

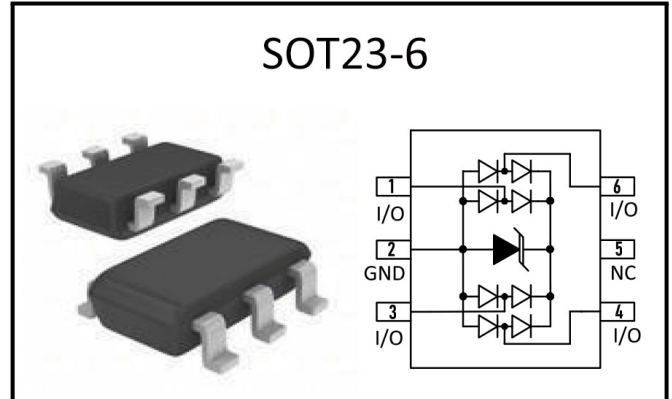
BS0544T6

ESD Protection Diode

Features

- 33Watts peak pulse power ($t_p = 8/20\mu s$)
- Solid-state silicon-avalanche technology
- Low clamping Voltage
- Low leakage current
- Low capacitance ($C_j = 0.6pF$ typ IO/GND)
- Protection one data/power line
- IEC 61000-4-2 $\pm 12kV$ contact ; $\pm 15kV$ air
- IEC 61000-4-4 (EFT) 40A (5/50ns)
- IEC 61000-4-5 (Lightning) 4.5A (8/20 μs)

Package



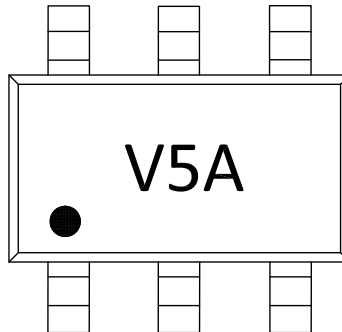
Applications

- 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
BS0544T6	SOT23-6	3k	Tape and reel

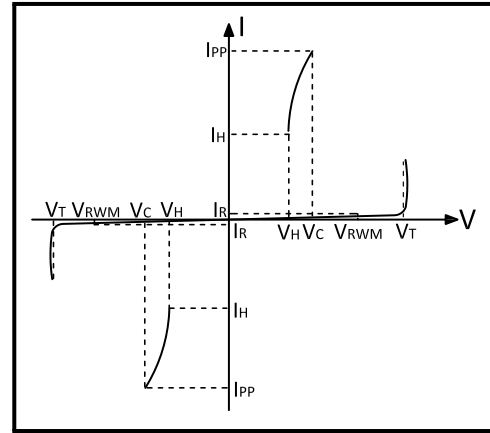


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Electrical Parameters ($T_A = 25^\circ\text{C}$ unless otherwise noted)

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}	33	Watts
Peak Pulse Current ($t_p = 8/20\mu\text{s}$)	I_{PP}	4.5	A
ESD per IEC 61000-4-2 (Air)	V_{ESD}	15	KV
ESD per IEC 61000-4-2 (Contact)		12	
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}	—	—	—	5.0	V
Holding Voltage	V_H	$I_H = V_H$	1.2	—	—	V
Holding Current	I_H	—	15	—	—	mA
Reverse Leakage Current	I_R	$V_{RWM} = 5\text{V}, T = 25^\circ\text{C}$	—	—	0.5	μA
Clamping Voltage	V_C	$I_{PP} = 4.5\text{A}, t_p = 8/20\mu\text{s}$	—	5.0	7.5	V
Trigger Voltage	V_T	—	6	8	12	V
Junction Capacitance	C_j	$V_R = 0\text{V}, f = 1\text{MHz}, \text{IO to IO}$	—	0.35	0.5	pF
Junction Capacitance	C_j	$V_R = 0\text{V}, f = 1\text{MHz}, \text{IO to GND}$	—	0.6	0.9	pF



