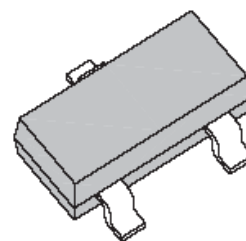


500W Surface Mount Transient Voltage Suppressor Arrays

Features

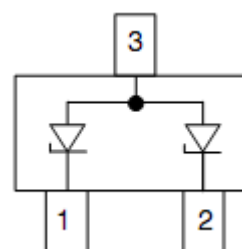
- 500W Peak Pulse Power ($t_p=8/20\mu s$)
- Available in multiple voltage types ranging from 3V to 36 V
- Bidirectional configurations
- Low clamping voltage
- RoHS Compliant



SOT-23

Mechanical Data

Case:	SOT-23 Plastic Package
Epoxy:	Meets UL 94V-0 flammability rating
Terminals:	Soderable per MIL-STD-750, Method 208
Mounting position:	Any
Weight:	0.008 gram



Maximum Ratings ($T_{Ambient}=25^{\circ}C$ unless noted otherwise)

Symbol	Description	Value	Unit	Conditions
PPPM	Peak Pulse Power Dissipation	500	W	Non-repetitive current pulse, $t_p=8/20\mu s$
V_F	Forward Voltage @ 100mA, 300 μs -square wave	1.5	V	
V_{ESD}	ESD Voltage (HBM)	>25	KV	
T_J	Operating Junction Temperature Range	-55 to 150	$^{\circ}C$	
T_{STG}	Storage Temperature Range	-55 to 150	$^{\circ}C$	

500W Surface Mount Transient Voltage Suppressor Arrays

TVT03AW - TVT36AW

Electrical Characteristics ($T_{Ambient}=25^{\circ}C$ unless noted otherwise)

TVT03AW

Symbol	Description	Min.	Typ.	Max.	Unit	Conditions
VRWM	Reverse Working Voltage	3	-	-	V	
VBR	Reverse Breakdown Voltage	4	-	-	V	IBR=1.0mA
VCL	Clamping Voltage (8x20μS)	-	-	6.5	V	IPP=43A
IPP	Peak Pulse Current (8x20μS)	-	-	43	A	
ID	Reverse Leakage Current	-	-	125	μA	VRWM=3V
Co	Off State Junction Capacitance	-	-	500	pF	0Vdc Bias, f=1MHz, Between 1/2 pins and pin 3

TVT05AW

Symbol	Description	Min.	Typ.	Max.	Unit	Conditions
VRWM	Reverse Working Voltage	5	-	-	V	
VBR	Reverse Breakdown Voltage	6	-	-	V	IBR=1.0mA
VCL	Clamping Voltage (8x20μS)	-	-	9.8	V	IPP=42A
IPP	Peak Pulse Current (8x20μS)	-	-	42	A	
ID	Reverse Leakage Current	-	-	20	μA	VRWM=5V
Co	Off State Junction Capacitance	-	-	350	pF	0Vdc Bias, f=1MHz, Between 1/2 pins and pin 3

500W Surface Mount Transient Voltage Suppressor Arrays

TVT03AW - TVT36AW

TVT08AW

Symbol	Description	Min.	Typ.	Max.	Unit	Conditions
VRWM	Reverse Working Voltage	8	-	-	V	
VBR	Reverse Breakdown Voltage	8.5	-	-	V	IBR=1.0mA
VCL	Clamping Voltage (8x20μS)	-	-	13.4	V	IPP=34A
IPP	Peak Pulse Current (8x20μS)	-	-	34	A	
ID	Reverse Leakage Current	-	-	10	μA	VRWM=8V
Co	Off State Junction Capacitance	-	-	250	pF	0Vdc Bias, f=1MHz, Between 1/2 pins and pin 3

TVT12AW

Symbol	Description	Min.	Typ.	Max.	Unit	Conditions
VRWM	Reverse Working Voltage	12	-	-	V	
VBR	Reverse Breakdown Voltage	13.3	-	-	V	IBR=1.0mA
VCL	Clamping Voltage (8x20μS)	-	-	19	V	IPP=21A
IPP	Peak Pulse Current (8x20μS)	-	-	21	A	
ID	Reverse Leakage Current	-	-	2	μA	VRWM=12V
Co	Off State Junction Capacitance	-	-	150	pF	0Vdc Bias, f=1MHz, Between 1/2 pins and pin 3

