

Low Capacitance Transient Voltage Suppressor

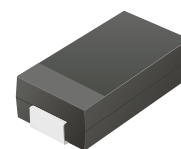


TV05B5V0P-G Thru. TV05B50P-G

Stand-Off Voltage: 5.0 to 50 Volts

Peak Pulse Power: 500 Watts

RoHS Device

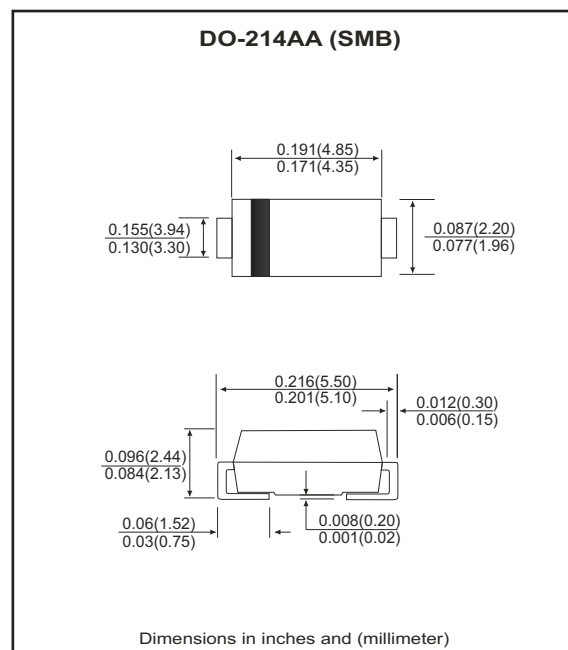


Features

- Glass passivated chip.
- Low leakage.
- 500W peak pulse power capability with a 10/1000 μ s waveform, repetitive rate (duty cycle): 0.01%.
- Excellent clamping capability.
- Very fast response time.

Mechanical data

- Case: DO-214AA / SMB, molded plastic.
- Terminals: Solderable per MIL-STD-750, method 2026.
- Polarity: Color band denotes cathode end.
- Mounting Position: Any
- Approx. weight: 0.108 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 (Note 1)	P _{PP}	500	W
Power dissipation on infinite heatsink at T _L =75 °C (Fig.2)	P _D	3.0	W
Peak Pulse current with a 10/1000 μ s waveform (Fig.2) (Note 1)	I _{PP}	See Next Table	A
Operating junction and storage temperature range	T _J , T _{STG}	-55 to +150	°C

Notes:

1. Non-repetitive Current pulse per fig.3 and derated above TA=25°C Per Fig.2

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RATING AND CHARACTERISTIC CURVES (TV05A5V0P-G thru TV05A50P-G)

Fig.1- Peak Pulse Power Rating Curve

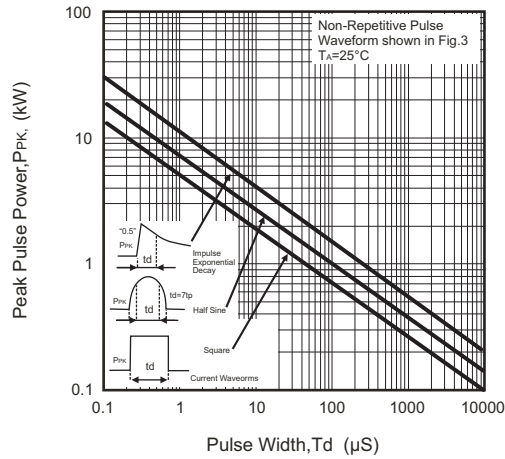


Fig.2- Power Derating Curve Surge Current

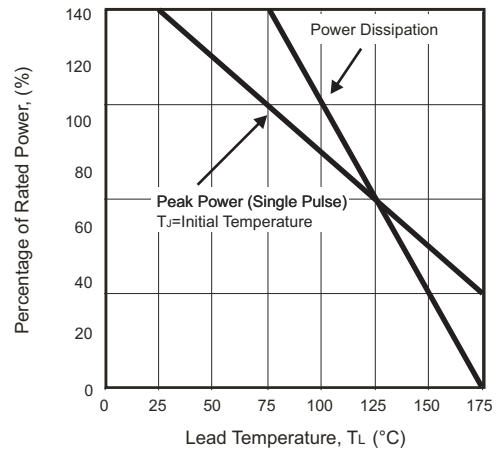


Fig.3- Pulse Waveform

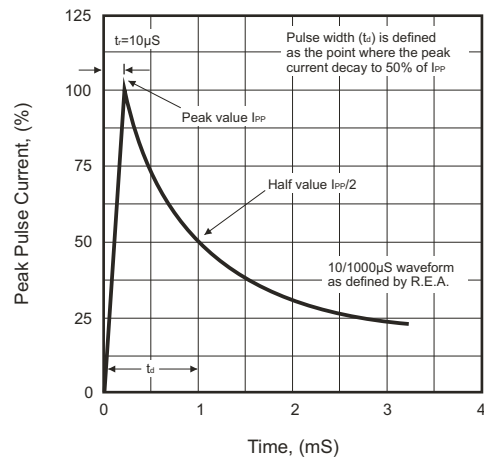
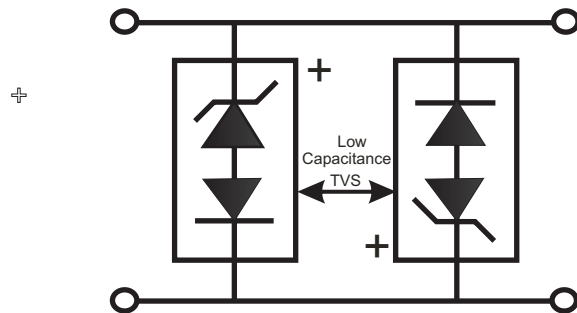


