



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

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Contact us

Tel: +86-755-8981 8866 Fax: +86-755-8427 6832

Email & Skype: info@chipsmall.com Web: www.chipsmall.com

Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China



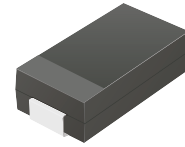
ATV04A5V0-HF Thru. ATV04A441-HF

Working Peak Reverse Voltage: 5.0 to 440 Volts

Power Dissipation: 400 Watts

RoHS Device

Halogen Free

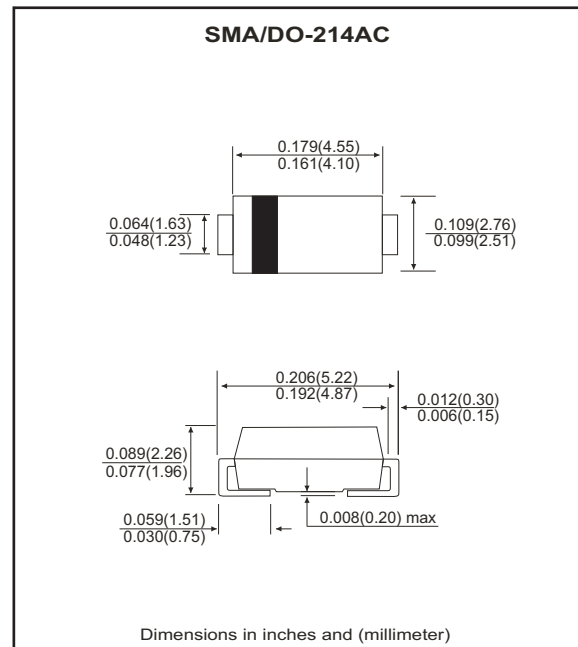


Features

- Glass passivated chip.
- 400W peak pulse power capability with a 10/1000 μ 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

- Epoxy: UL 94V-0 rate flame retardant.
- Case: SMA/DO-214AC, molded plastic.
- Terminals: solderable per MIL-STD-750, method 2026.
- Polarity: Color band denotes cathode end except Bipolar.
- Approx. weight: 0.064 grams



Maximum Ratings and Electrical Characteristics

Ratings 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 μ S waveform (Note1)	P _{PPM}	400	W
Peak pulse current on 10/1000 μ S waveform (Note 1)	I _{PPM}	See Next Table	A
Steady state power dissipation at T _L =75°C	P _{M(AV)}	1.0	W
Peak forward surge current, 8.3mS single half sine-wave unidirectional only (Note 2)	I _{FSM}	40	A
Maximum instantaneous forward voltage at 25.0A for unidirectional only (Note 3)	V _F	3.5/5.0	V
Maximum operating junction temperature	T _J	-55 to +150	°C
Storage temperature range	T _{STG}	-55 to +150	°C

Notes:

1. Non-repetitive current pulse, per Fig. 5 and derated above T_A=25°C, per Fig. 1.
2. Measured on 8.3mS single half sine-wave or equare wave, duty cycle=4 pulses per minute maximum.
3. V_F<3.5V for devices of V_{BR}<200V and V_F<5.0V for devices of V_{BR}>201V

RATING AND CHARACTERISTIC CURVES (ATV04A5V0-HF thru ATV04A441-HF)

