

SMD Transient Voltage Suppressor

TV06B5V0 Thru TV06B171

Working Peak Reverse Voltage: 5.0 - 170 Volts
Power Dissipation: 600 Watts

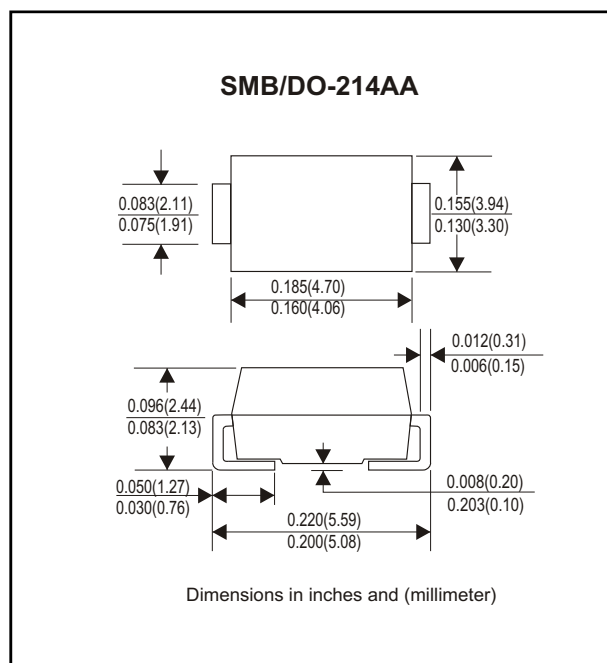


Features

- Ideal for surface mount applications
- Easy pick and place
- Plastic package has Underwriters Lab. flammability classification 94V-0
- Typical IR less than 1uA above 10V
- Fast reponse time: typically less 1nS for uni-direction, less than 5nS for bi-directiona, from 0 V to BV min.

Mechanical data

- Case: JEDEC DO-214AA molded plastic
- Terminals: solderable per MIL-STD-750, method 2026
- Polarity: Cathode band denoted
- Mounting position: Any
- Approx. Weight:0.093 gram



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 10/1000uS Waveform (Note 1, Fig. 1)	P _{PPM}	600	Watts
Peak Pulse Current of on 10/1000uS Waveform (Note 1, Fig. 3)	I _{PPM}	See Table 1	A
Steady State PowerDissipation at T _L =75° C (Note2)	P _{M(AV)}	5.0	Watts
Peak Forard Surge Current, 8.3mS Single Half Sine-Wave Superimposed on Rated Load, Uni-Directional Only (Note 3)	I _{FSM}	100	A
Maxinum Instantaneous Forward Voltage at 35.0A for Uni-Directional only (Note 3 & 4)	V _F	3.5/5.0	Volts
Operation Junction Temperature Range	T _j	-55 to +150	°C
Storage Temperature Range	T _{STG}	-55 to +150	°C

Note: 1. Non-Repetitive Current Pulse, per Fig. 3 and Derated above T_A=25° C, per Fig. 2.
2. Mounted on 5.0x5.0mm² Copper Pad to Each Terminal.
3. Measured on 8.3 mS Single Half Sine-Wave or Equivalent Square Wave, Duty Cycle=4 Pulse per Minute Maximum.
4. V_F=3.5V on TV06B5V0 thru TV06B900 Devices and V_F=5.0V on TV06B101 thru TV06B171.

Rating and Characteristic Curves (TV06B5V0 Thru TV06B171)

