV
ATV30C900J(B)-HF	90.0	100.00	111.00	5	300	146.0	20.55	2	PGX	DGX
ATV30C101J(B)-HF	100.0	111.00	123.00	5	300	162.0	18.52	2	PGZ	DGZ
ATV30C111J(B)-HF	110.0	122.00	135.00	5	300	177.0	16.95	2	PHE	DHE
ATV30C121J(B)-HF	120.0	133.00	147.00	5	300	193.0	15.54	2	PHG	DHG
ATV30C131J(B)-HF	130.0	144.00	159.00	5	300	209.0	14.35	2	PHK	DHK
ATV30C141J(B)-HF	140.0	155.00	171.00	5	300	226.8	13.23	2	PHB	DHB
ATV30C151J(B)-HF	150.0	167.00	185.00	5	300	243.0	12.35	2	PHM	DHM
ATV30C161J(B)-HF	160.0	178.00	197.00	5	300	259.0	11.58	2	PHP	DHP

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# SMD Transient Voltage Suppressor



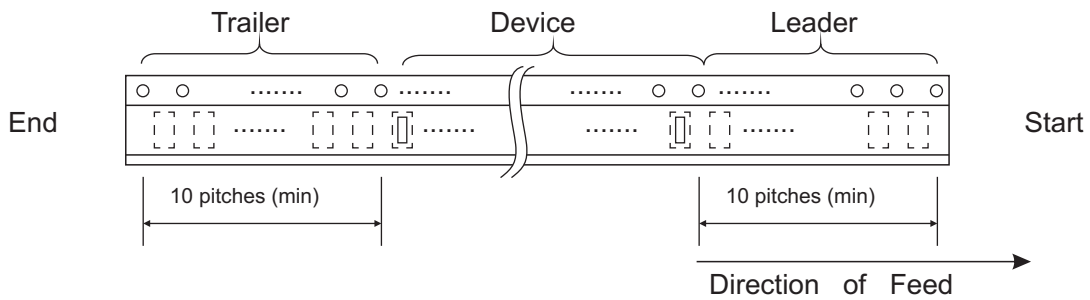
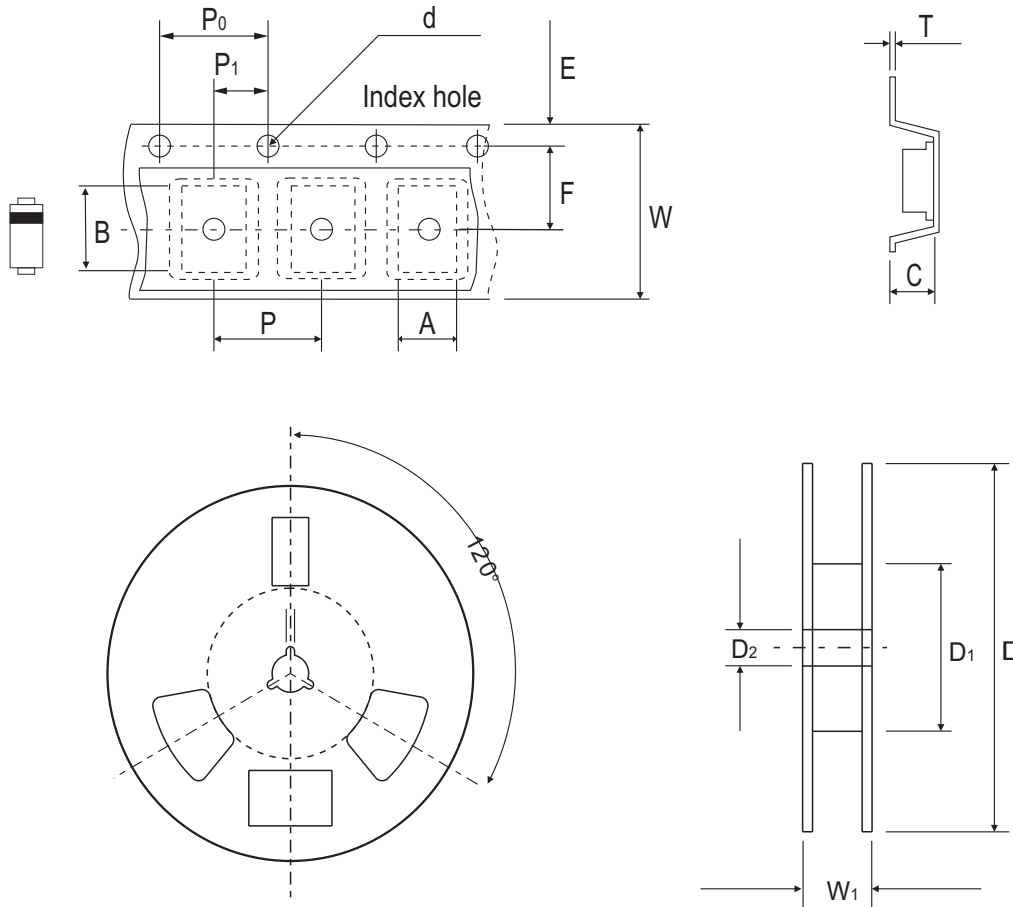
## Electrical Characteristics (ATV30C5V0-HF Thru. ATV30C441-HF)