Fig.1- Pulse Derating Curve

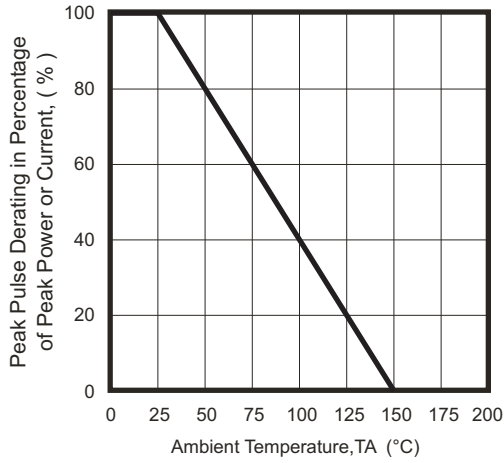


Fig.2- Maximum Non-Repetitive Surge Current

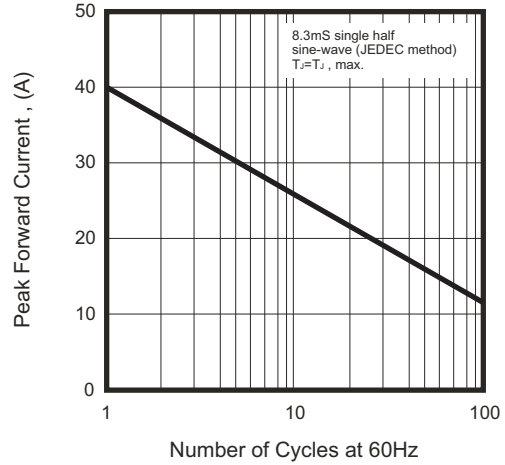


Fig.3- Steady State Power Derating Curve

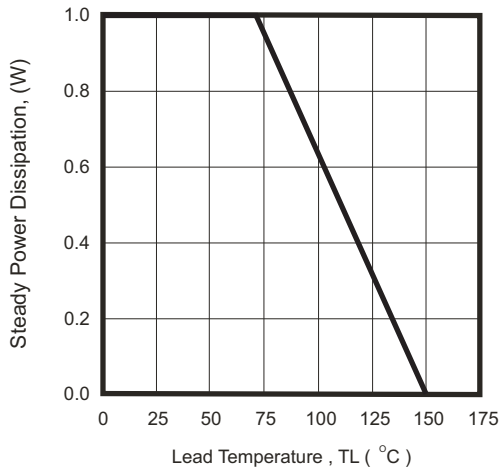


Fig.4- Peak Pulse Power Rating Curve

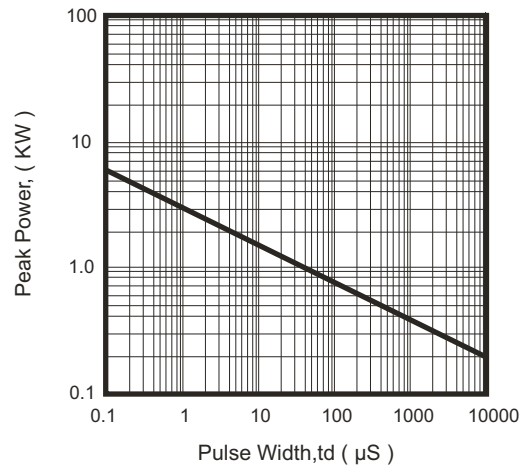


Fig.5- Pulse Waveform

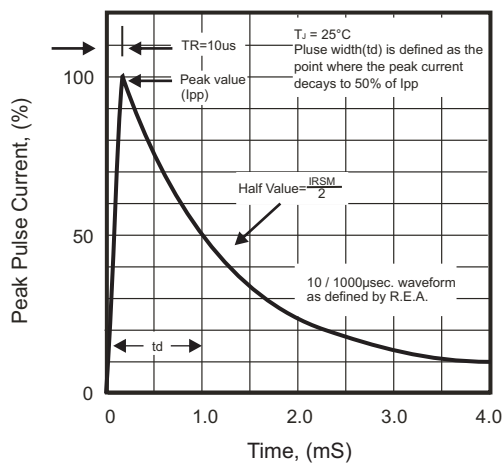
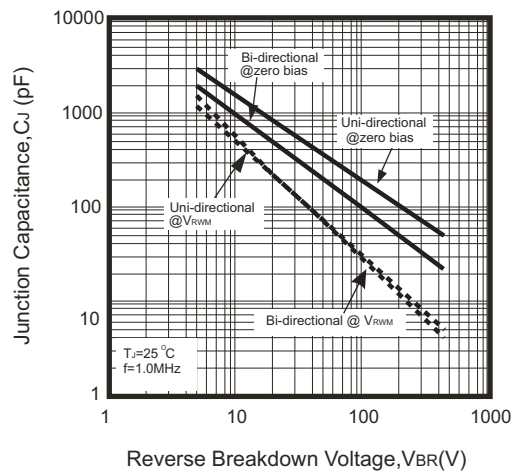


