

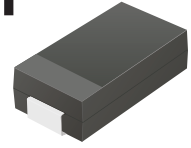
## ATV06B5V0-HF Thru. ATV06B441-HF

Working Peak Reverse voltage: 5.0 ~ 440Volts

Power Dissipation: 600 Watts

RoHS Device

Halogen Free

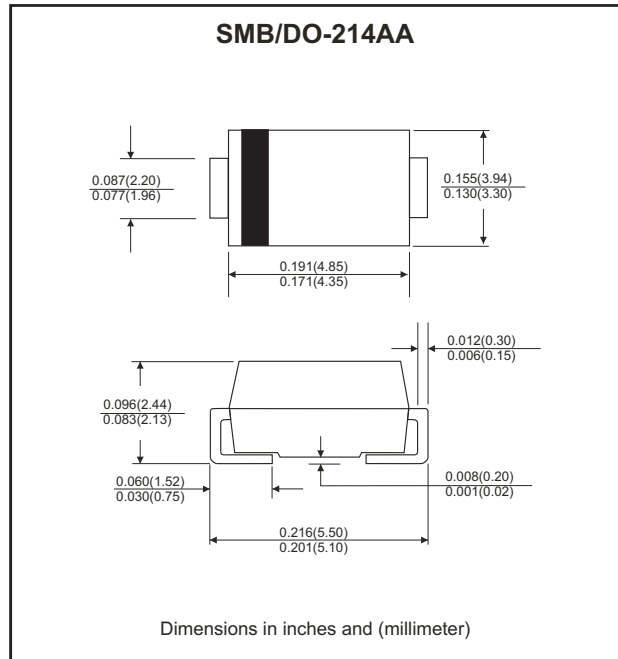


### Features

- Glass passivated chip.
- 600W peak pulse power capability with a 10/1000 $\mu$ s waveform, repetitive rate (duty cycle): 0.01%.
- Low leakage.
- Uni and Bidirectional unit.
- Excellent clamping capability.
- Very fast response time.
- Comply with AEC-Q101.

### Mechanical Data

- Case: JEDEC DO-214AA, molded plastic.
- Epoxy: UL 94V-0 rate flame retardant.
- Terminals: solderable per MIL-STD-750, method 2026
- Polarity: Color band denotes cathode end except Bipolar.
- Mounting position: Any.
- Weight: 0.093 gram approx.



### 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 $\mu$ s waveform (Note 1)	P <sub>PP</sub>	600	Watts
Peak pulse current with a 10/1000 $\mu$ s waveform (Note 1)	I <sub>PP</sub>	See Next Table	A
Power dissipation on infinite heatsink at T <sub>L</sub> =75°C	P <sub>D</sub>	5.0	Watts
Peak forward surge current, 8.3ms single half sine-wave unidirectional only (Note 2)	I <sub>FSM</sub>	100	A
Maximum instantaneous forward voltage at 50 A for unidirectional only (Note 3)	V <sub>F</sub>	3.5 / 5.0	V
Operating junction and Storage temperature range	T <sub>J</sub> , T <sub>STG</sub>	-55 to +150	°C

Note:

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 Characteristics Curves (ATV06B5V0-HF Thru. ATV06B441-HF)

