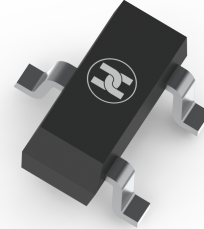


Asymmetrical TVS Diode

FEATURES

- 400 watts peak pulse power ($t_p = 8/20\mu s$)
- Transient protection for asymmetrical data lines to
IEC 61000-4-2 (ESD) $\pm 15kV$ (air), $\pm 8kV$ (contact)
IEC 61000-4-4 (EFT) 40A (5/50ns)
IEC 61000-4-5 (Lightning) 12A (8/20 μs)
- Protects two +12V to -7V lines
- Low capacitance
- Low clamping voltage
- Solid-state silicon avalanche technology

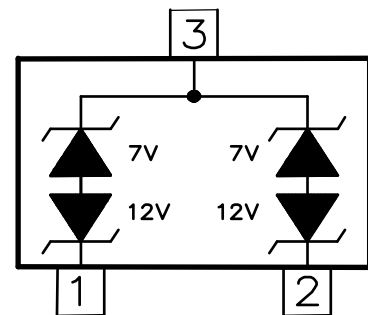
SOT-23



APPLICATIONS

- Protection of RS-485 transceivers with extended common-mode range
- Security systems
- Automatic Teller Machines
- HFC systems
- Networks

Pin Configuration



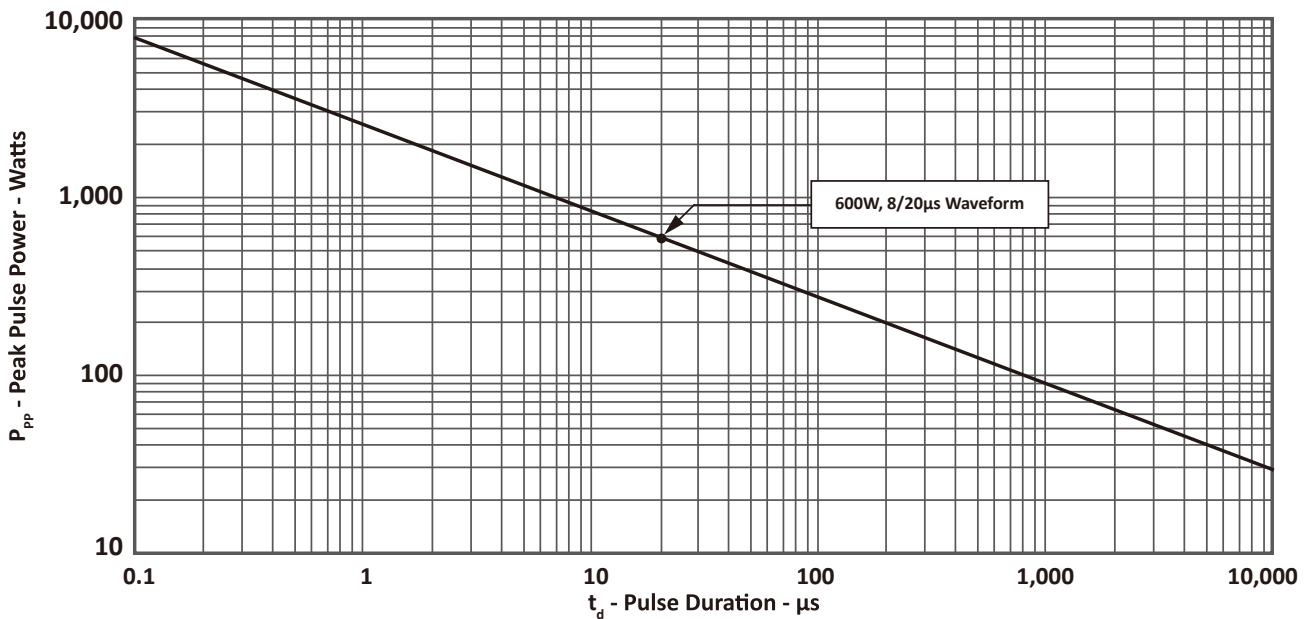
Absolute Maximum Rating ($T_{amb}=25^{\circ}C$ unless otherwise specified)			
Rating	Symbol	Value	Units
Peak Pulse Power ($t_p = 8/20\mu s$)	P_{pk}	400	Watts
Peak Pulse Current ($t_p = 8/20\mu s$)	I_{PP}	17	A
ESD per IEC 61000-4-2 (Air) ESD per IEC 61000-4-2 (Contact)	V_{ESD}	15 8	kV
Lead Soldering Temperature	T_L	260 (10 sec.)	$^{\circ}C$
Operating Temperature	T_J	-55 to +125	$^{\circ}C$
Storage Temperature	T_{STG}	-55 to +150	$^{\circ}C$

