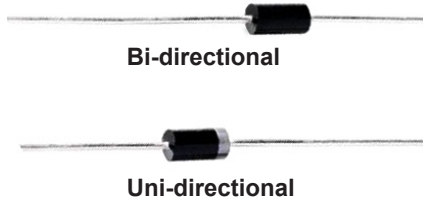


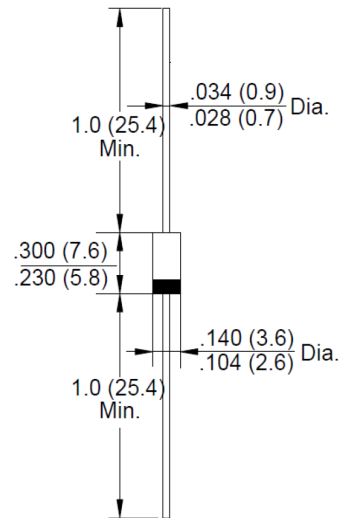
# Transient Voltage Suppression Diodes 500W

**multicomp** PRO

**RoHS  
Compliant**



DO-204AC (DO-15)



Dimensions : Inches (Millimetres)

## Features

- Glass Passivated (GPP)
- Low leakage
- Uni and bi-directional versions available
- Excellent clamping capability
- Fast response time
- 500W peak pulse power capability with a 10/1000  $\mu$ s waveform, repetitive rate (duty cycle):0.01 %
- Lead free
- Case style: DO-204AC (DO-15) molded plastic

## 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	Values	Unit
Peak pulse power dissipation with a 10/1000 $\mu$ s waveform (Note 1)	P <sub>PK</sub>	500	W
Power dissipation on infinite heatsink at T <sub>L</sub> = 75°C	P <sub>D</sub>	3	
Peak forward surge current 8.3 ms single half sine-wave unidirectional only (Note 2)	I <sub>FSM</sub>	70	A
Maximum Instantaneous forward voltage at 25A for Unidirectional only (Note 3)	V <sub>F</sub>	3.5/5	V
Operating Junction Temperature Range	T <sub>J</sub>	-55 to + 150	°C
Storage Temperature Range	T <sub>STG</sub>		

**Notes :** 1. Non-repetitive current pulse ,per Fig. 5 and derated above T<sub>A</sub> = 25°C per Fig. 1.

2. Measured on 8.3ms single half-wave or equivalent square wave,duty cycle= 4 pulses per minutes maximum

3. V<sub>F</sub> < 3.5V for devices of V<sub>BR</sub> ≤ 200V and V<sub>F</sub> < 5V for devices of V<sub>BR</sub> ≥ 201V

## Rating and Characteristic Curves

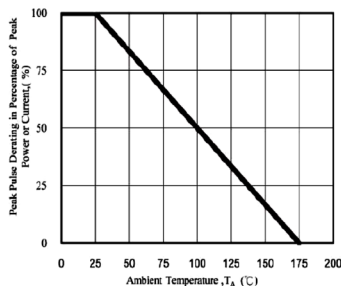


Fig. 1 - Pulse Derating Curve

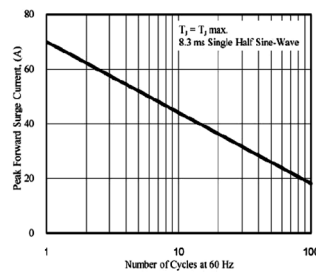


Fig. 2 - Maximum Non-Repetitive Surge Current

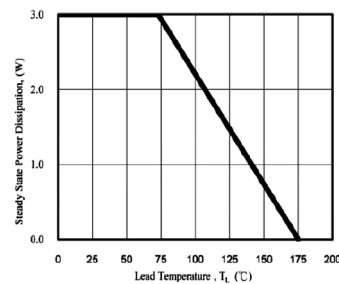


Fig. 3 - Steady State Power Derating Curve

Newark.com/exclusive-brands  
Farnell.com/exclusive-brands  
Element14.com/exclusive-brands

