

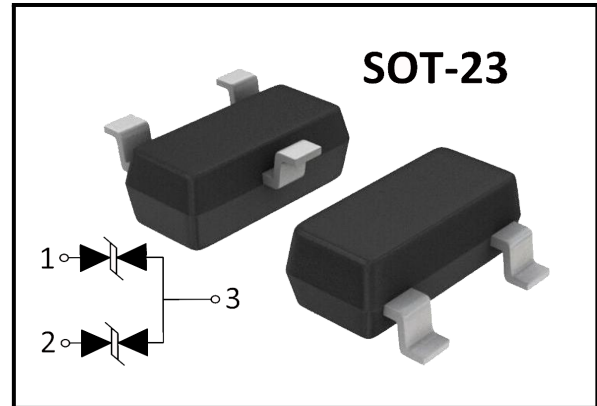
BST23C052LV / BST23C052LV-C

ESD Protection Diode

Features

- 120Watts peak pulse power ($t_p = 8/20\mu s$)
- Bidirectional configurations
- Solid-state silicon-avalanche technology
- Low clamping Voltage
- Low leakage current
- IEC 61000-4-2 $\pm 30kV$ contact ; $\pm 30kV$ air
- IEC 61000-4-4 (EFT) 40A (5/50ns)
- IEC 61000-4-5 (Lightning) 8A (8/20 μs)
- “-C” suffix is for Automotive applications, AEC-Q101 qualified

Package



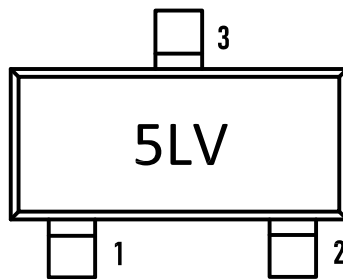
Applications

- Dataline
- Automatic Teller Machines
- Net works
- Power line

Mechanical Characteristics

- SOT-23 package
- Molding compound flammability rating: UL 94V-0
- Packaging: Tape and Reel
- RoHS/WEEE Compliant

Marking



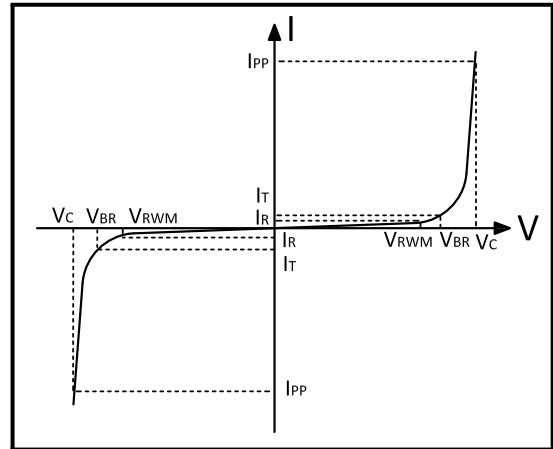
Ordering information

Order code	Package	Base qty	Delivery mode
BST23C052LV	SOT-23	3k	Tape and reel
BST23C052LV-C	SOT-23	3k	Tape and reel



Electrical Parameters (T_A = 25°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	Reverse Leakage Current @ V _{RWM}
V _{BR}	Breakdown Voltage @ I _T
I _T	Test Current



Note: 8/20us pulse Waveform.

Absolute Maximum Rating

Rating	Symler	Value	Units
Peak Pulse Power (tp = 8/20μs)	P _{PP}	120	Watts
Peak Pulse Current (tp = 8/20μs)	I _{PP}	8	A
ESD per IEC 61000-4-2 (Air)	V _{ESD}	30	KV
ESD per IEC 61000-4-2 (Contact)		30	
Lead Soldering Temperature	T _L	260(10seconds)	°C
Junction Temperature	T _J	-55 to + 150	°C
Storage Temperature	T _{stg}	-55 to + 150	°C

Electrical Characteristics

Parameter	Symler	Conditions	Min.	Typical	Max.	Units
Reverse Stand-Off Voltage	V _{RWM}	–	–	–	5.0	V
Reverse Breakdown Voltage	V _{BR}	I _T =1mA	6.0	7.5	9.5	V
Reverse Leakage Current	I _R	V _{RWM} =5V, T=25°C	–	–	0.5	uA
Peak Pulse Current	I _{PP}	tp = 8/20us	–	–	8	A
Clamping Voltage	V _C	I _{PP} =8A, tp = 8/20us	–	11	15	V
Junction Capacitance	C _j	V _R =0V, T=25°C, f=1MHZ (Pin1, Pin2 to Pin3)	–	18	23	pF





