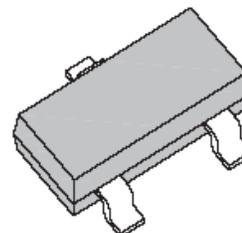


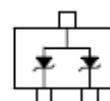
SMD TVS Arrays

Features

- Working peak reverse voltage range—5.6 to 6.8V
- Max. leakage current of 5 μ A
- IEC 61000-4-2 compliance 15kV Air, 8kV contact discharge
- RoHS Compliant



SOT-23



Applications

- Data Transmission Line Ports
- Computer Monitor Interface Port Protection
- Portable Consumer Electronics
- Instrumentation Equipment

Mechanical Data

Case:	SOT-23 Plastic Package
Epoxy:	Plastic package has UL flammability classification 94V-0
Terminals:	Solderable per MIL-STD-750, Method 2026
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	8x20 μ S waveform	150	W
		10x1000 μ S waveform	25	
VESD	ESD Voltage (HBM)	>25	KV	
TL	Lead Soldering Temperature (Max.10S)	260	$^{\circ}C$	
TJ,TSTG	Operating Junction and Storage Temperature Range	-55 to 150	$^{\circ}C$	

TVT5V6AW-TVT6V8AW

Electrical Characteristics ($T_{Ambient}=25^{\circ}C$ unless noted otherwise)
Unidirectional (Circuit tied to Pin 1 and 3 or Pin 2 and 3)

TVT5V6AW

Marking Code: UA

Symbol	Description	Min.	Typ.	Max.	Unit	Conditions
VRWM	Reverse Stand-Off Voltage	-	-	3.3	V	
VBR	Reverse Breakdown Voltage	-	5.4	-	V	IBR=1.0mA
		5.32	5.6	5.88	V	IBR=20mA
IR	Reverse Leakage Current	-	-	5.0	μ A	VR=3.3V
VCL	Clamping Voltage (8x20 μ S)	-	-	9.0	V	IPP=5.0A
VCL	Clamping Voltage (10x1000 μ S)	-	-	8.0	V	IPP=3.0A
VCL	Clamping Voltage (10x1000 μ S)	-	-	7.0	V	IPP=2.0A
CJ	Off State Junction Capacitance	-	-	90	pF	0Vdc Bias, f=1MHz, Between I/O pins and pin 3

TVT6V2AW

Marking Code: UB

Symbol	Description	Min.	Typ.	Max.	Unit	Conditions
VRWM	Reverse Stand-Off Voltage	-	-	4.3	V	
VBR	Reverse Breakdown Voltage	5.89	6.2	6.51	V	IBR=1.0mA
		-	-	6.60	V	IBR=20mA
IR	Reverse Leakage Current	-	-	0.5	μ A	VR=4.3V
VCL	Clamping Voltage (8x20 μ S)	-	-	11	V	IPP=5.0A
VCL	Clamping Voltage (10x1000 μ S)	-	-	8.5	V	IPP=2.0A
CJ	Off State Junction Capacitance	-	-	70	pF	0Vdc Bias, f=1MHz, Between I/O pins and pin 3

TVT5V6AW-TVT6V8AW

TVT6V8AW

Marking Code: UC

Symbol	Description	Min.	Typ.	Max.	Unit	Conditions
VRWM	Reverse Stand-Off Voltage	-	-	5.0	V	
VBR	Reverse Breakdown Voltage	6.46	6.80	7.14	V	IBR=1.0mA
		-	-	7.30	V	IBR=20mA
IR	Reverse Leakage Current	-	-	0.5	μA	VR=5.0V
VCL	Clamping Voltage (8x20μS)	-	-	10	V	I _{PP} =5.0A
VCL	Clamping Voltage (10x1000μS)	-	-	9.0	V	I _{PP} =2.0A
CJ	Off State Junction Capacitance	-	-	100	pF	0Vdc Bias, f=1MHz, Between I/O pins and pin 3