Fig.4 - AC Line Protection Application



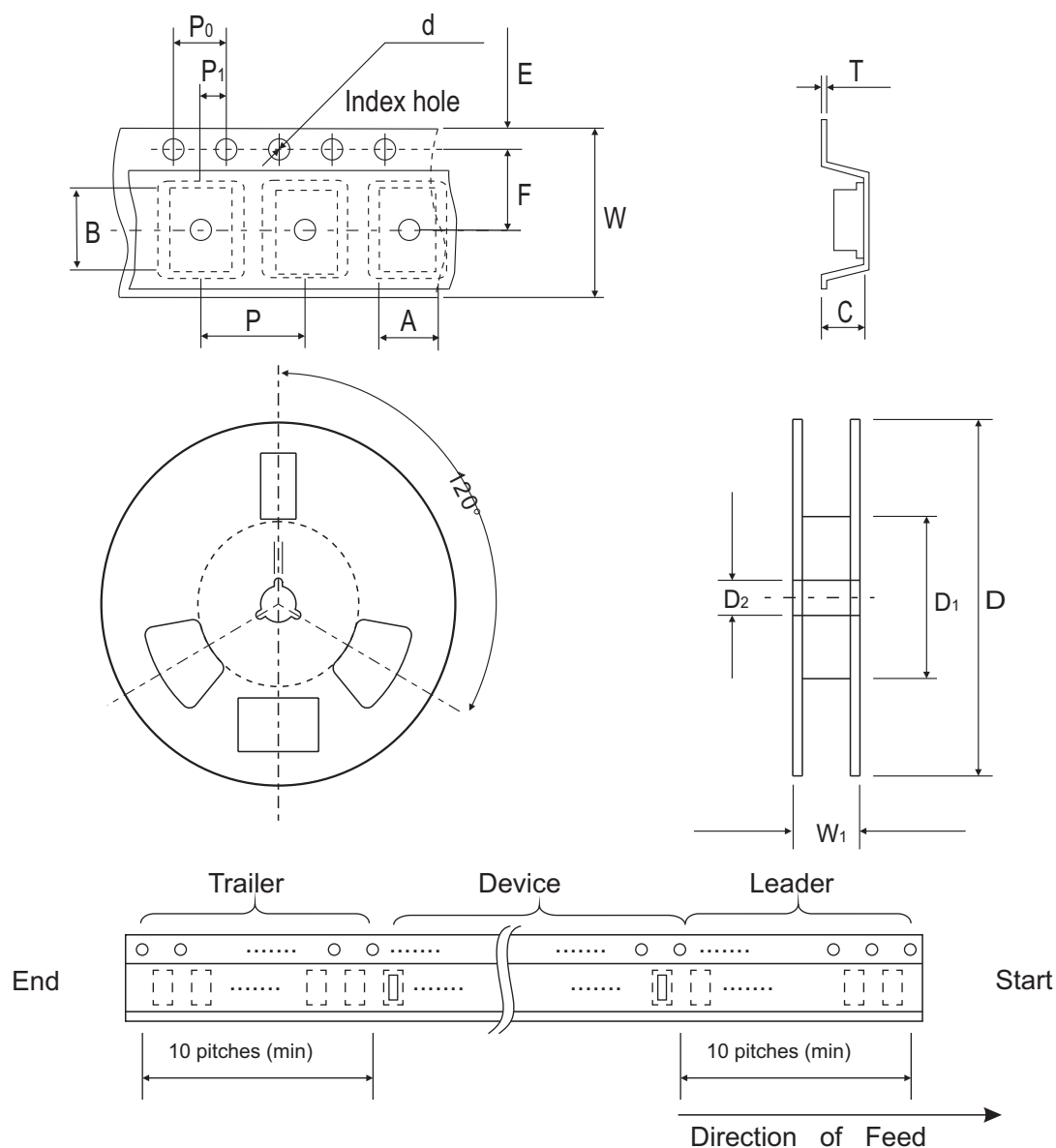
Application Note: Device must be used with two units in parallel, opposite in polarity as shown in circuit for AC signal line protection.