500W Surface Mount Transient Voltage Suppressor Arrays

TVT03AW - TVT36AW

TVT15AW

Symbol	Description	Min.	Typ.	Max.	Unit	Conditions
VRWM	Reverse Working Voltage	15	-	-	V	
VBR	Reverse Breakdown Voltage	16.7	-	-	V	IBR=1.0mA
VCL	Clamping Voltage (8x20μS)	-	-	24	V	IPP=17A
IPP	Peak Pulse Current (8x20μS)	-	-	17	A	
ID	Reverse Leakage Current	-	-	1	μA	VRWM=15V
Co	Off State Junction Capacitance	-	-	100	pF	0Vdc Bias, f=1MHz, Between 1/2 pins and pin 3

TVT24AW

Symbol	Description	Min.	Typ.	Max.	Unit	Conditions
VRWM	Reverse Working Voltage	24	-	-	V	
VBR	Reverse Breakdown Voltage	26.7	-	-	V	IBR=1.0mA
VCL	Clamping Voltage (8x20μS)	-	-	43	V	IPP=12A
IPP	Peak Pulse Current (8x20μS)	-	-	12	A	
ID	Reverse Leakage Current	-	-	1	μA	VRWM=24V
Co	Off State Junction Capacitance	-	-	88	pF	0Vdc Bias, f=1MHz, Between 1/2 pins and pin 3

500W Surface Mount Transient Voltage Suppressor Arrays

TVT03AW - TVT36AW

TVT36AW

Symbol	Description	Min.	Typ.	Max.	Unit	Conditions
VRWM	Reverse Working Voltage	36	-	-	V	
VBR	Reverse Breakdown Voltage	40	-	-	V	IBR=1.0mA
VCL	Clamping Voltage (8x20μS)	-	-	51	V	IPP=9A
IPP	Peak Pulse Current (8x20μS)	-	-	9	A	
ID	Reverse Leakage Current	-	-	1	μA	VRWM=36V
Co	Off State Junction Capacitance	-	-	80	pF	0Vdc Bias, f=1MHz, Between 1/2 pins and pin 3

Typical Characteristics Curves

Fig.1- Peak Pulse Power Rating Curve

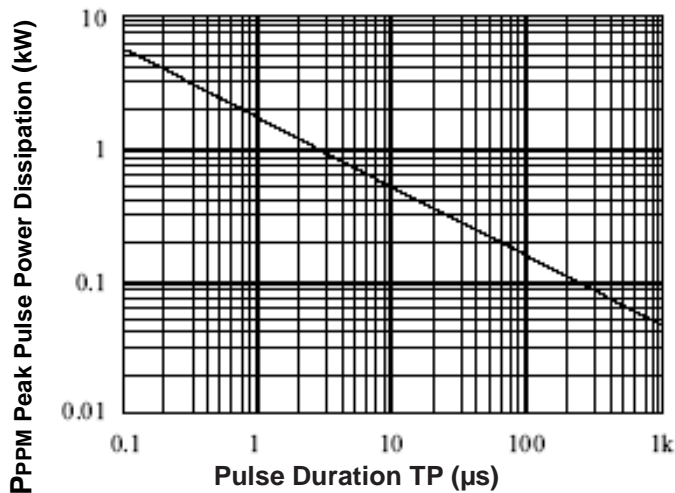
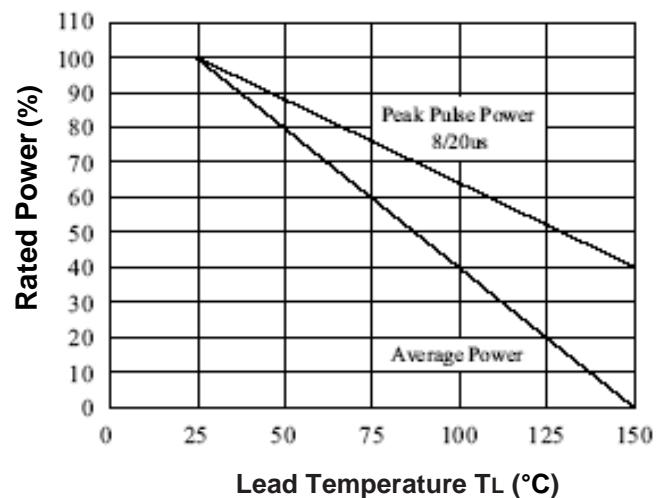
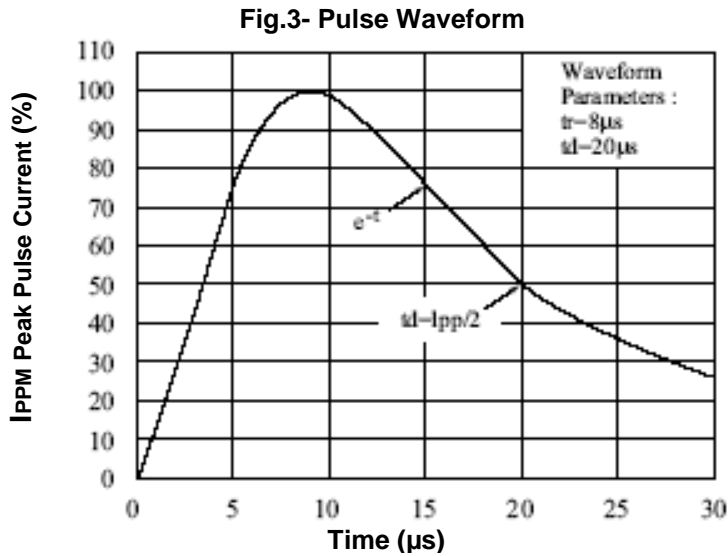