Typical Characteristics Curves

Fig. 1 Clamping Voltage vs I_{pp} 8x20μS Surge

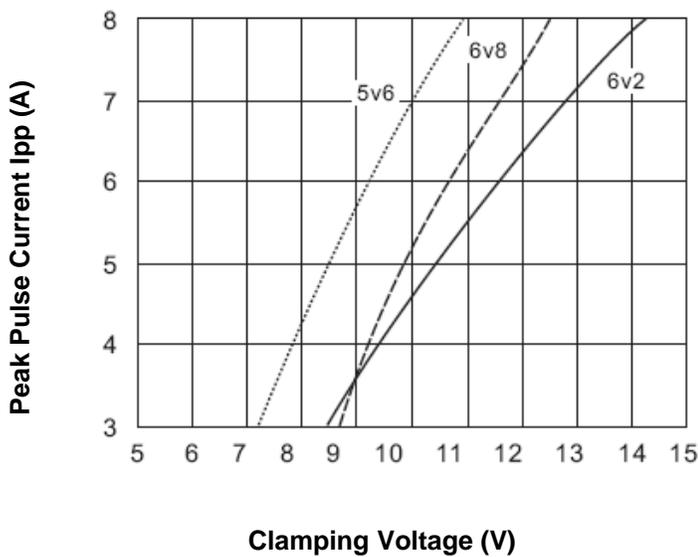
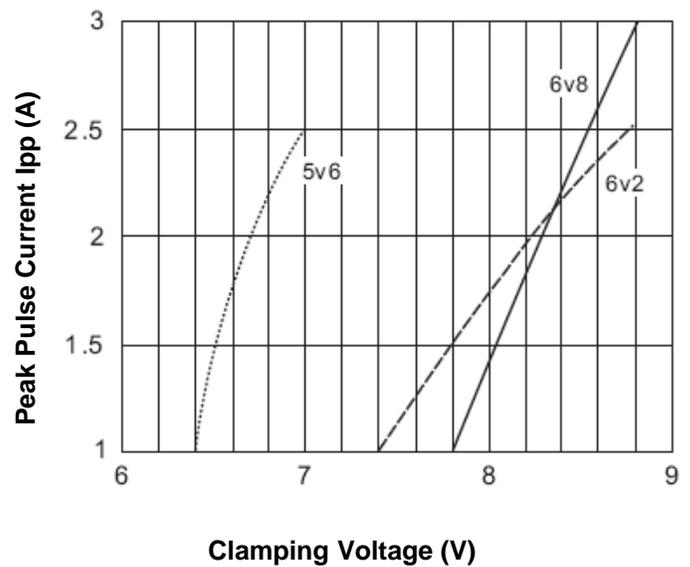