Asymmetrical TVS Diode

● Electrical Characteristics(Tamb=25 °C)									
			Pins 1 to 3 and 2 to 3 (12V TVS)			Pins 3 to 1 and 3 to 2 (7V TVS)			
Parameter	Symbol	Conditions	MIN	TYP	MAX	MIN	TYP	MAX	Units
Reverse Stand-Off Voltage	V_{RWM}	Pin 3 to 1 or Pin 2 to 1			12			7	V
Reverse Breakdown Voltage	V_{BR}	$I_{PT} = 1mA$	13.3			7.5			V
Reverse Leakage Current	I_R	$V_R = V_{RWM}$			1			20	μA
Clamping Voltage	V_C	$I_{PP} = 5A,$ $t_p = 8/20\mu s$			20			10	V
Clamping Voltage	V_C	$I_{PP} = 17A,$ $t_p = 8/20\mu s$			26			12	V
Junction Capacitance	C_j	$V_R = 0V, f = 1MHz$			75			75	pF
		$V_R = V_{RWM}, f = 1MHz$		45			45		pF

● Electrical Characteristics Curve

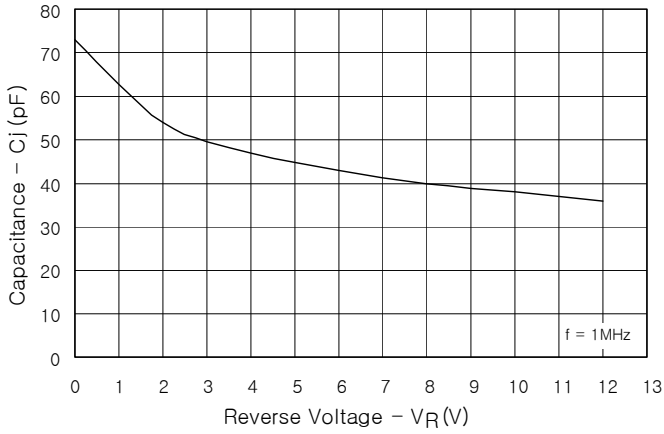
Peak Pulse Power VS Pulse Time



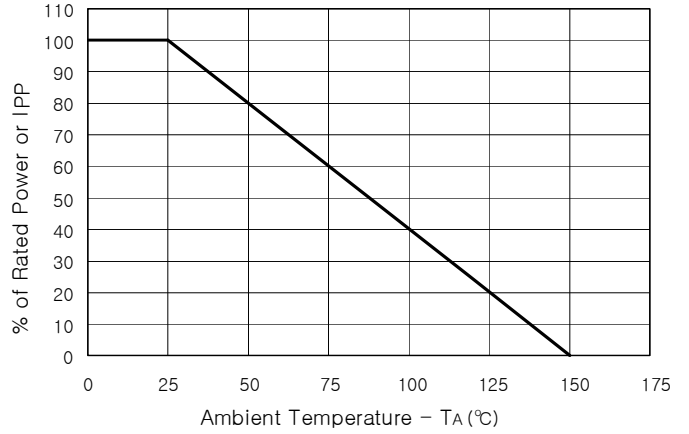