Fig.2- Power Deration Curve



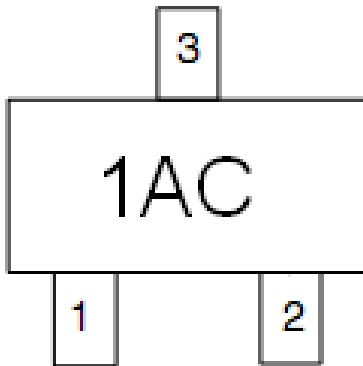
500W Surface Mount Transient Voltage Suppressor Arrays

TVT03AW - TVT36AW



Marking Information

Take TVT03AW for example

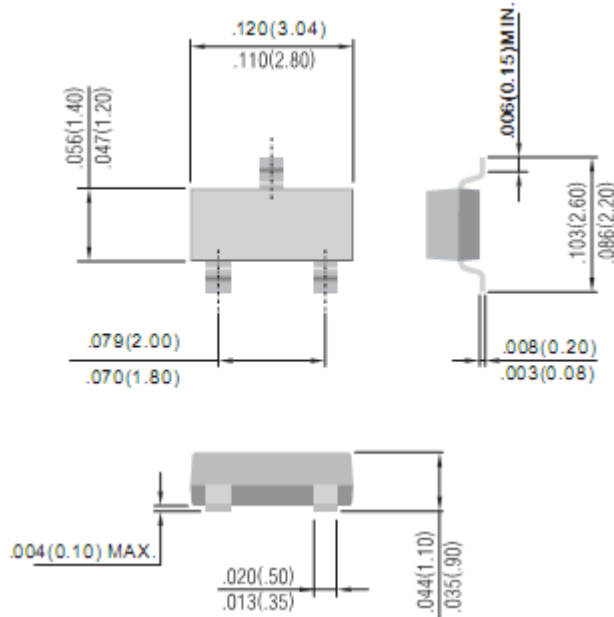


PN	Marking
TVT03AW	1AC
TVT05AW	2AC
TVT08AW	3AC
TVT12AW	4AC
TVT15AW	5AC
TVT24AW	6AC
TVT36AW	7AC

500W Surface Mount Transient Voltage Suppressor Arrays

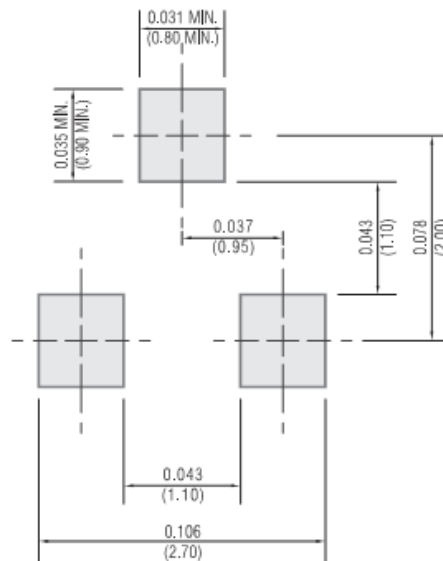
TVT03AW - TVT36AW

Dimensions in inch (mm)



SOT-23

Mounting Pad Layout



500W Surface Mount Transient Voltage Suppressor Arrays

TVT03AW - TVT36AW

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