Fig. 2 Clamping Voltage vs I_{pp} 10x1000μS Surge



TVT5V6AW-TVT6V8AW

Fig. 3 Non-Repetitive Peak Pulse Power vs Pulse Time

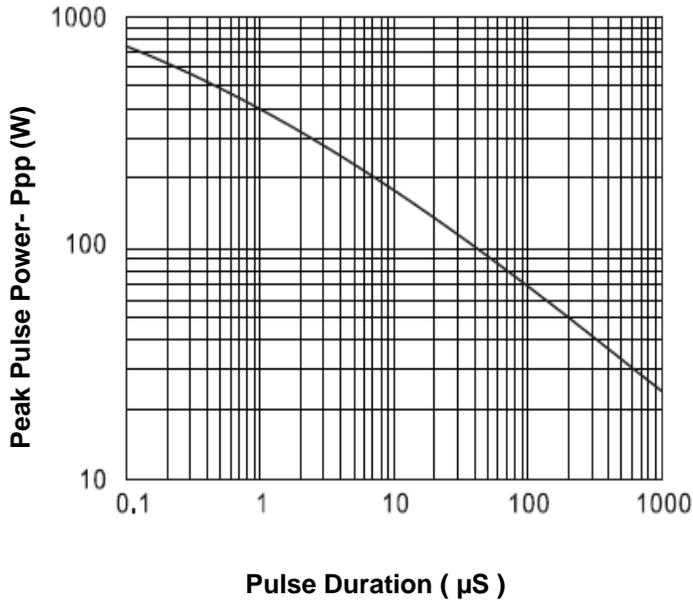


Fig. 4 Capacitance vs Biasing Voltage @ 1MHz