Fig.6- Typical Junction Capacitance



SMD Transient Voltage Suppressor



Electrical Characteristics (ATV04A5V0-HF Thru. ATV04A441-HF)

Part No	Absolute Maximum Rating (Ta=25°C)					Electrical Characteristic (Ta=25°C)				
	V _{RWM}	V _{BR} Min.	V _{BR} Max.	I _T	I _{FSM}	Max. V _C		I _R @ V _{RWM}	Marking Code	
	(V)	(V)	(V)	(mA)	(A)@8.3mS	(V)	I _{PP} (A)	(μ A)	Uni	Bi
ATV04A4V0J(B)-HF	4.00	5.89	6.51	10	40	8.60	46.50	800	AC	WC
ATV04A5V0J(B)-HF	5.00	6.40	7.00	10	40	9.20	43.48	800	AE	WE
ATV04A6V0J(B)-HF	6.00	6.67	7.37	10	40	10.3	38.83	800	AG	WG
ATV04A6V5J(B)-HF	6.50	7.22	7.98	10	40	11.2	35.71	500	AK	WK
ATV04A7V0J(B)-HF	7.00	7.78	8.60	10	40	12.0	33.33	200	AM	WM
ATV04A7V5J(B)-HF	7.50	8.33	9.21	1	40	12.9	31.01	100	AP	WP
ATV04A8V0J(B)-HF	8.00	8.89	9.83	1	40	13.6	29.41	50	AR	WR
ATV04A8V5J(B)-HF	8.50	9.44	10.40	1	40	14.4	27.78	10	AT	WT
ATV04A9V0J(B)-HF	9.00	10.00	11.10	1	40	15.4	25.97	5	AV	WV
ATV04A100J(B)-HF	10.0	11.10	12.30	1	40	17.0	23.53	5	AX	WX
ATV04A110J(B)-HF	11.0	12.20	13.50	1	40	18.2	21.98	1	AZ	WZ
ATV04A120J(B)-HF	12.0	13.30	14.70	1	40	19.9	20.10	1	BE	XE
ATV04A130J(B)-HF	13.0	14.40	15.90	1	40	21.5	18.60	1	BG	XG
ATV04A140J(B)-HF	14.0	15.60	17.20	1	40	23.2	17.24	1	BK	XK
ATV04A150J(B)-HF	15.0	16.70	18.50	1	40	24.4	16.39	1	BM	XM
ATV04A160J(B)-HF	16.0	17.80	19.70	1	40	26.0	15.38	1	BP	XP
ATV04A170J(B)-HF	17.0	18.90	20.90	1	40	27.6	14.49	1	BR	XR
ATV04A180J(B)-HF	18.0	20.00	22.10	1	40	29.2	13.70	1	BT	XT
ATV04A190J(B)-HF	19.0	21.10	23.30	1	40	30.8	13.00	1	BB	XB
ATV04A200J(B)-HF	20.0	22.20	24.50	1	40	32.4	12.35	1	BV	XV
ATV04A220J(B)-HF	22.0	24.40	26.90	1	40	35.5	11.27	1	BX	XX
ATV04A240J(B)-HF	24.0	26.70	29.50	1	40	38.9	10.28	1	BZ	XZ
ATV04A260J(B)-HF	26.0	28.90	31.90	1	40	42.1	9.50	1	CE	YE