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Typical Characteristics

Figure 1: Peak Pulse Power vs. Pulse Time

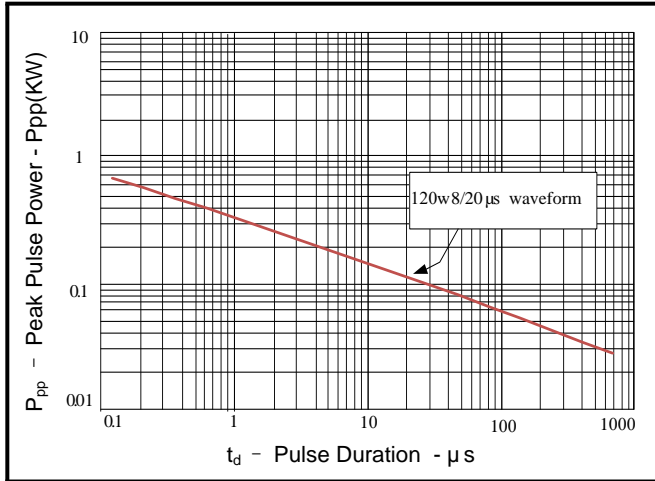


Figure 2: Power Derating Curve

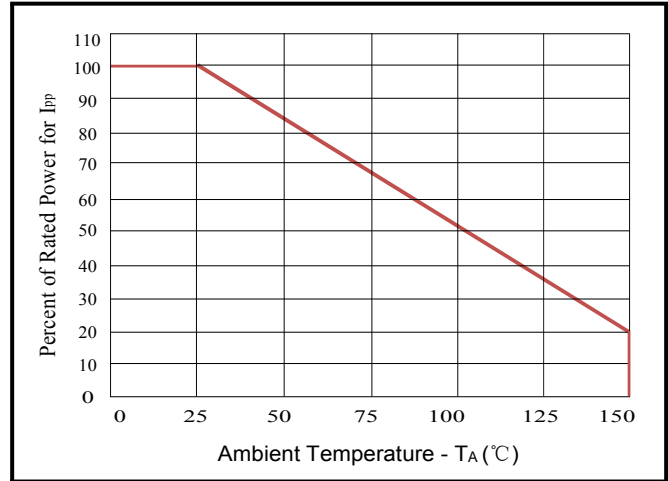


Figure 3: Pulse Waveform

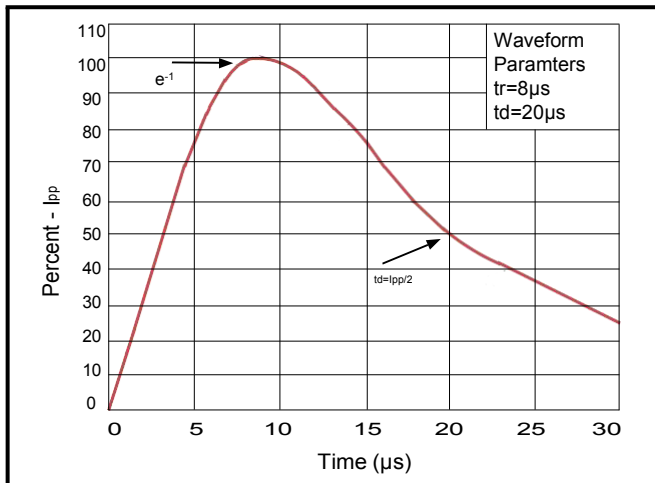
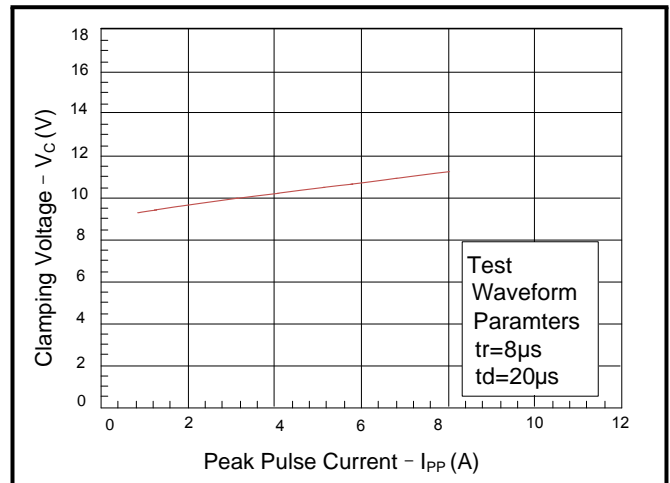