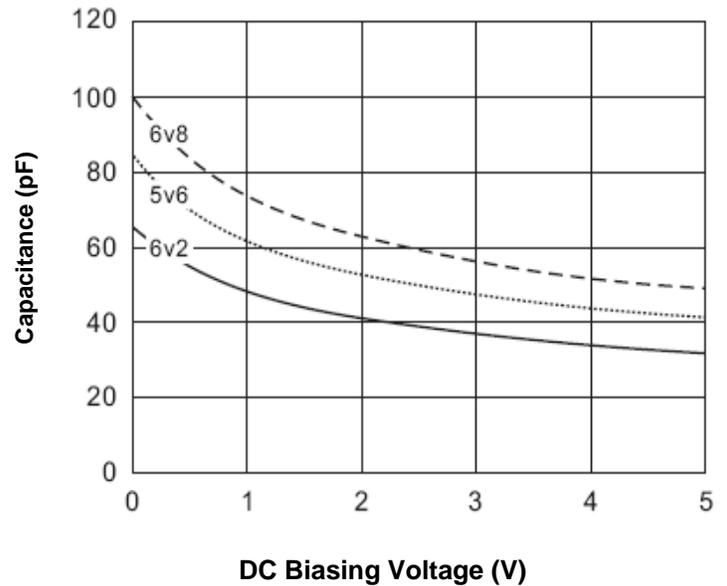


Fig. 5 8x20μs Surge Waveform

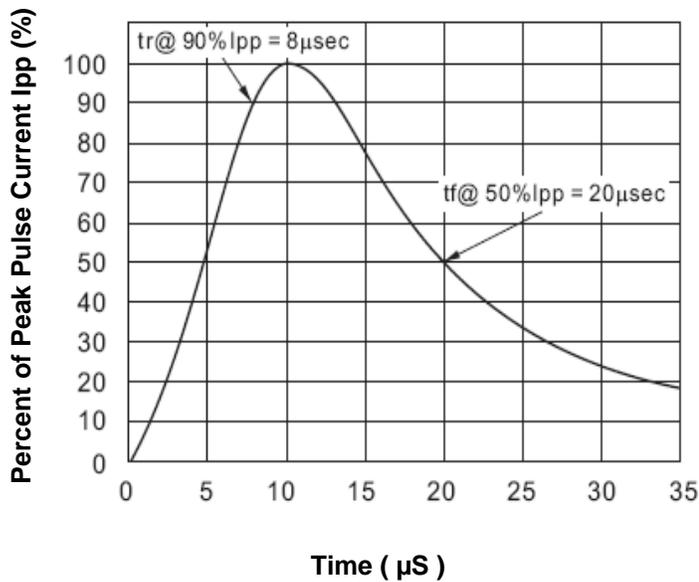
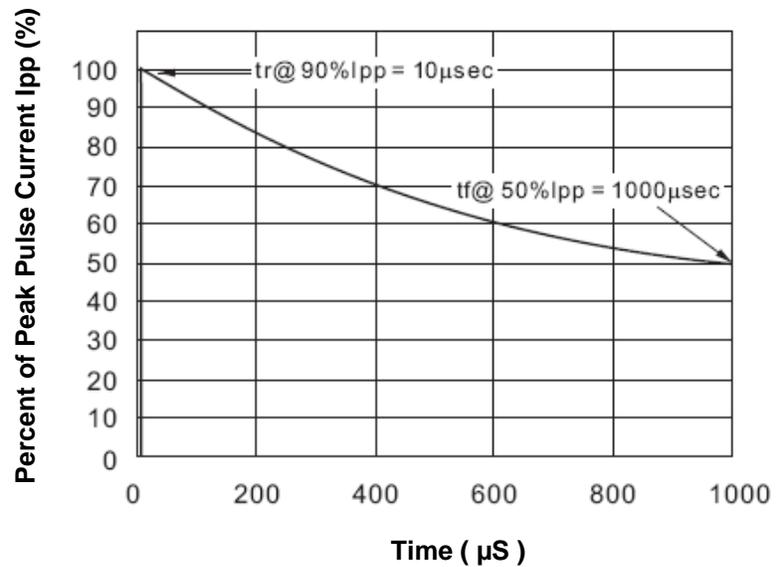
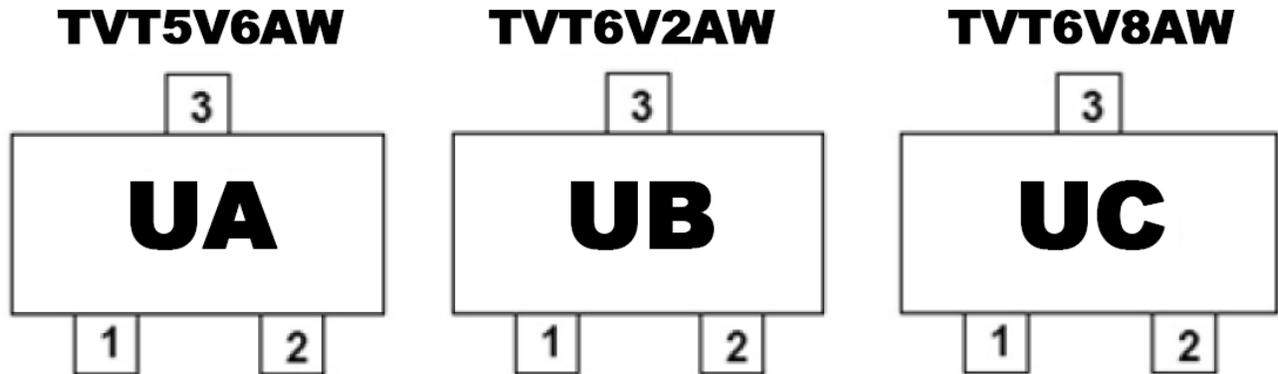