Fig.1 Pulse Derating Curve

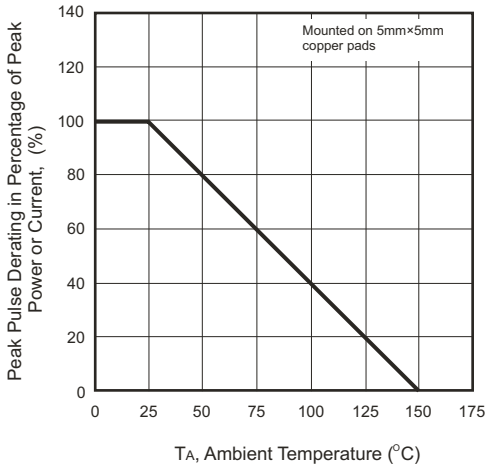


Fig.2 Maximum Non-Repetitive Surge Current

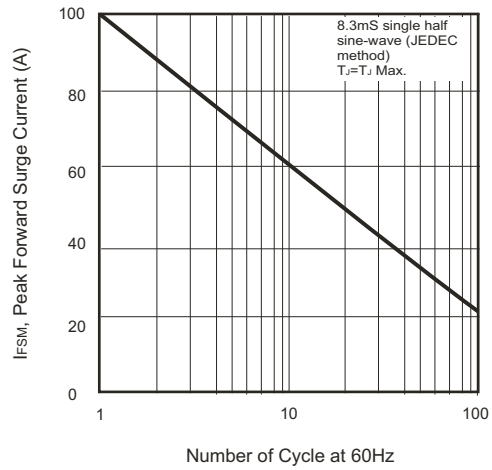


Fig.3 Steady State Power Derating Curve

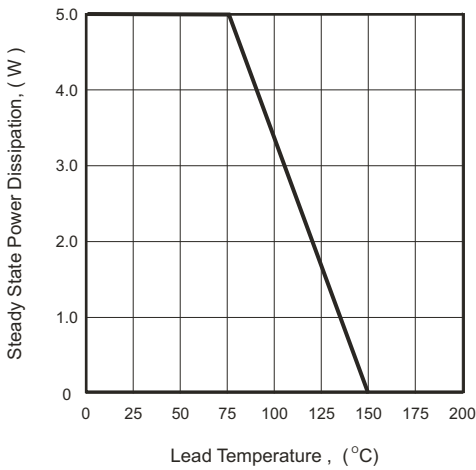


Fig.4 Peak Pulse Power Rating Curve

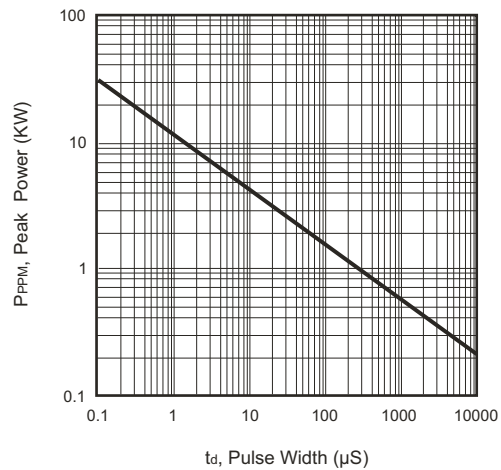


Fig.5 Pulse Waveform

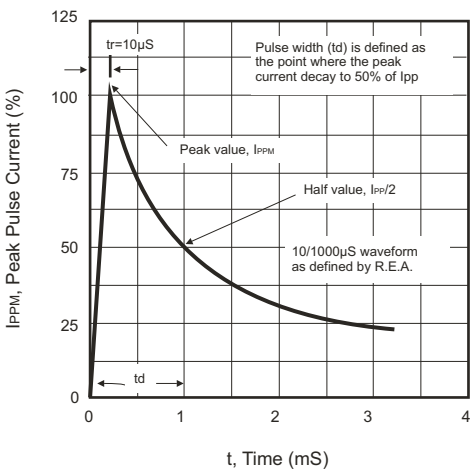
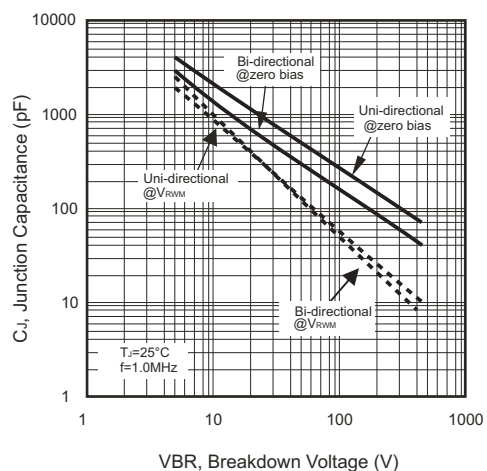


Fig.6 Typical Junction Capacitance



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# SMD Transient Voltage Suppressor