**multicomp** PRO

# Transient Voltage Suppression Diodes 500W

**multicomp** PRO

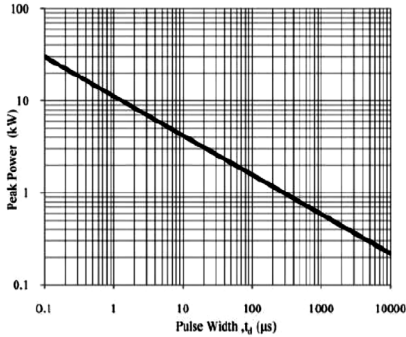


Fig. 4 - Peak Pulse Power Rating Curve

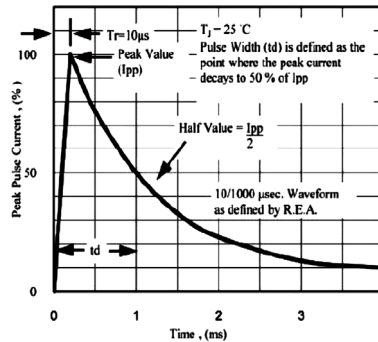


Fig. 5 - Pulse Waveform

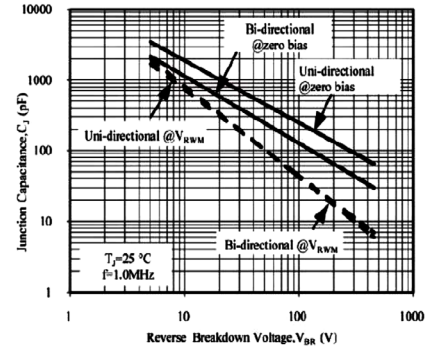


Fig. 6 - Typical Junction Capacitance

Part Number		Breakdown Voltage V <sub>BR</sub> @ I <sub>T</sub>			Max. Reverse Leakage I <sub>R</sub> @ V <sub>RWM</sub>	Working Peak Reverse Voltage V <sub>RWM</sub>	Max. Reverse Surge Current I <sub>PP</sub>	Max. Clamping Voltage V <sub>C</sub> @ I <sub>PP</sub>
Device Uni-directional	Device Bi-directional	Min. (V)	Max. (V)	I <sub>T</sub> (mA)	(μA)	(V)	(A) (1)	I <sub>pp</sub> (A)
(UNI)	(BI)							
SA5.0A	-	6.4	7	10	600	5	52.08	9.6
SA12A	SA12CA	13.3	14.7	1	5	12	25.13	19.9
SA15A	SA15CA	16.7	18.5	1	5	15	20.49	24.4
-	SA20CA	22.2	24.5	1	5	20	15.43	32.4
SA22A	-	24.4	26.9	1	5	22	14.08	35.5
SA24A	SA24CA	26.7	29.5	1	5	24	12.85	38.9
-	SA28CA	31.1	34.4	1	5	28	11.01	45.4
SA30A	SA30CA	33.3	36.8	1	5	30	10.33	48.4
SA33A	SA33CA	36.7	40.6	1	5	33	9.38	53.3

Note: Suffix 'C' denotes bidirectional device. Suffix 'A' denotes 5% tolerance device.

## Part Number Table

Description	Part Number
TVS Diode, 500W, 5V, Unidirectional, DO-204AC (DO-15)	SA5.0A
TVS Diode, 500W, 12V, Unidirectional, DO-204AC (DO-15)	SA12A
TVS Diode, 500W, 12V, Bidirectional, DO-204AC (DO-15)	SA12CA
TVS Diode, 500W, 15V, Unidirectional, DO-204AC (DO-15)	SA15A
TVS Diode, 500W, 15V, Bidirectional, DO-204AC (DO-15)	SA15CA
TVS Diode, 500W, 20V, Bidirectional, DO-204AC (DO-15)	SA20CA
TVS Diode, 500W, 22V, Unidirectional, DO-204AC (DO-15)	SA22A
TVS Diode, 500W, 24V, Unidirectional, DO-204AC (DO-15)	SA24A
TVS Diode, 500W, 24V, Bidirectional, DO-204AC (DO-15)	SA24CA

Newark.com/exclusive-brands  
Farnell.com/exclusive-brands  
Element14.com/exclusive-brands

**multicomp** PRO

# Transient Voltage Suppression Diodes 500W

**multicomp** PRO

Description	Part Number
TVS Diode, 500W, 28V, Bidirectional, DO-204AC (DO-15)	SA28CA
TVS Diode, 500W, 30V, Unidirectional, DO-204AC (DO-15)	SA30A
TVS Diode, 500W, 30V, Bidirectional, DO-204AC (DO-15)	SA30CA
TVS Diode, 500W, 33V, Unidirectional, DO-204AC (DO-15)	SA33A
TVS Diode, 500W, 33V, Bidirectional, DO-204AC (DO-15)	SA33CA

**Important Notice :** This data sheet and its contents (the "Information") belong to the members of the AVNET group of companies (the "Group") or are licensed to it. No licence is granted for the use of it other than for information purposes in connection with the products to which it relates. No licence of any intellectual property rights is granted. The Information is subject to change without notice and replaces all data sheets previously supplied. The Information supplied is believed to be accurate but the Group assumes no responsibility for its accuracy or completeness, any error in or omission from it or for any use made of it. Users of this data sheet should check for themselves the Information and the suitability of the products for their purpose and not make any assumptions based on information included or omitted. Liability for loss or damage resulting from any reliance on the Information or use of it (including liability resulting from negligence or where the Group was aware of the possibility of such loss or damage arising) is excluded. This will not operate to limit or restrict the Group's liability for death or personal injury resulting from its negligence. Multicomp Pro is the registered trademark of Premier Farnell Limited 2019.

Newark.com/exclusive-brands  
Farnell.com/exclusive-brands  
Element14.com/exclusive-brands

**multicomp** PRO