Typical Characteristics

Figure 1: Peak Pulse Power vs. Pulse Time

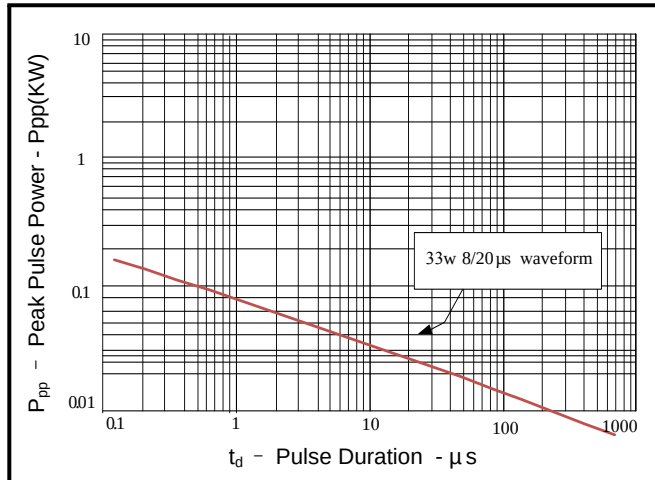


Figure 2: Power Derating Curve

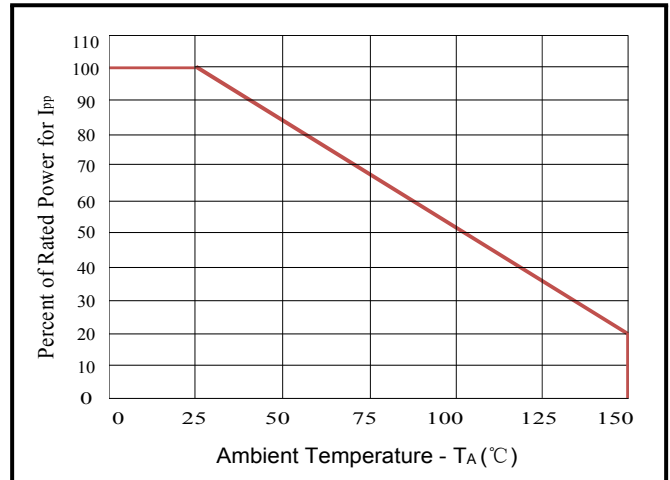


Figure 3: Pulse Waveform

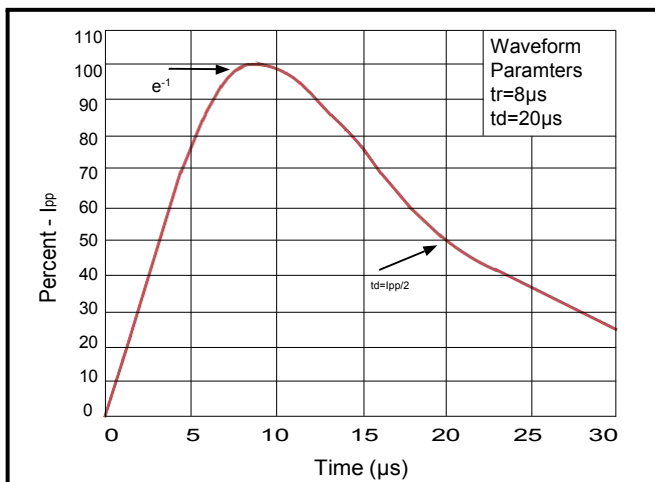
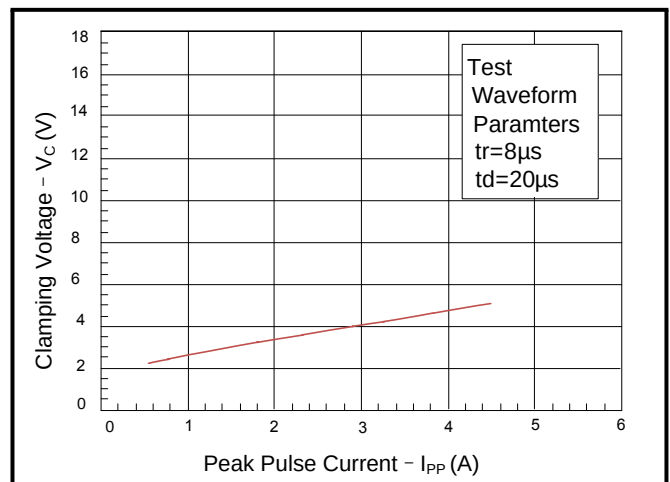


Figure 4: Clamping Voltage vs. I_{PP}



Typical Characteristics

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

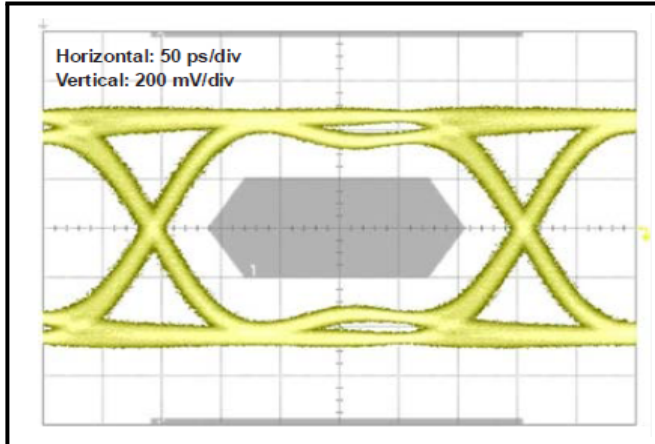
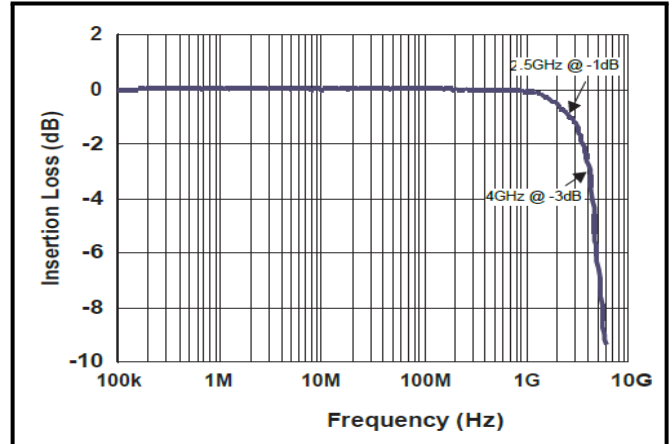


