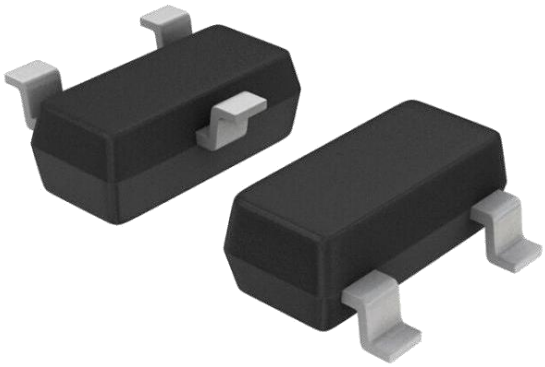
伯恩半导体 BORN SEMICONDUCTOR

BST523A052U

ESD Protection Diode Array

»Features

- 45 Watts peak pulse power (tp = 8/20μs)
- Unidirectional configurations
- Solid-state silicon-avalanche technology
- Low clamping voltage
- Low leakage current
- Low capacitance (C_j=0.7 pF typ.)
- Protection two data lines
- IEC 61000-4-2 ±15V contact ±15kV air
- IEC 61000-4-4 (EFT) 40A(5/50ns)
- IEC 61000-4-5 (Lightning) 3.5A (8/20μs)



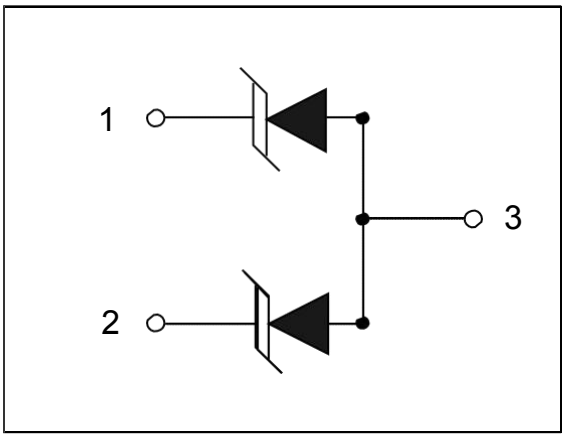
»Applications

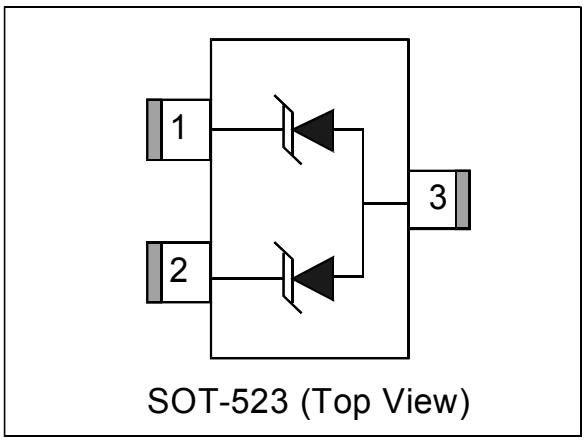
- Dataline
- Automatic Teller Machines
- Net works
- Power line

»Mechanical Data

- SOT-523 package
- Molding compound flammability rating: UL 94V-0
- Packaging: Tape and Reel
- RoHS/WEEE Compliant

»Schematic & PIN Configuration





»Absolute Maximum Rating

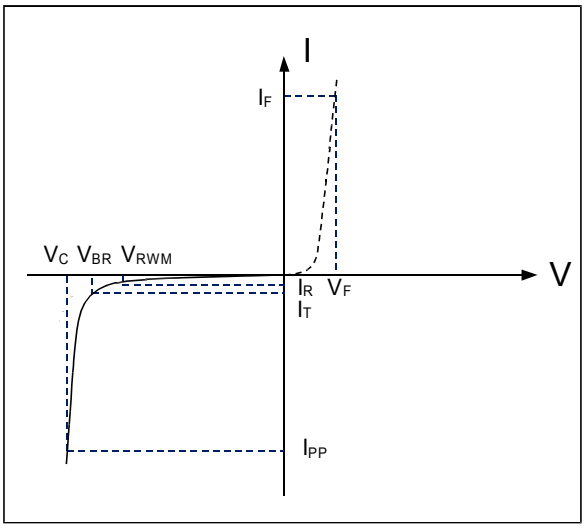
Rating	Symbol	Value	Units
Peak Pulse Power (t_p=8/20μs)	P_{PP}	45	Watts
Peak Pulse Current (t_p=8/20μs)(note1)	I_{pp}	3.5	A
ESD per IEC 61000-4-2(Air) ESD per IEC 61000-4-2(Contact)	V_{ESD}	15 15	kV
Lead SolderingTemperature	T_L	260(10seconds)	℃
JunctionTemperature	T_J	-55 to + 125	℃
StorageTemperature	T_{stg}	-55 to + 125	℃

