

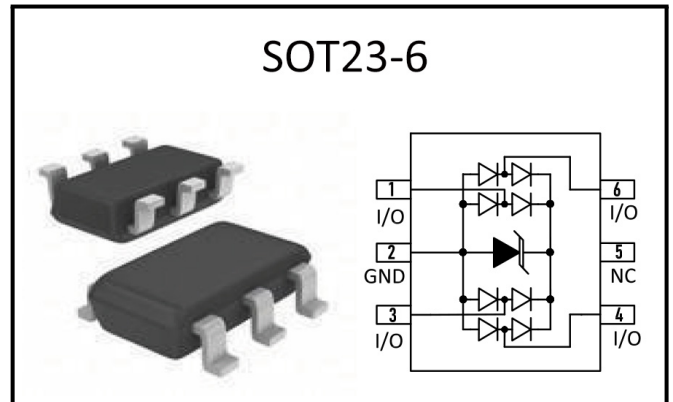
# BS0344T6

## ESD Protection Diode

### Features

- 64Watts peak pulse power ( $t_p = 8/20\mu s$ )
- Solid-state silicon-avalanche technology
- Low clamping Voltage
- Low leakage current
- Low capacitance ( $C_j=0.4pF$  typ IO/GND)
- Protection one data/power line
- IEC 61000-4-2  $\pm 20kV$  contact ;  $\pm 20kV$  air
- IEC 61000-4-4 (EFT) 40A (5/50ns)
- IEC 61000-4-5 (Lightning) 8.0A (8/20 $\mu s$ )

### Package



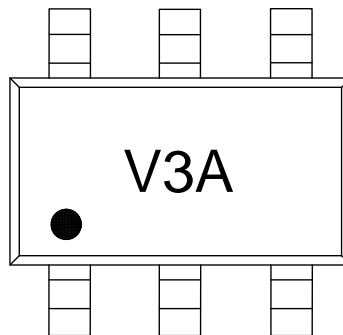
### Applications

- Ethernet
- Digital Visual Interface (DVI)
- USB2.0
- Notebook and PC Computers

### Mechanical Characteristics

- SOT23-6 package
- Molding compound flammability rating: UL 94V-0
- Packaging: Tape and Reel
- RoHS/WEEE Compliant

### Marking



### Ordering information

Order code	Package	Base qty	Delivery mode
BS0344T6	SOT23-6	3k	Tape and reel

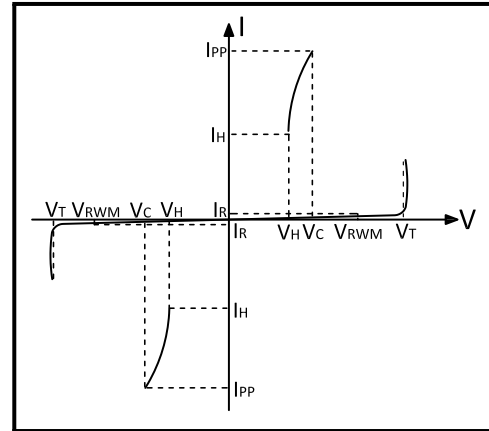


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## ESD Protection Diode

### Electrical Parameters ( $T_A = 25^\circ\text{C}$ unless otherwise noted)

Symbol	Parameter
$I_{PP}$	Maximum Reverse Peak Pulse Current
$V_C$	Clamping Voltage @ $I_{PP}$
$V_{RWM}$	Peak Reverse Working Voltage
$I_R$	Maximum Reverse Leakage Current @ $V_{RWM}$
$V_T$	Trigger voltage
$I_T$	Test Current
$V_H$	Holding voltage
$I_H$	Holding Current



Note: 8/20us pulse Waveform.