Asymmetrical TVS Diode

● **Electrical Characteristics Curve**

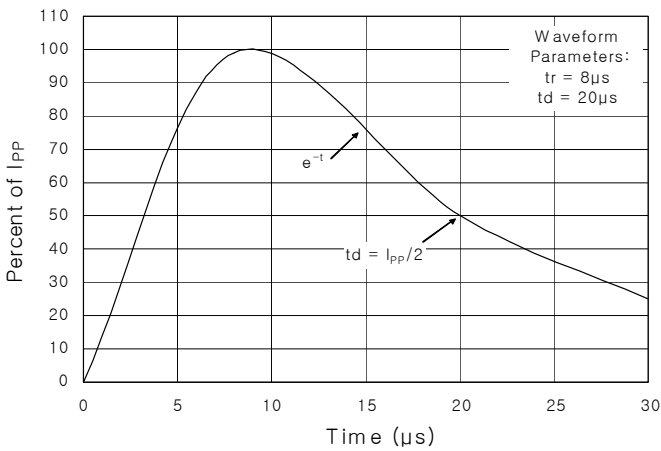
Capacitance vs. Reverse Voltage



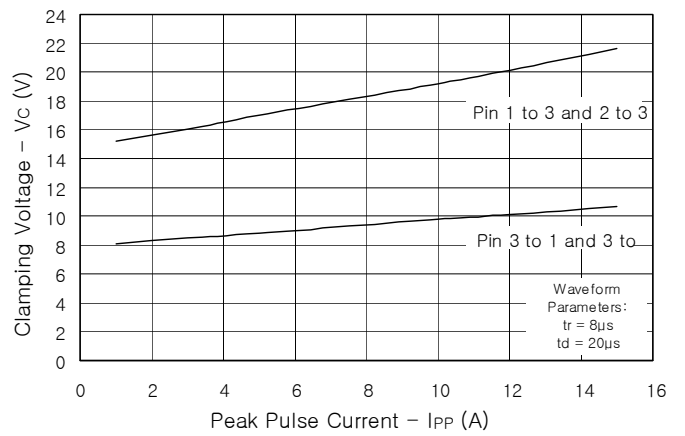
Power Derating Curve

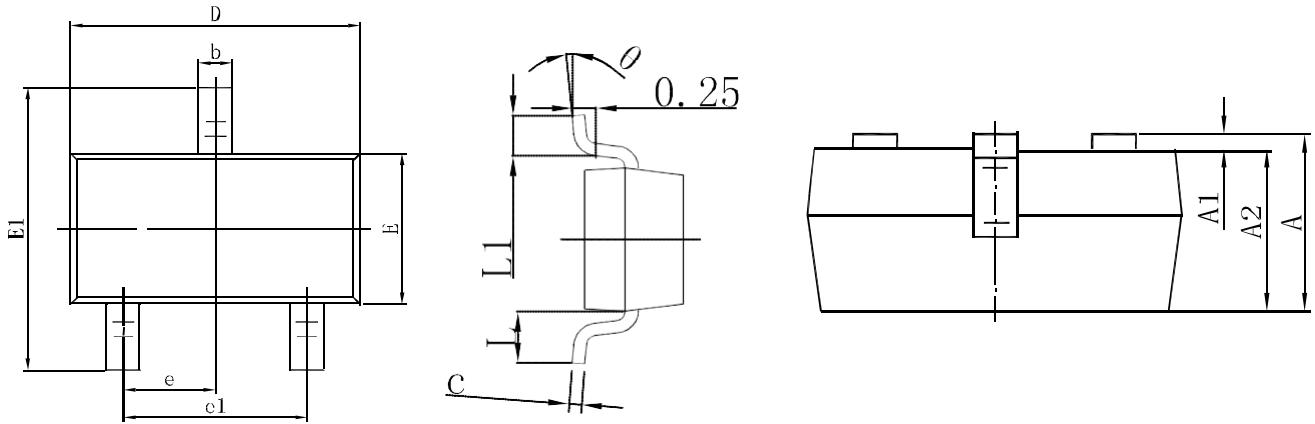


Pulse Waveform

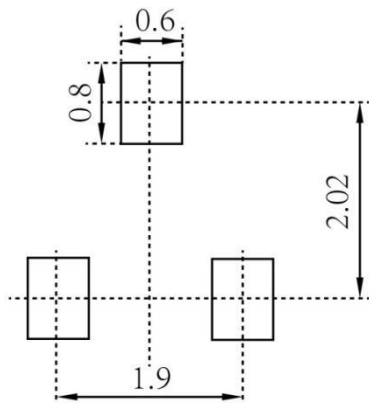


Clamping Voltage vs. Peak Pulse Current

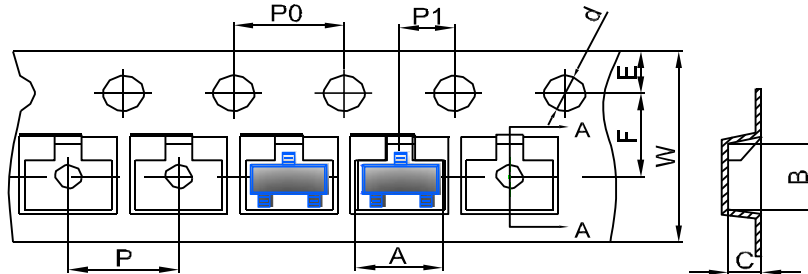


Asymmetrical TVS Diode
SOT-23 Package Outline Dimensions


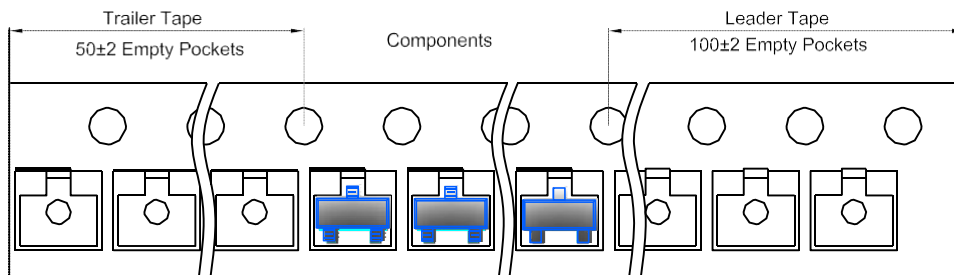
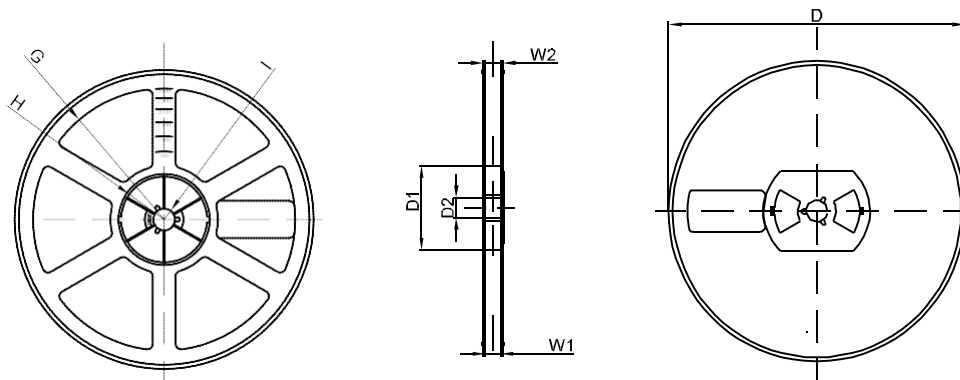
Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	0.900	1.150	0.035	0.045
A1	0.000	0.100	0.000	0.004
A2	0.900	1.050	0.035	0.041
b	0.300	0.500	0.012	0.020
c	0.080	0.150	0.003	0.006
D	2.800	3.000	0.110	0.118
E	1.200	1.400	0.047	0.055
E1	2.250	2.550	0.089	0.100
e	0.950 TYP		0.037 TYP	
e1	1.800	2.000	0.071	0.079
L	0.550 REF		0.022 REF	
L1	0.300	0.500	0.012	0.020
θ	0°	8°	0°	8°

SOT-23 Suggested Pad Layout

Note:

1. Controlling dimension: in millimeters
2. General tolerance: $\pm 0.05\text{mm}$
3. The pad layout is for reference purposes only

Asymmetrical TVS Diode
SOT-23 Tape and Reel
SOT-23 Embossed Carrier Tape


DIMENSIONS ARE IN MILLIMETER										
TYPE	A	B	C	d	E	F	P0	P	P1	W
SOT-23	3.15	2.77	1.22	Ø1.50	1.75	3.50	4.00	4.00	2.00	8.00
TOLERANCE	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1

SOT-23 Tape Leader and Trailer

SOT-23 Reel


DIMENSIONS ARE IN MILLIMETER								
REEL OPTION	D	D1	D2	G	H	I	W1	W2
7" DIA	Ø178	54.40	13.00	R78	R25.60	R6.50	9.50	12.30
TOLERANCE	±2	±1	±1	±1	±1	±1	±1	±1