»Electrical Characteristics

Parameter	Symbol	Conditions	Min	Typical	Max	Units
Reverse Stand-OffVoltage	V_{RWM}				5	V
Reverse BreakdownVoltage	V_{BR}	I_T=1mA	6	7	8	V
Reverse LeakageCurrent	I_R	V_{RWM}=5V,T=25℃		0.5	1	μA
Peak PulseCurrent	I_{PP}	tp =8/20μs			3.5	A
ClampingVoltage	V_C	I_{PP}=3.5A,t_p=8/20μs		12	17	V
JunctionCapacitance	C_j	V_R = 0V, f =1MHz		0.7	0.8	pF

»Electrical Parameters (TA = 25°C unless otherwisenoted)

Symbol	Parameter
I_{PP}	Maximum Reverse Peak Pulse Current
V_C	Clamping Voltage @ I_{PP}
V_{RWM}	Working Peak Reverse Voltage
I_R	Maximum Reverse Leakage Current @ V_{RWM}
V_{BR}	Breakdown Voltage @ I_T
I_T	Test Current



Note:. 8/20μs pulsewaveform.

»TypicalCharacteristics

Figure 1: Peak Pulse Power vs. Pulse Time

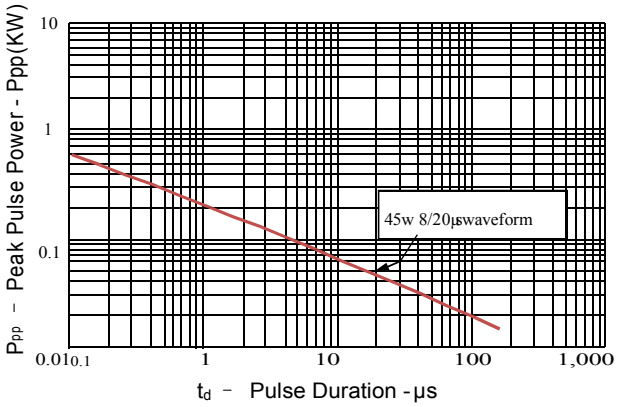


Figure 2: Power Derating Curve

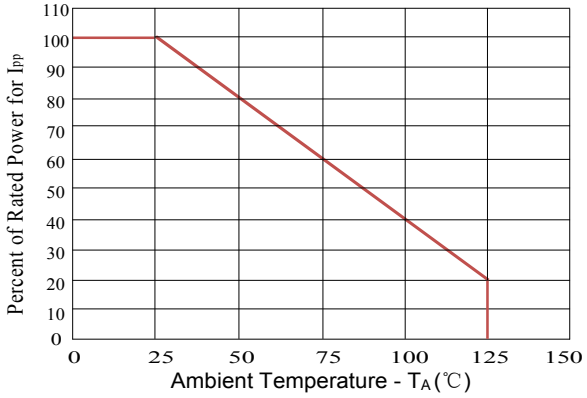


Figure3: Pulse Waveform

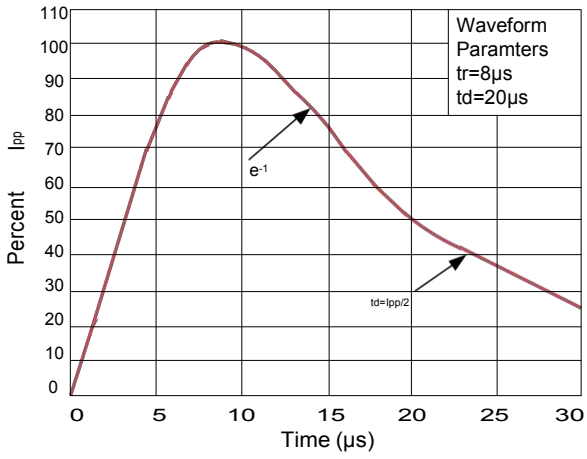
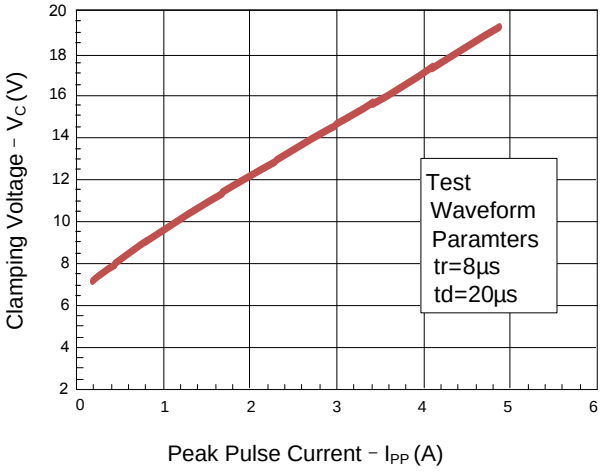
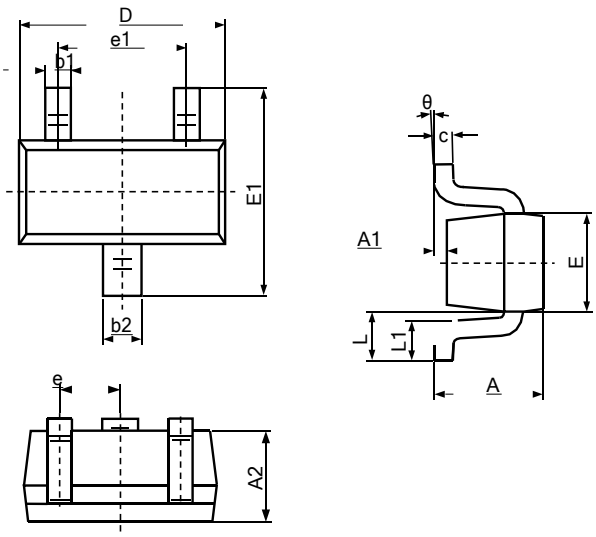


Figure 4: Clamping Voltage vs.Ipp