### Absolute Maximum Rating

Rating	Symler	Value	Units
Peak Pulse Power ( $t_p = 8/20\mu\text{s}$ )	$P_{PP}$	64	Watts
Peak Pulse Current ( $t_p = 8/20\mu\text{s}$ )	$I_{PP}$	8.0	A
ESD per IEC 61000-4-2 (Air)	$V_{ESD}$	20	KV
ESD per IEC 61000-4-2 (Contact)		20	
Lead Soldering Temperature	$T_L$	260(10seconds)	$^\circ\text{C}$
Junction Temperature	$T_J$	-55 to + 150	$^\circ\text{C}$
Storage Temperature	$T_{stg}$	-55 to + 150	$^\circ\text{C}$

### Electrical Characteristics

Parameter	Symler	Conditions	Min.	Typical	Max.	Units
Reverse Stand-Off Voltage	$V_{RWM}$	–	–	–	3.3	V
Holding Voltage	$V_H$	$I_H = V_H$	1.2	–	–	V
Holding Current	$I_H$	–	15	–	–	mA
Reverse Leakage Current	$I_R$	$V_{RWM} = 3.3\text{V}, T = 25^\circ\text{C}$	–	–	0.5	$\mu\text{A}$
Clamping Voltage	$V_C$	$I_{PP} = 8\text{A}, t_p = 8/20\mu\text{s}$	–	5.5	8.0	V
Trigger Voltage	$V_T$	–	5	6.5	8.0	V
Junction Capacitance	$C_j$	$V_R = 0\text{V}, f = 1\text{MHZ}, \text{IO to IO}$	–	0.2	0.4	pF
Junction Capacitance	$C_j$	$V_R = 0\text{V}, f = 1\text{MHZ}, \text{IO to GND}$	–	0.4	0.8	pF



