Transient Voltage Suppression Diodes 500W

multicomp PRO

RoHS Compliant

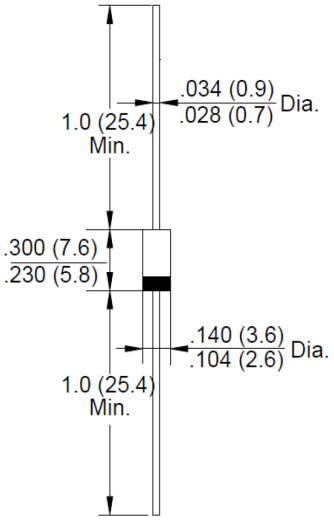
Bi-directional

Uni-directional

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 μs waveform, repetitive rate (duty cycle):0.01 %
- Lead free
- Case style: DO-204AC (DO-15) molded plastic

DO-204AC (DO-15)



Dimensions : Inches (Millimetres)

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 10/1000μs waveform (Note 1)	P_{PK}	500	W
Power dissipation on infinite heatsink at T_L = 75°C	P_D	3	
Peak forward surge current 8.3 ms single half sine-wave unidirectional only (Note 2)	I_{FSM}	70	A
Maximum Instantaneous forward voltage at 25A for Unidirectional only (Note 3)	V_F	3.5/5	V
Operating Junction Temperature Range	T_J	-55 to + 150	°C
Storage Temperature Range	T_{STG}		

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-wave or equivalent square wave,duty cycle= 4 pulses per minutes maximum
3. V_F < 3.5V for devices of V_{BR} ≤ 200V and V_F < 5V for devices of V_{BR} ≥ 201V

Rating and Characteristic Curves

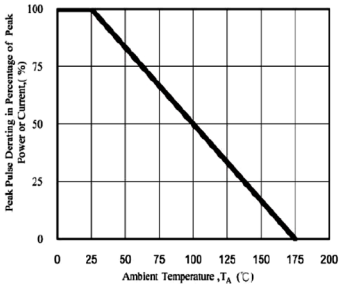


Fig. 1 - Pulse Derating Curve

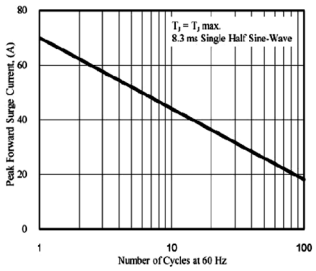


Fig. 2 - Maximum Non-Repetitive Surge Current

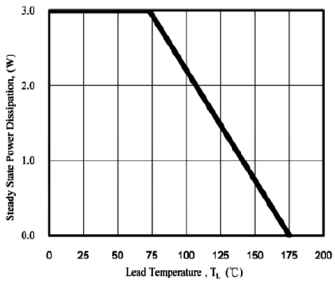


Fig. 3 - Steady State Power Derating Curve

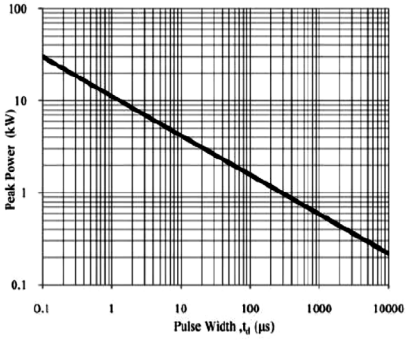


Fig. 4 - Peak Pulse Power Rating Curve

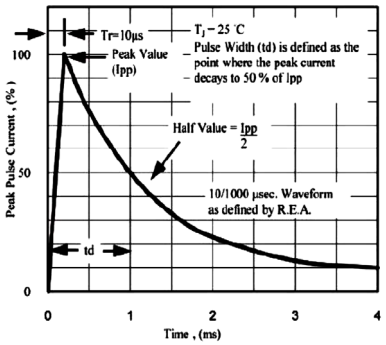


Fig. 5 - Pulse Waveform

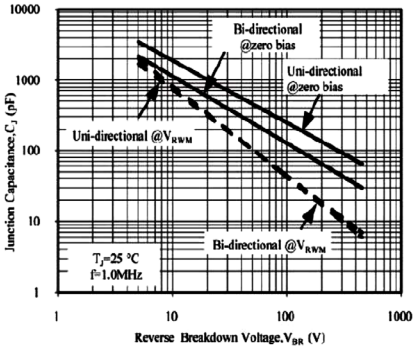


Fig. 6 - Typical Junction Capacitance

Part Number		Breakdown Voltage VBR @IT			Max. Reverse Leakage IR @VRWM	Working Peak Reverse Voltage VRWM	Max. Reverse Surge Current IPP	Max. Clamping Voltage VC @ IPP
Device Uni-directional	Device Bi-directional							
(UNI)	(BI)	Min. (V)	Max. (V)	It (mA)	(µA)	(V)	(A) (1)	Ipp(A)
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

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