ATV04A280J(B)-HF	28.0	31.10	34.40	1	40	45.4	8.81	1	CG	YG
ATV04A300J(B)-HF	30.0	33.30	36.80	1	40	48.4	8.26	1	CK	YK
ATV04A330J(B)-HF	33.0	36.70	40.60	1	40	53.3	7.50	1	CM	YM
ATV04A360J(B)-HF	36.0	40.00	44.20	1	40	58.1	6.88	1	CP	YP
ATV04A400J(B)-HF	40.0	44.40	49.10	1	40	64.5	6.20	1	CR	YR
ATV04A430J(B)-HF	43.0	47.80	52.80	1	40	69.4	5.76	1	CT	YT
ATV04A450J(B)-HF	45.0	50.00	55.30	1	40	72.7	5.50	1	CV	YV
ATV04A480J(B)-HF	48.0	53.30	58.90	1	40	77.4	5.17	1	CX	YX
ATV04A510J(B)-HF	51.0	56.70	62.70	1	40	82.4	4.85	1	CZ	YZ
ATV04A540J(B)-HF	54.0	60.00	66.30	1	40	87.1	4.59	1	RE	ZE
ATV04A580J(B)-HF	58.0	64.40	71.20	1	40	93.6	4.27	1	RG	ZG
ATV04A600J(B)-HF	60.0	66.70	73.70	1	40	96.8	4.13	1	RK	ZK
ATV04A640J(B)-HF	64.0	71.10	78.60	1	40	103.0	3.88	1	RM	ZM
ATV04A700J(B)-HF	70.0	77.80	86.00	1	40	113.0	3.54	1	RP	ZP
ATV04A750J(B)-HF	75.0	83.30	92.10	1	40	121.0	3.31	1	RR	ZR
ATV04A780J(B)-HF	78.0	86.70	95.80	1	40	126.0	3.17	1	RT	ZT
ATV04A800J(B)-HF	80.0	88.80	97.60	1	40	129.6	3.09	1	RB	ZB
ATV04A850J(B)-HF	85.0	94.40	104.00	1	40	137.0	2.92	1	RV	ZV
ATV04A900J(B)-HF	90.0	100.00	111.00	1	40	146.0	2.74	1	RX	ZX
ATV04A101J(B)-HF	100.0	111.00	123.00	1	40	162.0	2.47	1	RZ	ZZ
ATV04A111J(B)-HF	110.0	122.00	135.00	1	40	177.0	2.26	1	SE	VE
ATV04A121J(B)-HF	120.0	133.00	147.00	1	40	193.0	2.07	1	SG	VG
ATV04A131J(B)-HF	130.0	144.00	159.00	1	40	209.0	1.91	1	SK	VK
ATV04A141J(B)-HF	140.0	155.00	171.00	1	40	226.8	1.76	1	SB	VB
ATV04A151J(B)-HF	150.0	167.00	185.00	1	40	243.0	1.65	1	SM	VM
ATV04A161J(B)-HF	160.0	178.00	197.00	1	40	259.0	1.54	1	SP	VP
ATV04A171J(B)-HF	170.0	189.00	209.00	1	40	275.0	1.45	1	SR	VR
ATV04A181J(B)-HF	180.0	200.00	220.00	1	40	291.6	1.37	1	ST	VT
ATV04A191J(B)-HF	190.0	211.00	232.00	1	40	307.8	1.30	1	SV	VV