Typical Characteristics

Figure 1: Peak Pulse Power vs. Pulse Time

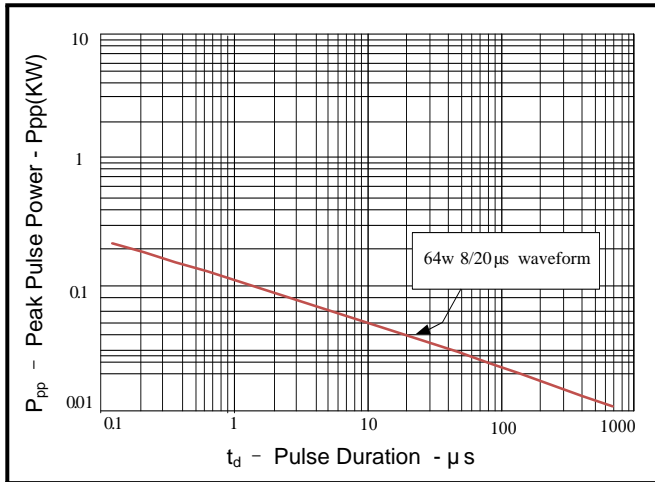


Figure 2: Power Derating Curve

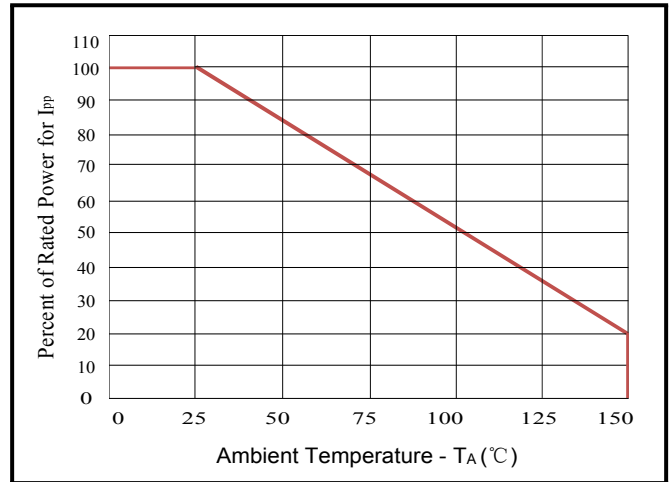


Figure 3: Pulse Waveform

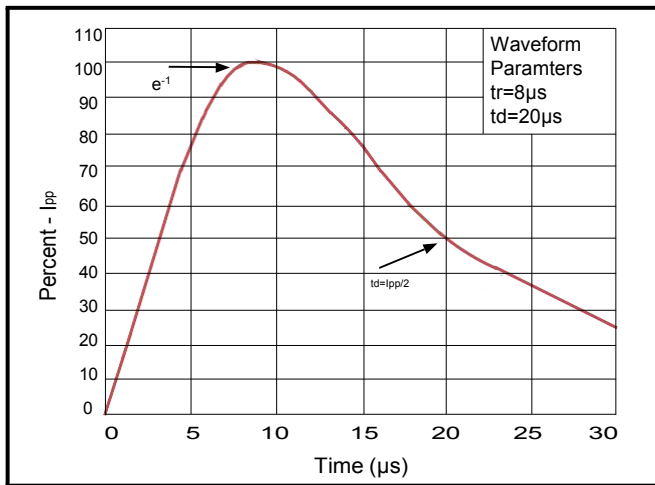
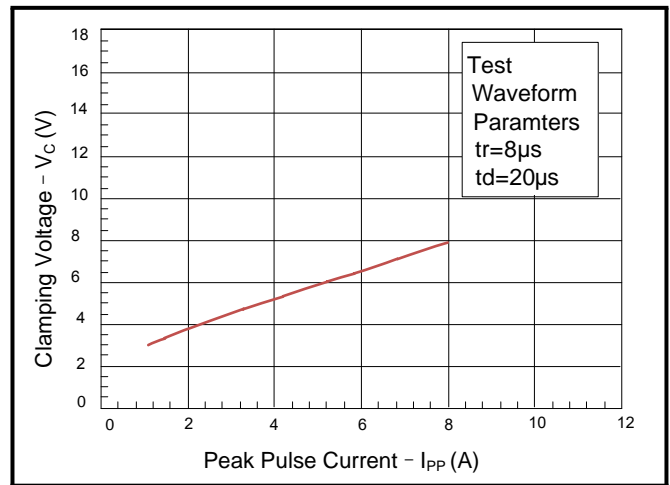


Figure 4: Clamping Voltage vs. Ipp





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ESD Protection Diode

## Typical Characteristics

Figure 7: Eye Diagram - HDMI mask at 3.4Gbps per-channel

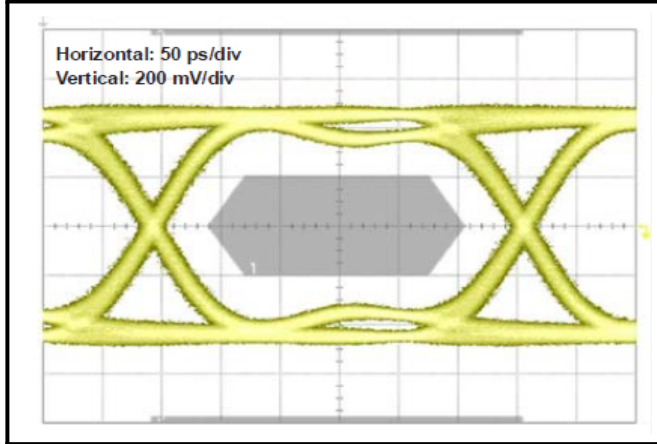
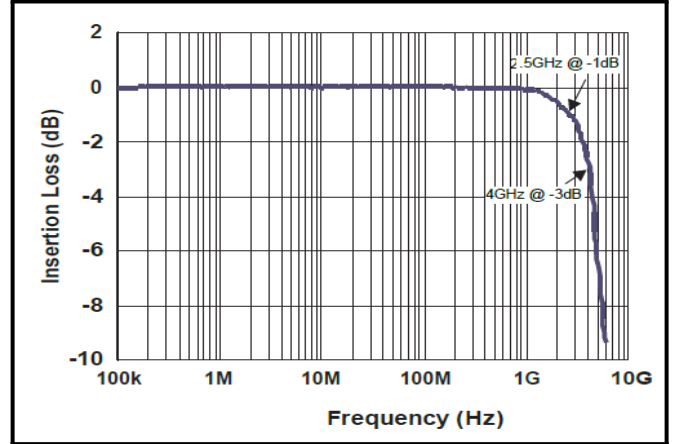