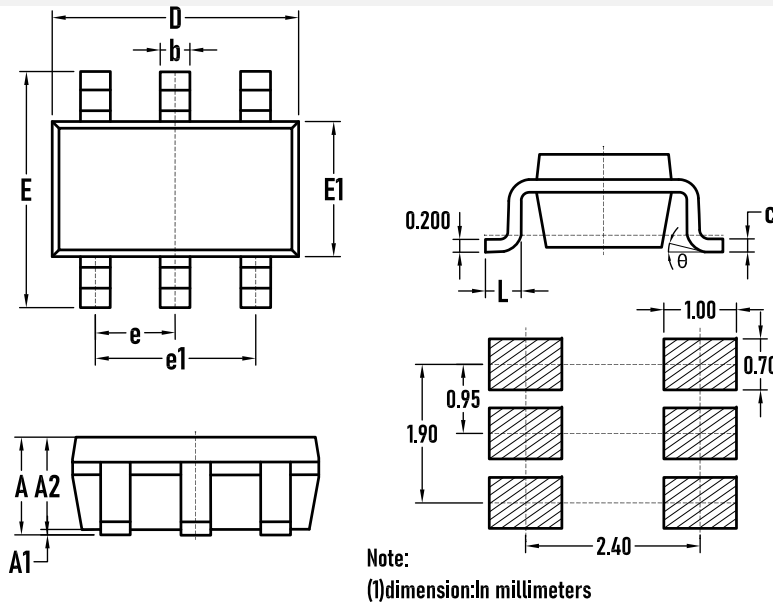
Figure 8: Insertion Loss S21 - I/O to GND



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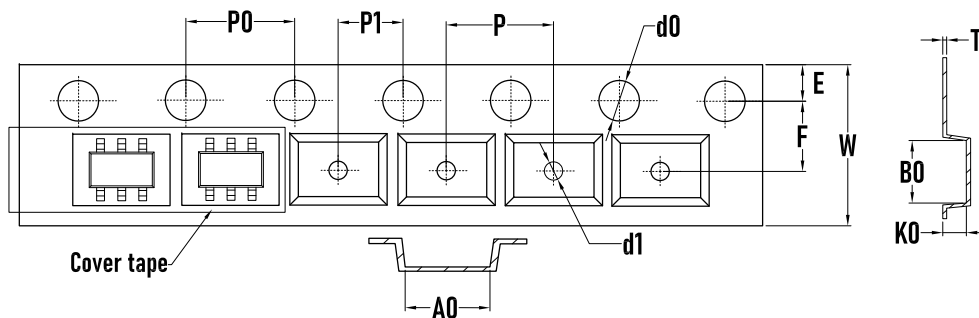
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Outline Drawing - SOT23-6



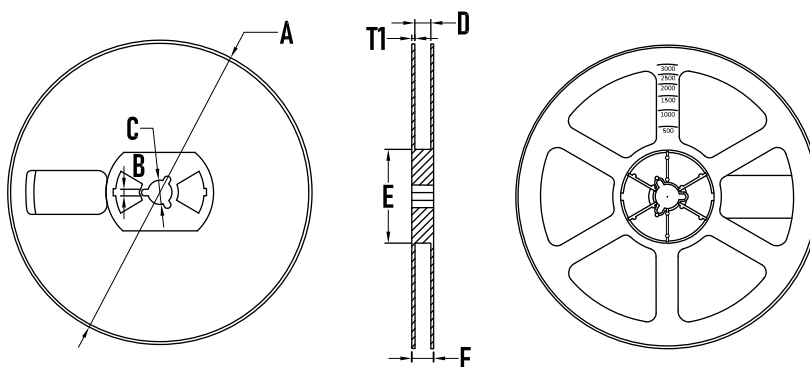
SYMBOL	MILLIMETER		Inches	
	MIN	MAX	MIN	MAX
A	1.050	1.250	0.041	0.049
A1	0.000	0.100	0.000	0.004
A2	1.050	1.150	0.041	0.045
b	0.300	0.500	0.012	0.020
C	0.100	0.200	0.004	0.008
D	2.820	3.020	0.111	0.119
E1	1.500	1.700	0.059	0.067
E	2.650	2.950	0.104	0.116
e	0.950(BSC)		0.037(BSC)	
e1	1.800	2.000	0.071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