Part No.	Absolute Maximum Rating (TA=25°C)					Electrical Characteristic (TA=25°C)				
	V <sub>RWM</sub>	V <sub>BR</sub> Min.	V <sub>BR</sub> Max.	I <sub>T</sub>	I <sub>FSM</sub>	Max V <sub>C</sub>	I <sub>R</sub> @V <sub>RWM</sub>	Marking Code		
	(V)	(V)	(V)	(mA)	(A)@8.3mS	(V)	I <sub>PP</sub> (A)	(uA)	Uni	Bi
ATV30C171J(B)-HF	170.0	189.00	209.0	5	300	275.0	10.91	2	PHR	DHR
ATV30C181J(B)-HF	180.0	200.00	220.00	5	300	291.6	10.29	2	PHT	DHT
ATV30C191J(B)-HF	190.0	211.00	232.00	5	300	307.8	9.75	2	PHV	DHV
ATV30C201J(B)-HF	200.0	224.00	247.00	5	300	324.0	9.26	2	PHW	DHW
ATV30C221J(B)-HF	220.0	246.00	272.00	5	300	356.0	8.43	2	PHX	DHX
ATV30C251J(B)-HF	250.0	279.00	309.00	5	300	405.0	7.41	2	PHZ	DHZ
ATV30C301J(B)-HF	300.0	335.00	371.00	5	300	486.0	6.17	2	PJE	DJE
ATV30C351J(B)-HF	350.0	391.00	432.00	5	300	567.0	5.29	2	PJG	DJG
ATV30C401J(B)-HF	400.0	447.00	494.00	5	300	648.0	4.63	2	PJK	DJK
ATV30C441J(B)-HF	440.0	492.00	543.00	5	300	713.0	4.21	2	PJM	DJM

Note:

- 1) Suffix J denotes 5% tolerance devices.
- 2) Suffix B after part number to specify Bi-directional devices.
- 3) For Bi-Directional devices having V<sub>R</sub> of 10 volts and under, the I<sub>R</sub> limit is double.

## Reel Taping Specification



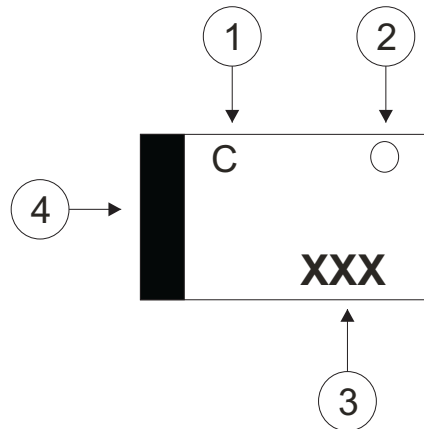
DO-214AB (SMC)	SYMBOL	A	B	C	d	D	D <sub>1</sub>	D <sub>2</sub>
	(mm)	6.05 ± 0.10	8.31 ± 0.10	4.50 MAX.	1.55 ± 0.10-0.0	330	50.0 MIN.	13.0 ± 0.20
	(inch)	0.256 ± 0.004	0.327 ± 0.004	0.177 MAX.	0.061 ± 0.004	13.00	1.969 MIN.	0.512 ± 0.008

DO-214AB (SMC)	SYMBOL	E	F	P	P <sub>0</sub>	P <sub>1</sub>	W	W <sub>1</sub>
	(mm)	1.75 ± 0.10	7.50 ± 0.05	4.00 ± 0.10	4.00 ± 0.10	2.00 ± 1.00	16.0 ± 0.30	22.4 MAX.
	(inch)	0.069 ± 0.004	0.295 ± 0.002	0.157 ± 0.004	0.157 ± 0.004	0.079 ± 0.040	0.630 ± 0.012	0.882 MAX.

## Marking Code

1. C: COMCHIP
2. ○: Package

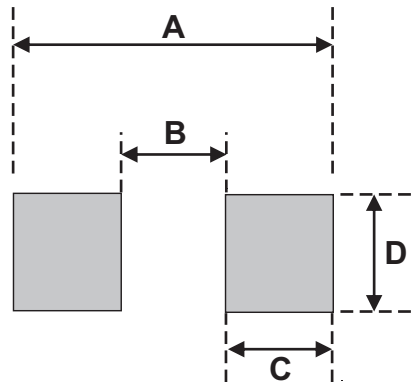
○	PKG
C	SMC



3. XXX: Marking code(see Page. 3~5)
4. █: Cathod Band

## Suggested PAD Layout

SIZE	DO-214AB(SMC)	
	(mm)	(inch)
A	8.13	0.320
B	4.69 MAX	0.185 MAX
C	1.52 MIN	0.06 MIN
D	3.20 MIN	0.126 MIN



## Standard Packaging

Case Type	REEL PACK	
	REEL ( pcs )	Reel Size (inch)
DO-214AB (SMC)	3,000	13

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[ATV30C480J-HF](#) [ATV30C121J-HF](#) [ATV30C110J-HF](#) [ATV30C280JB-HF](#) [ATV30C441J-HF](#) [ATV30C301JB-HF](#)  
[ATV30C140J-HF](#) [ATV30C260JB-HF](#) [ATV30C300J-HF](#) [ATV30C450JB-HF](#) [ATV30C6V0J-HF](#) [ATV30C181JB-HF](#)  
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[ATV30C200J-HF](#) [ATV30C121JB-HF](#) [ATV30C201JB-HF](#) [ATV30C330J-HF](#) [ATV30C450J-HF](#) [ATV30C101JB-HF](#)  
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[ATV30C111J-HF](#) [ATV30C200JB-HF](#) [ATV30C131JB-HF](#) [ATV30C7V0JB-HF](#) [ATV30C191J-HF](#) [ATV30C360J-HF](#)  
[ATV30C170JB-HF](#) [ATV30C8V5JB-HF](#) [ATV30C101J-HF](#) [ATV30C540JB-HF](#)