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

REV.A

SMD Transient Voltage Suppressor

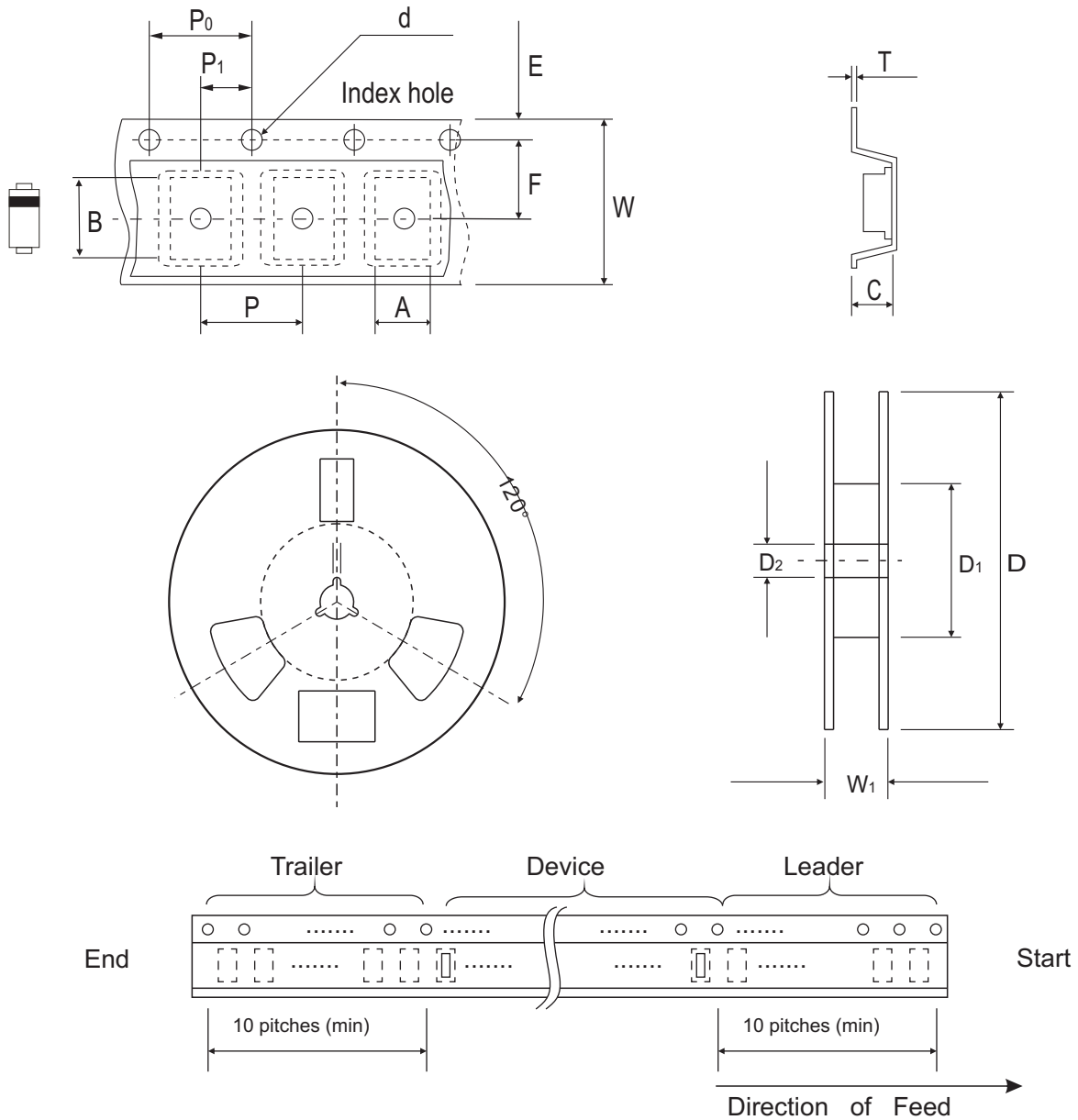
Electrical Characteristics (ATV04A5V0-HF Thru. ATV04A441-HF)