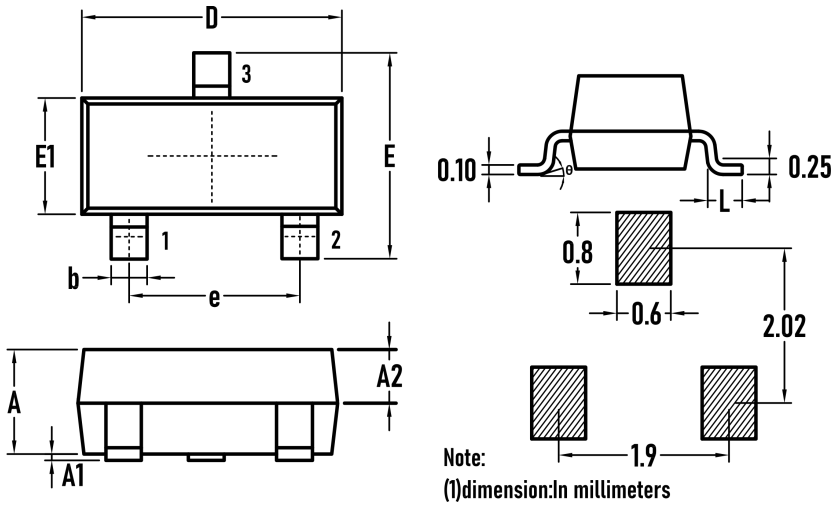
Figure 4: Clamping Voltage vs. Ipp



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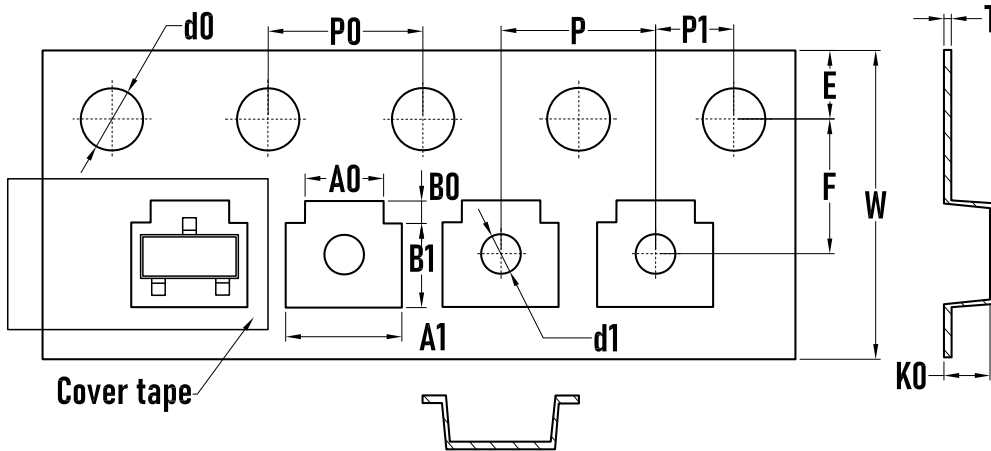
ESD Protection Diode

Outline Drawing – SOT-23



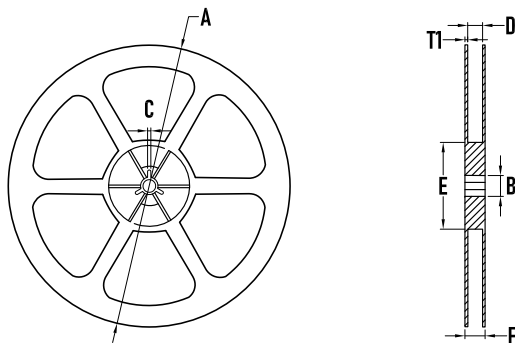
SYMBOL	MILLIMETER		
	MIN.	Typ.	MAX.
A	0.95	1.00	–
A1	0.02	0.06	0.10
A2	–	0.60	–
D	2.85	2.90	2.95
b	0.37	0.40	0.43
E	2.35	2.40	2.45
E1	1.25	1.30	1.35
e	1.85	1.90	1.95
L	0.35	0.40	0.48
θ	0	–	6°

Packaging Tape - SOT-23



SYMBOL	MILLIMETER
A0	2.10±0.10
A1	3.10±0.10
B0	0.65±0.10
B1	2.75±0.10
d0	1.55±0.10
d1	1.00±0.05
E	1.75±0.10
F	3.50±0.10
K0	1.10±0.10
P	4.00±0.10
P0	4.00±0.10
P1	2.00±0.10
W	8.00±0.30
T	0.20 ±0.05

Packaging Reel



SYMBOL	MILLIMETER
A	177.8±0.2
B	3.1
C	13.50
D	9.6±0.3
E	75±0.2
F	12.3±0.3
T1	1.0±0.2
Quantity	3000PCS

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Revision: 2022-Jan-1-A



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