## Electrical Characteristics (ATV06B5V0-HF Thru. ATV06B441-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)	( $\mu$ A)	UNI	BI
ATV06B5V0J(B)-HF	5.00	6.40	7.00	10	100	9.2	65.22	800	KE	AE
ATV06B6V0J(B)-HF	6.00	6.67	7.37	10	100	10.3	58.25	800	KG	AG
ATV06B6V5J(B)-HF	6.50	7.22	7.98	10	100	11.2	53.57	500	KK	AK
ATV06B7V0J(B)-HF	7.00	7.78	8.60	10	100	12.0	50.00	200	KM	AM
ATV06B7V5J(B)-HF	7.50	8.33	9.21	1	100	12.9	46.51	100	KP	AP
ATV06B8V0J(B)-HF	8.00	8.89	9.83	1	100	13.6	44.12	50	KR	AR
ATV06B8V5J(B)-HF	8.50	9.44	10.40	1	100	14.4	41.67	10	KT	AT
ATV06B9V0J(B)-HF	9.00	10.00	11.10	1	100	15.4	38.96	5	KV	AV
ATV06B100J(B)-HF	10.0	11.10	12.30	1	100	17.0	35.29	5	KX	AX
ATV06B110J(B)-HF	11.0	12.20	13.50	1	100	18.2	32.97	5	KZ	AZ
ATV06B120J(B)-HF	12.0	13.30	14.70	1	100	19.9	30.15	5	LE	BE
ATV06B130J(B)-HF	13.0	14.40	15.90	1	100	21.5	27.91	5	LG	BG
ATV06B140J(B)-HF	14.0	15.60	17.20	1	100	23.2	25.86	5	LK	BK
ATV06B150J(B)-HF	15.0	16.70	18.50	1	100	24.4	24.59	5	LM	BM
ATV06B160J(B)-HF	16.0	17.80	19.70	1	100	26.0	23.08	5	LP	BP
ATV06B170J(B)-HF	17.0	18.90	20.90	1	100	27.6	21.74	5	LR	BR
ATV06B180J(B)-HF	18.0	20.00	22.10	1	100	29.2	20.55	5	LT	BT
ATV06B190J(B)-HF	19.0	21.10	23.30	1	100	30.8	19.49	5	LB	BB
ATV06B200J(B)-HF	20.0	22.20	24.50	1	100	32.4	18.52	5	LV	BV
ATV06B220J(B)-HF	22.0	24.40	26.90	1	100	35.5	16.90	5	LX	BX
ATV06B240J(B)-HF	24.0	26.70	29.50	1	100	38.9	15.42	5	LZ	BZ
ATV06B260J(B)-HF	26.0	28.90	31.90	1	100	42.1	14.25	5	ME	CE
ATV06B280J(B)-HF	28.0	31.10	34.40	1	100	45.4	13.22	5	MG	CG
ATV06B300J(B)-HF	30.0	33.30	36.80	1	100	48.4	12.40	5	MK	CK
ATV06B330J(B)-HF	33.0	36.70	40.60	1	100	53.3	11.26	5	MM	CM
ATV06B360J(B)-HF	36.0	40.00	44.20	1	100	58.1	10.33	5	MP	CP
ATV06B400J(B)-HF	40.0	44.40	49.10	1	100	64.5	9.30	5	MR	CR
ATV06B430J(B)-HF	43.0	47.80	52.80	1	100	69.4	8.65	5	MT	CT
ATV06B450J(B)-HF	45.0	50.00	55.30	1	100	72.7	8.25	5	MV	CV
ATV06B480J(B)-HF	48.0	53.30	58.90	1	100	77.4	7.75	5	MX	CX
ATV06B510J(B)-HF	51.0	56.70	62.70	1	100	82.4	7.28	5	MZ	CZ
ATV06B540J(B)-HF	54.0	60.00	66.30	1	100	87.1	6.89	5	NE	DE
ATV06B580J(B)-HF	58.0	64.40	71.20	1	100	93.6	6.41	5	NG	DG
ATV06B600J(B)-HF	60.0	66.70	73.70	1	100	96.8	6.20	5	NK	DK
ATV06B640J(B)-HF	64.0	71.10	78.60	1	100	103.0	5.83	5	NM	DM
ATV06B700J(B)-HF	70.0	77.80	86.00	1	100	113.0	5.31	5	NP	DP
ATV06B750J(B)-HF	75.0	83.30	92.10	1	100	121.0	4.96	5	NR	DR
ATV06B780J(B)-HF	78.0	86.70	95.80	1	100	126.0	4.76	5	NT	DT
ATV06B800J(B)-HF	80.0	88.80	97.60	1	100	129.6	4.63	5	NB	DB
ATV06B850J(B)-HF	85.0	94.40	104.00	1	100	137.0	4.38	5	NV	DV
ATV06B900J(B)-HF	90.0	100.00	111.00	1	100	146.0	4.11	5	NX	DX
ATV06B101J(B)-HF	100.0	111.00	123.00	1	100	162.0	3.70	5	NZ	DZ
ATV06B111J(B)-HF	110.0	122.00	135.00	1	100	177.0	3.39	5	PE	EE
ATV06B121J(B)-HF	120.0	133.00	147.00	1	100	193.0	3.11	5	PG	EG
ATV06B131J(B)-HF	130.0	144.00	159.00	1	100	209.0	2.87	5	PK	EK
ATV06B141J(B)-HF	140.0	155.00	171.00	1	100	226.8	2.65	5	PB	EB
ATV06B151J(B)-HF	150.0	167.00	185.00	1	100	243.0	2.47	5	PM	EM
ATV06B161J(B)-HF	160.0	178.00	197.00	1	100	259.0	2.32	5	PP	EP
ATV06B171J(B)-HF	170.0	189.00	209.00	1	100	275.0	2.18	5	PR	ER
ATV06B181J(B)-HF	180.0	200.00	220.00	1	100	291.6	2.06	5	PT	ET
ATV06B191J(B)-HF	190.0	211.00	232.00	1	100	307.8	1.95	5	PV	EV
ATV06B201J(B)-HF	200.0	224.00	247.00	1	100	324.0	1.85	5	PW	EW