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Electrical Characteristics (TV05B5V0P-G Thru. TV05B50P-G)

Part No.	Stand-off Voltage V _{WM}	Minimum Breakdown Voltage		Maximum Reverse Leakage I _R @V _{WM}	Maximum Clamping Voltage V _C @I _{PP}	Maximum Reverse Surge Current I _{PP}	Maximum Junction Capacitance @0V	Working Inverse Blocking Voltage V _{WIB}	Inverse Blocking Leakage Current I _{IB} @V _{WIB}	Peak Inverse Voltage V _{PIB}	Marking Code
		V _{BR}	I _T								
	(V)	(V)	(mA)	(μ A)	(V)	(A)	(PF)	(V)	(mA)	(V)	
TV05B5V0P-G	5.0	7.60	1	300	10.0	44.0	45.0	75	1	100	SAD
TV05B6V0P-G	6.0	7.90	1	300	11.2	41.0	45.0	75	1	100	SAE
TV05B7V0P-G	7.0	8.33	1	300	12.6	38.0	45.0	75	1	100	SAF
TV05B8V0P-G	8.0	8.89	1	100	13.4	36.0	45.0	75	1	100	SAG
TV05B8V5P-G	8.5	9.44	1	50	14.0	34.0	45.0	75	1	100	SAH
TV05B100P-G	10.0	11.10	1	5	16.3	29.0	45.0	75	1	100	SAK
TV05B120P-G	12.0	13.30	1	5	19.0	25.0	45.0	75	1	100	SAL
TV05B150P-G	15.0	16.70	1	5	23.6	20.0	45.0	75	1	100	SAM
TV05B180P-G	18.0	20.00	1	5	28.8	15.0	45.0	75	1	100	SAN
TV05B220P-G	22.0	24.40	1	5	35.4	14.0	45.0	75	1	100	SAP
TV05B260P-G	26.0	28.90	1	5	42.3	11.0	45.0	75	1	100	SAQ
TV05B300P-G	30.0	33.30	1	5	48.6	10.0	45.0	75	1	100	SAR
TV05B360P-G	36.0	40.00	1	5	60.0	8.60	45.0	75	1	100	SAS
TV05B450P-G	45.0	50.00	1	5	77.0	6.80	45.0	75	1	100	SAT
TV05B500P-G	50.0	55.50	1	5	88.0	5.80	45.0	75	1	100	SAU

Reel Taping Specification



	SYMBOL	A	B	C	d	D	D1	D2
DO-214AA (SMB)	(mm)	3.67 ± 0.10	5.69 ± 0.10	4.50 (max)	1.55 ± 0.10	330	50.0 MIN.	13.00 ± 0.20
	(inch)	0.144 ± 0.004	0.224 ± 0.004	0.177 (max)	0.061 ± 0.004	13.00	1.969 MIN.	0.512 ± 0.008

	SYMBOL	E	F	P	P0	P1	W	W1
DO-214AA (SMB)	(mm)	1.75 ± 0.10	5.50 ± 0.05	8.00 ± 0.10	4.00 ± 0.10	2.00 ± 0.05	12.0 ± 0.30	18.4 MAX.
	(inch)	0.689 ± 0.004	0.216 ± 0.002	0.315 ± 0.004	0.157 ± 0.004	0.079 ± 0.002	0.472 ± 0.012	0.724 MAX.

Marking Code

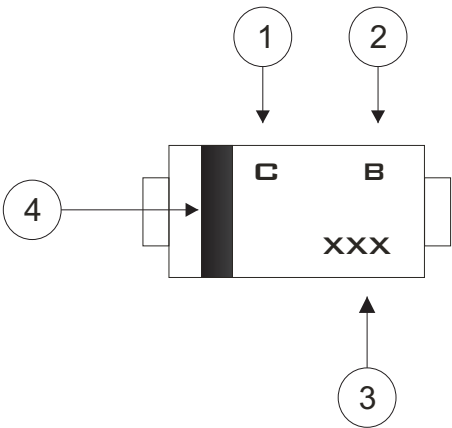
1. C : COMCHIP

2. ○ : Package

○	PKG
B	SMB

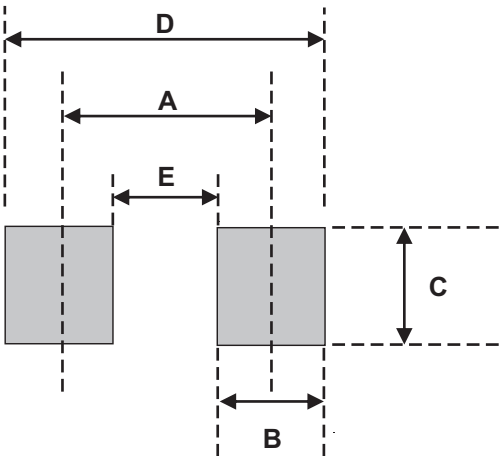
3. XXX : Marking code(see page.3)

4.  : Cathod Band



Suggested PAD Layout

SIZE	DO-214AA (SMB)	
	(mm)	(inch)
A	4.50	0.177
B	1.50	0.059
C	3.60	0.142
D	6.00	0.236
E	3.00	0.118



Standard Package

Case Type	Qty per Reel	Reel Size
	(Pcs)	(inch)
DO-214AA (SMB)	3,000	13