Fig. 1 - Reverse Characteristics

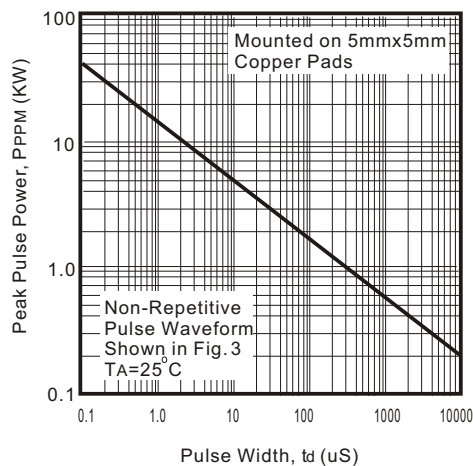


Fig. 2 - Pulse Derating Curve

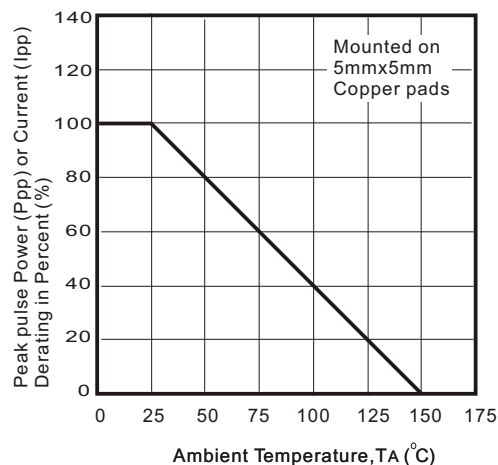


Fig. 3 - Pulse Waveform

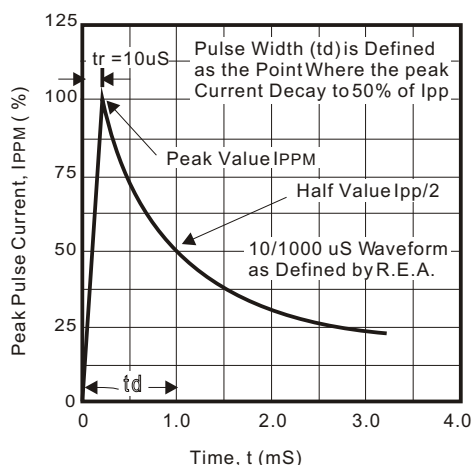


Fig. 4 - Typical Junction Capacitance for Uni-Directional Devices

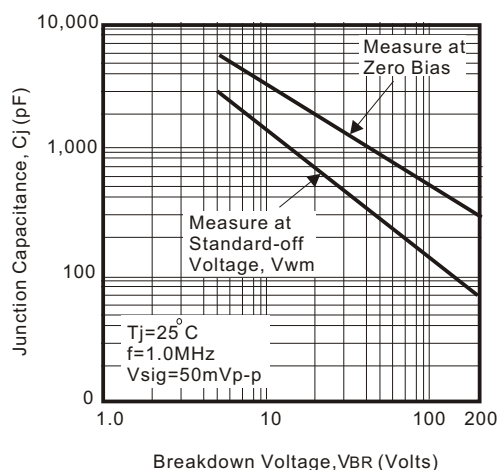


Fig. 5 - Typical Junction Capacitance for Bi-Directional Devices

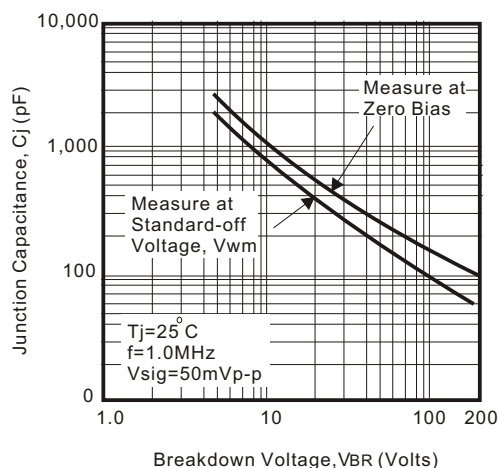


Fig. 6 - Maximum Non-Repetitive Peak Forward Surge Current (Uni-Directional Only)