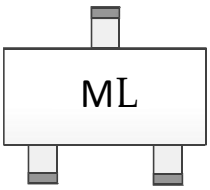


»Outline Drawing – SOT-523



Dimensions				
Symbol	MillImeter		Inches	
	MIN	MAX	MIN	MAX
A	0.700	0.900	0.028	0.035
A1	0.000	0.100	0.000	0.004
A2	0.700	0.800	0.028	0.031
b1	0.150	0.250	0.006	0.010
b2	0.250	0.325	0.010	0.013
c	0.100	0.200	0.004	0.008
D	1.500	1.700	0.059	0.067
E	0.750	0.850	0.030	0.033
E1	1.450	1.750	0.057	0.069
e	0.50 BSC		0.02 BSC	
e1	0.900	1.100	0.035	0.043
L	0.300	0.500	0.012	0.020
L1	0.028	0.440	0.011	0.017
θ	0	8°	0	8°

»Marking



»Ordering information

Order code	Package	Base qty	Delivery mode
BST523A052U	SOT-523	3k	Tape and reel

Unikeyic Electronics

Global Electronic Components Distributor

Click to view pricing, inventory, delivery, and lifecycle information:

BORN:

1.5SMBJ18CA BDFN1C031V BST23A052U PESD15VL1BA-N SMD2920-400/30N P4SMA6.8CA BSD3A241V BDFN2C031V BML6401 BSD9C051V GBLC03C-N BSD3C031LX PSD24-N 1N4148WT BM3134E BSD3A031V BN5A181V45 MMBZ27VCLT1G-N MMBZ39VCLT1G-N SM24CANB-02HTG-N BAT46X BC858B GBJ1510 1.5SMBJ40CA 5.0SMDJ15CA BWF102N ESDA14V2L S8550 1.0SMBJ6.5A SMFJ170A