Part No.	Absolute Maximum Rating (T _A =25°C)					Electrical Characteristic (T _A =25°C)				
	V _{RWM}	V _{BR} Min.	V _{BR} Max.	I _T	I _{FSM}	Max V _C	I _R @V _{RWM}	Marking Code		
	(V)	(V)	(V)	(mA)	(A)@8.3mS	(V)	I _{PP} (A)	(uA)	Uni	Bi
ATV04A201J(B)-HF	200.0	224.00	247.00	1	40	324.0	1.23	1	SW	VW
ATV04A221J(B)-HF	220.0	246.00	272.00	1	40	356.0	1.12	1	SX	VX
ATV04A251J(B)-HF	250.0	279.00	309.00	1	40	405.0	0.99	1	SZ	VZ
ATV04A301J(B)-HF	300.0	335.00	371.00	1	40	486.0	0.82	1	DE	HE
ATV04A351J(B)-HF	350.0	391.00	432.00	1	40	567.0	0.71	1	DG	HG
ATV04A401J(B)-HF	400.0	447.00	494.00	1	40	648.0	0.62	1	DK	HK
ATV04A441J(B)-HF	440.0	492.00	543.00	1	40	713.0	0.56	1	DM	HM

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_R of 10 volts and under, the I_R limit is double.

Reel Taping Specification



SMA/DO-214AC	SYMBOL	A	B	C	d	D	D1	D2
	(mm)	2.79 ± 0.10	5.33 ± 0.10	4.50 (max)	1.75 ± 0.10	330MAX	50.0 MIN.	13.0 ± 0.2
	(inch)	0.110 ± 0.004	0.210 ± 0.004	0.177 (max)	0.069 ± 0.004	13.00MAX	1.969 MIN.	0.512 ± 0.008

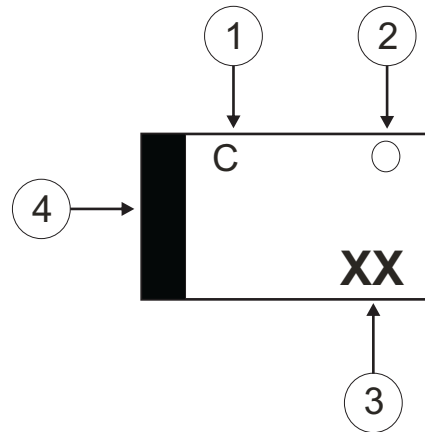
SMA/DO-214AC	SYMBOL	E	F	P	P0	P1	W	W1
	(mm)	1.75 ± 0.10	5.50 ± 0.05	4.00 ± 0.10	4.00 ± 0.10	2.00 ± 0.05	12.0 ± 0.30	18.4 MAX.
	(inch)	0.069 ± 0.004	0.216 ± 0.002	0.157 ± 0.004	0.157 ± 0.004	0.079 ± 0.002	0.472 ± 0.012	0.724 MAX.

Marking Code

1. C: COMCHIP
2. ○: Package

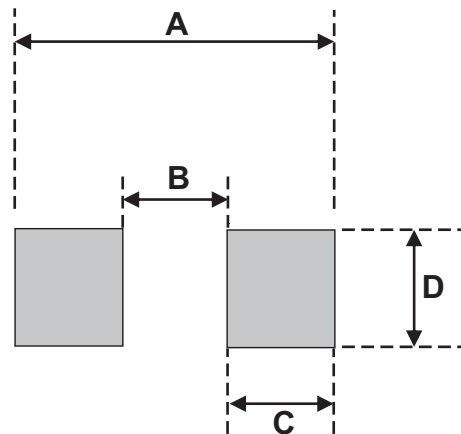
○	PKG
A	SMA
B	SMB
C	SMC

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



Suggested PAD Layout

SIZE	DO-214AC(SMA)	
	(mm)	(inch)
A	5.28	0.208
B	1.88 MAX	0.074 MAX
C	1.52 MIN	0.060 MIN
D	1.68 MIN	0.066 MIN



Standard Packaging

Case Type	Qty Per Reel	Reel Size
	(Pcs)	(inch)
SMA/DO-214AC	5,000	13