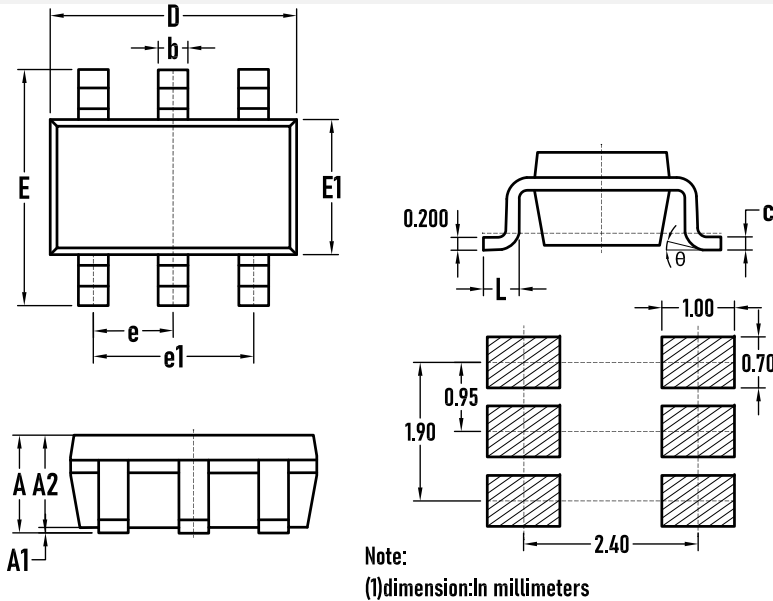
Figure 8: Insertion Loss S21 - I/O to GND



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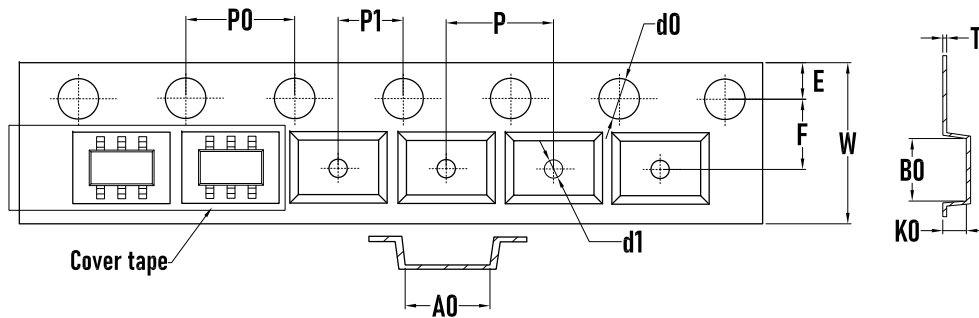
ESD Protection Diode

## Outline Drawing - SOT23-6



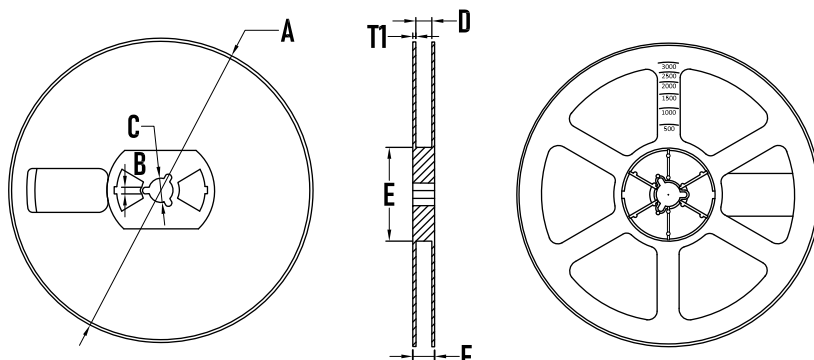
SYMBOL	MILLIMETER		Inches	
	MIN	MAX	MIN	MAX
A	1.050	1.250	0.041	0.049
A1	0.000	0.100	0.000	0.004
A2	1.050	1.150	0.041	0.045
b	0.300	0.500	0.012	0.020
C	0.100	0.200	0.004	0.008
D	2.820	3.020	0.111	0.119
E1	1.500	1.700	0.059	0.067
E	2.650	2.950	0.104	0.116
e	0.950(BSC)		0.037(BSC)	
e1	1.800	2.000	0.071	0.079
L	0.300	0.600	0.012	0.024
θ	0°	8°	0°	8°

## Packaging Tape - SOT23-6



SYMBOL	MILLIMETER
A0	3.25±0.1
B0	3.3±0.1
d0	1.55±0.1
d1	1.0±0.1
E	1.75±0.1
F	3.50±0.1
K0	1.38±0.1
P	4.00±0.1
P0	4.00±0.1
P1	2.00±0.1
W	8.00±0.2
T	0.2±0.02

## Packaging Reel



SYMBOL	MILLIMETER
A	177.8±0.2
B	2.7±0.2
C	13.5±0.2
D	9.6±0.3
E	54.5±0.2
F	12.3±0.3
T1	1.0±0.2
Quantity	3000PCS

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Specifications are subject to change without notice.

Please refer to <http://www.born-tw.com> for current information.

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