Fig. 6 10x1000μs Surge Waveform



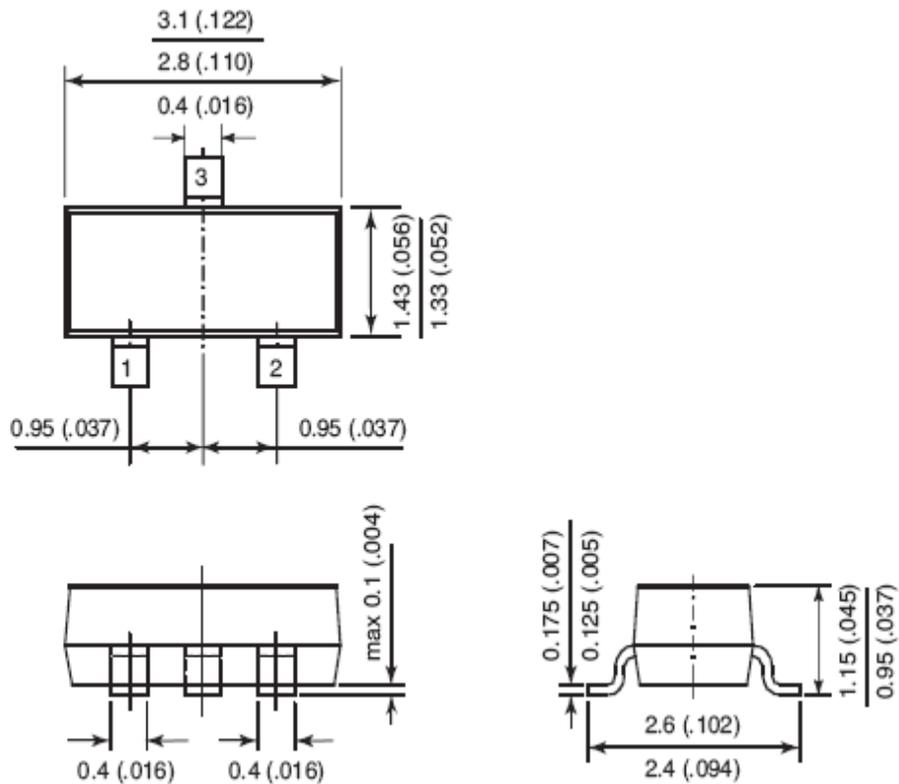
TVT5V6AW-TVT6V8AW

Marking Information

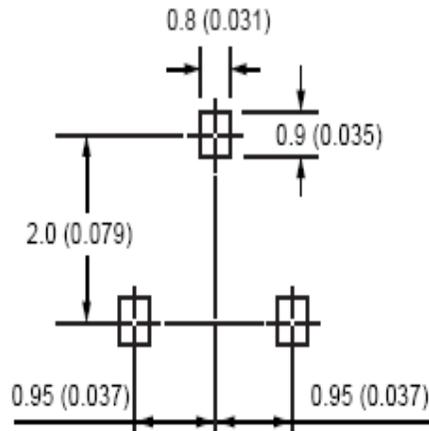


Dimensions in mm (inch)

SOT-23

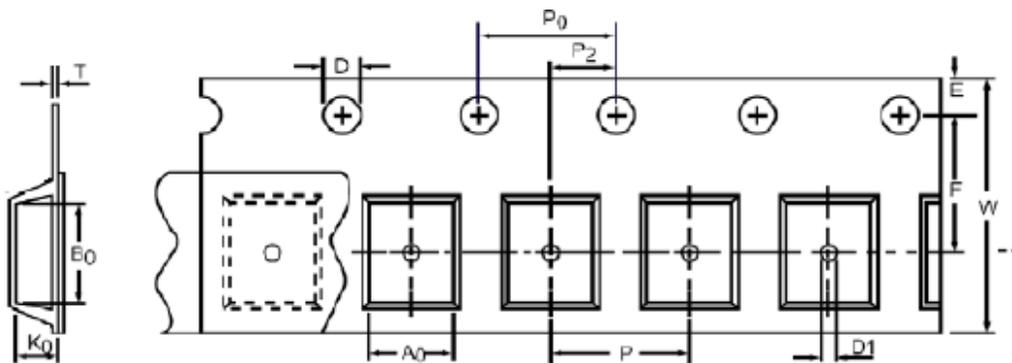


Mounting Pad Layout in mm (inch)



Packing Information:

Carrier Tape Dimensions (in mm)

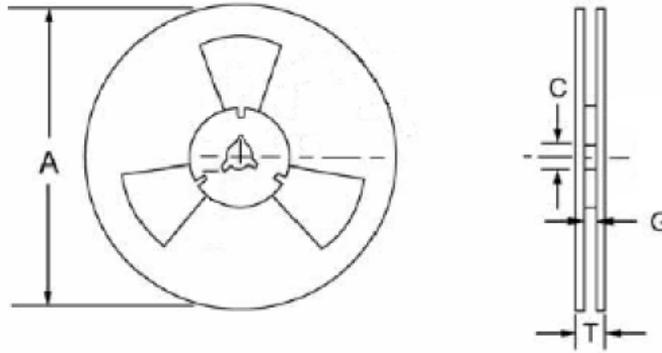


Product Type	A0	B0	K0	D	P0	P
	See Note			1.55±0.5	4.0±0.1	4.0±0.1
SOT-23	W	E	T	D1	F	P2
	8.0+0.3/-0.1	1.75±0.1	0.38±0.1	1.0±0.05	3.5±0.5	2.0±0.05

Note: Symbol A0, B0, K0 are determined by the maximum dimensions of the component size.
The clearance between the component and the cavity must be within 0.05 mm (0.002") min. to 0.50 mm (0.02") max. for 8 mm tape.

TVT5V6AW-TVT6V8AW

Reel Dimensions (in mm)



A	C	G	T
178.0±2.0	13.0±0.5	8.4±2.0	14.4 max.

Packing Quantity Information:

Quantity	PCS per Inner Box	PCS per Inner Carton
TR70 Tape & Reel	3000/Reel	240000

Inner Carton Size Information:

Carton Size
455X270X440 (in mm)

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