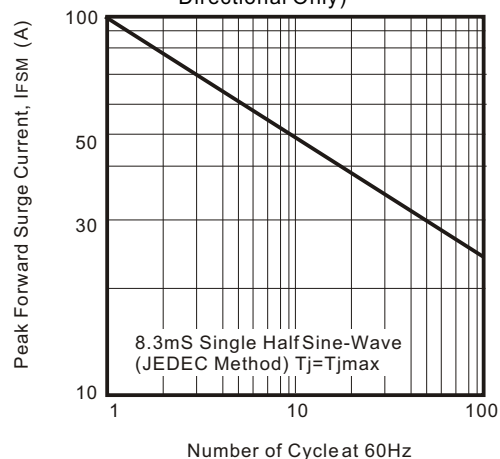


Table 1. Specification

PartNo.	Absolute Maximum Rating (Ta=25°C)					Electrical Characteristics (Ta=25°C)				
	VRWM	VBR Min	VBR Max	IT	IFSM	Max Vc		IR @VRWM	Marking Code	
	(V)	(V)	(V)	(mA)	(A) @8.3ms	(V)	Ipp(A)	(uA)	UNI	BI
TV06B5V0K(B)	5.00	6.40	7.55	10	100	9.6	62.5	800	KD	AD
TV06B5V0J(B)	5.00	6.40	7.25	10	100	9.2	65.2	800	KE	AE
TV06B6V0K(B)	6.00	6.67	8.45	10	100	11.4	52.6	800	KF	AF
TV06B6V0J(B)	6.00	6.67	7.67	10	100	10.3	58.3	800	KG	AG
TV06B6V5K(B)	6.50	7.22	9.14	10	100	12.3	48.7	500	KH	AH
TV06B6V5J(B)	6.50	7.22	8.30	10	100	11.2	53.6	500	KK	AK
TV06B7V0K(B)	7.00	7.78	9.86	1	100	13.3	45.1	200	KL	AL
TV06B7V0J(B)	7.00	7.78	8.95	1	100	12.0	50.0	200	KM	AM
TV06B7V5K(B)	7.50	8.33	10.67	1	100	14.3	42.0	100	KN	AN
TV06B7V5J(B)	7.50	8.33	9.58	1	100	12.9	46.5	100	KP	AP
TV06B8V0K(B)	8.00	8.89	11.30	1	100	15.0	40.0	50	KQ	AQ
TV06B8V0J(B)	8.00	8.89	10.23	1	100	13.6	44.1	50	KR	AR
TV06B8V5K(B)	8.50	9.44	11.9	1	100	15.9	37.7	10	KS	AS
TV06B8V5J(B)	8.50	9.44	10.8	1	100	14.4	41.7	10	KT	AT
TV06B9V0K(B)	9.00	10.0	12.6	1	100	16.9	35.5	5	KU	AU
TV06B9V0J(B)	9.00	10.0	11.5	1	100	15.4	39.0	5	KV	AV
TV06B100K(B)	10.00	11.1	14.1	1	100	18.8	31.9	5	KW	AW
TV06B100J(B)	10.00	11.1	12.8	1	100	17.0	35.3	5	KX	AX
TV06B110K(B)	11.00	12.2	15.4	1	100	20.1	29.9	5	KY	AY
TV06B110J(B)	11.00	12.2	14.0	1	100	18.2	33.0	5	KZ	AZ
TV06B120K(B)	12.00	13.3	16.9	1	100	22.0	27.3	5	LD	BD
TV06B120J(B)	12.00	13.3	15.3	1	100	19.9	30.2	5	LE	BE
TV06B130K(B)	13.00	14.4	18.2	1	100	23.8	25.2	5	LF	BF
TV06B130J(B)	13.00	14.4	16.5	1	100	21.5	27.9	5	LG	BG
TV06B140K(B)	14.00	15.6	19.8	1	100	25.8	23.3	5	LH	BH
TV06B140J(B)	14.00	15.6	17.9	1	100	23.2	25.8	5	LK	BK
TV06B150K(B)	15.00	16.7	21.1	1	100	26.9	22.3	5	LL	BL
TV06B150J(B)	15.00	16.7	19.2	1	100	24.4	24.0	5	LM	BM
TV06B160K(B)	16.00	17.8	22.6	1	100	28.8	20.8	5	LN	BN
TV06B160J(B)	16.00	17.8	20.5	1	100	26.0	23.1	5	LP	BP
TV06B170K(B)	17.00	18.9	23.9	1	100	30.5	19.7	5	LQ	BQ
TV06B170J(B)	17.00	18.9	21.7	1	100	27.6	21.7	5	LR	BR
TV06B180K(B)	18.00	20.0	25.3	1	100	32.2	18.6	5	LS	BS
TV06B180J(B)	18.00	20.0	23.3	1	100	29.2	20.5	5	LT	BT
TV06B200K(B)	20.00	22.2	28.1	1	100	35.8	16.4	5	LU	BU
TV06B200J(B)	20.00	22.2	25.5	1	100	32.4	18.5	5	LV	BV
TV06B220K(B)	22.00	24.4	30.9	1	100	39.4	15.2	5	LW	BW
TV06B220J(B)	22.00	24.4	28.0	1	100	35.5	16.9	5	LX	BX
TV06B240K(B)	24.00	26.7	33.8	1	100	43.0	14.0	5	LY	BY
TV06B240J(B)	24.00	26.7	30.7	1	100	38.9	15.4	5	LZ	BZ
TV06B260K(B)	26.00	28.9	36.6	1	100	46.6	12.4	5	MD	CD
TV06B260J(B)	26.00	28.9	33.2	1	100	42.1	14.2	5	ME	CE
TV06B280K(B)	28.00	31.1	39.4	1	100	50.0	12.0	5	MF	CF
TV06B280J(B)	28.00	31.1	35.8	1	100	45.4	13.2	5	MG	CG
TV06B300K(B)	30.00	33.3	42.2	1	100	53.5	11.2	5	MH	CH
TV06B300J(B)	30.00	33.3	38.3	1	100	48.4	12.4	5	MK	CK
TV06B330K(B)	33.00	36.7	46.5	1	100	59.0	10.2	5	ML	CL
TV06B330J(B)	33.00	36.7	42.2	1	100	53.3	11.3	5	MM	CM
TV06B360K(B)	36.00	40.0	50.7	1	100	64.3	9.3	5	MN	CN
TV06B360J(B)	36.00	40.0	46.0	1	100	58.1	10.3	5	MP	CP
TV06B400K(B)	40.00	44.4	56.3	1	100	71.4	8.4	5	MQ	CQ
TV06B400J(B)	40.00	44.4	51.1	1	100	64.5	9.3	5	MR	CR
TV06B430K(B)	43.00	47.8	60.5	1	100	76.7	7.8	5	MS	CS
TV06B430J(B)	43.00	47.8	54.9	1	100	69.4	8.6	5	MT	CT
TV06B450K(B)	45.00	50.0	63.3	1	100	80.3	7.5	5	MU	CU
TV06B450J(B)	45.00	50.0	57.5	1	100	72.7	8.3	5	MV	CV