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## Electrical Characteristics (ATV06B5V0-HF Thru. ATV06B441-HF)

Part No.	Absolute Maximum Rating (T <sub>A</sub> =25°C)					Electrical Characteristic (T <sub>A</sub> =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
ATV06B221J(B)-HF	220.0	246.00	272.00	1	100	356.0	1.69	5	PX	EX
ATV06B251J(B)-HF	250.0	279.00	309.00	1	100	405.0	1.48	5	PZ	EZ
ATV06B301J(B)-HF	300.0	335.00	371.00	1	100	486.0	1.23	5	QE	FE
ATV06B351J(B)-HF	350.0	391.00	432.00	1	100	567.0	1.06	5	QG	FG
ATV06B401J(B)-HF	400.0	447.00	494.00	1	100	648.0	0.93	5	QK	FK
ATV06B441J(B)-HF	440.0	492.00	543.00	1	100	713.0	0.84	5	QM	FM

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.

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## Reel Taping Specification



DO-214AA (SMB)	SYMBOL	A	B	C	d	D	D1	D2
	(mm)	3.67 ± 0.10	5.69 ± 0.10	4.50 (max)	1.55 ± 0.10	330.00	50.00 (min)	13.00 ± 0.20
	(inch)	0.144 ± 0.004	0.224 ± 0.004	0.177 (max)	0.061 ± 0.004	13.000	1.969 (min)	0.512 ± 0.008

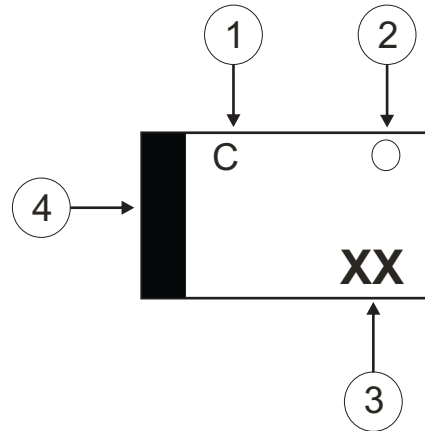
DO-214AA (SMB)	SYMBOL	E	F	P	P0	P1	W	W1
	(mm)	1.75 ± 0.10	5.50 ± 0.05	8.00 ± 0.10	4.00 ± 0.10	2.00 ± 0.05	12.00 ± 0.30	18.40 (max)
	(inch)	0.069 ± 0.004	0.217 ± 0.002	0.315 ± 0.004	0.157 ± 0.004	0.079 ± 0.002	0.472 ± 0.012	0.724 (max)

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## Marking Code

1. C: COMCHIP
2. ○: Package

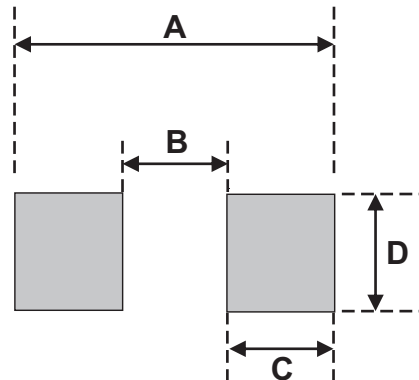
○	PKG
A	SMA
B	SMB
C	SMC



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

## Suggested PAD Layout

SIZE	DO-214AA(SMB)	
	(mm)	(inch)
A	5.60	0.220
B	2.16 MAX	0.085 MAX
C	1.52 MIN	0.060 MIN
D	2.18 MIN	0.086 MIN



## Standard Packaging

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

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