Part No.	Absolute Maximum Rating (Ta=25°C)					Electrical Characteristics (Ta=25°C)				
	VRWM	VBR Min	VBR Max	IT	IFSM	Max Vc		IR @VRWM	Marking Code	
	(V)	(V)	(V)	(mA)	(A) @8.3ms	(V)	Ipp(A)	(uA)	UNI	BI
TV06B480K(B)	48.00	53.3	67.5	1	100	85.5	7.0	5	MW	CW
TV06B480J(B)	48.00	53.3	61.3	1	100	77.4	7.7	5	MX	CX
TV06B510K(B)	51.00	56.7	71.8	1	100	91.1	6.6	5	MY	CY
TV06B510J(B)	51.00	56.7	65.2	1	100	82.4	7.3	5	MZ	CZ
TV06B540K(B)	54.00	60.0	76.0	1	100	96.3	6.2	5	ND	DD
TV06B540J(B)	54.00	60.0	69.0	1	100	87.1	6.9	5	NE	DE
TV06B580K(B)	58.00	64.4	81.6	1	100	103.0	5.8	5	NF	DF
TV06B580J(B)	58.00	64.4	74.1	1	100	93.6	6.4	5	NG	DG
TV06B600K(B)	60.00	66.7	84.5	1	100	107.0	5.6	5	NH	DH
TV06B600J(B)	60.00	66.7	76.7	1	100	96.8	6.2	5	NK	DK
TV06B640K(B)	64.00	71.1	90.1	1	100	114.0	5.3	5	NL	DL
TV06B640J(B)	64.00	71.1	81.8	1	100	103.0	5.8	5	NM	DM
TV06B700K(B)	70.00	77.8	98.6	1	100	125.0	4.8	5	NN	DN
TV06B700J(B)	70.00	77.8	89.5	1	100	113.0	5.3	5	NP	DP
TV06B750K(B)	75.00	83.3	105.7	1	100	134.0	4.5	5	NQ	DQ
TV06B750J(B)	75.00	83.3	95.8	1	100	121.0	4.9	5	NR	DR
TV06B780K(B)	78.00	86.7	109.8	1	100	139.0	4.3	5	NS	DS
TV06B780J(B)	78.00	86.7	99.7	1	100	126.0	4.7	5	NT	DT
TV06B850K(B)	85.00	94.4	119.2	1	100	151.0	3.9	5	NU	DU
TV06B850J(B)	85.00	94.4	108.2	1	100	137.0	4.4	5	NV	DV
TV06B900K(B)	90.00	100.0	126.5	1	100	160.0	3.8	5	NW	DW
TV06B900J(B)	90.00	100.0	115.5	1	100	146.0	4.1	5	NX	DX
TV06B101K(B)	100.00	111.0	141.0	1	100	179.0	3.4	5	NY	DY
TV06B101J(B)	100.00	111.0	128.0	1	100	162.0	3.7	5	NZ	DZ
TV06B111K(B)	110.00	122.0	154.5	1	100	196.0	3.0	5	PD	ED
TV06B111J(B)	110.00	122.0	140.5	1	100	177.0	3.4	5	PE	EE
TV06B121K(B)	120.00	133.0	169.0	1	100	214.0	2.8	5	PF	EF
TV06B121J(B)	120.00	133.0	153.0	1	100	193.0	3.1	5	PG	EG
TV06B131K(B)	130.00	144.0	182.5	1	100	231.0	2.6	5	PH	EH
TV06B131J(B)	130.00	144.0	165.5	1	100	209.0	2.9	5	PK	EK
TV06B151K(B)	150.00	167.0	211.5	1	100	268.0	2.2	5	PL	EL
TV06B151J(B)	150.00	167.0	192.5	1	100	243.0	2.5	5	PM	EM
TV06B161K(B)	160.00	178.0	226.0	1	100	287.0	2.1	5	PN	EN
TV06B161J(B)	160.00	178.0	205.0	1	100	259.0	2.3	5	PP	EP
TV06B171K(B)	170.00	189.0	239.5	1	100	304.0	2.0	5	PQ	EQ
TV06B171J(B)	170.00	189.0	217.5	1	100	275.0	2.2	5	PR	ER

Note:

- 1) Suffix K denotes 10% tolerance devices, suffix J denotes 5% tolerance devices.
- 2) Suffix B after part number to specify bi-directional devices.
- 3) For bi-directional devices having VR of 10 volts and under, the IR limit is double.