ESD TVS Diodes Original SMBJ200A Electrostatic TVS Protection Diode

Our Product Introduction

Basic Information

- Place of Origin: Shenzhen, Guangdong, China
- Brand Name: SOCAY
- Certification: UL,REACH,RoHS,ISO
- Model Number: SMBJ200A
- Minimum Order Quantity: 5000PCS
- Price: Negotiable
- Packaging Details: tape reel
- Delivery Time: 1-2weeks
- Payment Terms: T/T, Western Union
- Supply Ability: 10000000pcs

Product Specification

- Item: TVS Diodes
- Footprint: DO-214AA/SMB
- Vrwm: 200V
- Vbr@It (Min.): 224V
- Vbr@It (Max.): 247V
- It: 1mA
- Vc@Ipp: 324V
- Ipp: 1.85A
- Ir@Vrwm: 5μA
- Function: Protection Device
- Highlight: **ESD TVS Diodes**, **SMBJ200A TVS Diodes**, **Electrostatic TVS Protection Diode**

Product Description

ESD TVS Diodes Original SMBJ200A Electrostatic TVS Protection Diode

ESD TVS Diodes Original SMBJ200A DATASHEET: SMBJ_v88.2.pdf

ESD TVS Diodes Original SMBJ200A Brief Introduction:
The ESD TVS Diodes Original SMBJ200A is designed specifically to protect sensitive electronic equipment from voltage transients induced by lightning and other transient voltage events. Besides, TVS device SMBJ200A is ideal for the protection of V_{CC} bus and other vulnerable circuits used in Telecom, Computer, Industrial and Consumer electronic TV Sets applications.

TVS Device Part Number		TVS Device Marking		TVS Device Reverse Stand-Off Voltage VRWM (V)	TVS Device Breakdown Voltage VBR (V) @IT		TVS Device Test Current IT (mA)	TVS Device Maximum Clamping Voltage VC @IPP (V)	TVS Device Maximum Peak Pulse Current IPP (A)	TVS Device Maximum Reverse Leakage IR @VRWM (μA)
Uni	Bi	Uni	Bi		MIN	MAX				
SMBJ190A	SMBJ190CA	PV	EV	190.0	211.00	232.00	1	307.8	1.95	5
SMBJ200A	SMBJ200CA	PW	EW	200.0	224.00	247.00	1	324.0	1.85	5

Part Number		Marking		Reverse Stand-Off Voltage V_{RWM} (V)	Breakdown Voltage V_{BR} (V) @I_T		Test Current I_T (mA)	Maximum Clamping Voltage V_C @I_{PP} (V)	Maximum Peak Pulse Current I_{PP} (A)	Maximum Reverse Leakage I_R @V_{RWM} (μA)
Uni	Bi	Uni	Bi		MIN	MAX				
SMBJ3.3A	–	K1	–	3.3	5.20	6.50	10	8.0	75.00	600
SMBJ5.0A	SMBJ5.0CA	KE	AE	5.0	6.40	7.00	10	9.2	65.22	800
SMBJ6.0A	SMBJ6.0CA	KG	AG	6.0	6.67	7.37	10	10.3	58.25	800
SMBJ6.5A	SMBJ6.5CA	KK	AK	6.5	7.22	7.98	10	11.2	53.57	500
SMBJ7.0A	SMBJ7.0CA	KM	AM	7.0	7.78	8.60	10	12.0	50.00	200
SMBJ7.5A	SMBJ7.5CA	KP	AP	7.5	8.33	9.21	1	12.9	46.51	100
SMBJ8.0A	SMBJ8.0CA	KR	AR	8.0	8.89	9.83	1	13.6	44.12	50
SMBJ8.5A	SMBJ8.5CA	KT	AT	8.5	9.44	10.40	1	14.4	41.67	10
SMBJ9.0A	SMBJ9.0CA	KV	AV	9.0	10.00	11.10	1	15.4	38.96	5
SMBJ10A	SMBJ10CA	KX	AX	10.0	11.10	12.30	1	17.0	35.29	5
SMBJ11A	SMBJ11CA	KZ	WZ	11.0	12.20	13.50	1	18.2	32.97	5
SMBJ12A	SMBJ12CA	LE	BE	12.0	13.30	14.70	1	19.9	30.15	5
SMBJ13A	SMBJ13CA	LG	BG	13.0	14.40	15.90	1	21.5	27.91	5
SMBJ14A	SMBJ14CA	LK	BK	14.0	15.60	17.20	1	23.2	25.86	5
SMBJ15A	SMBJ15CA	LM	BM	15.0	16.70	18.50	1	24.4	24.59	5
SMBJ16A	SMBJ16CA	LP	BP	16.0	17.80	19.70	1	26.0	23.08	5
SMBJ17A	SMBJ17CA	LR	BR	17.0	18.90	20.90	1	27.6	21.74	5
SMBJ18A	SMBJ18CA	LT	BT	18.0	20.00	22.10	1	29.2	20.55	5
SMBJ19A	SMBJ19CA	LB	BB	19.0	21.10	23.30	1	30.8	19.49	5
SMBJ20A	SMBJ20CA	LV	BV	20.0	22.20	24.50	1	32.4	18.52	5
SMBJ22A	SMBJ22CA	LX	BX	22.0	24.40	26.90	1	35.5	16.90	5
SMBJ24A	SMBJ24CA	LZ	BZ	24.0	26.70	29.50	1	38.9	15.42	5
SMBJ26A	SMBJ26CA	ME	CE	26.0	28.90	31.90	1	42.1	14.25	5
SMBJ28A	SMBJ28CA	MG	CG	28.0	31.10	34.40	1	45.4	13.22	5
SMBJ30A	SMBJ30CA	MK	CK	30.0	33.30	36.80	1	48.4	12.40	5
SMBJ33A	SMBJ33CA	MM	CM	33.0	36.70	40.60	1	53.3	11.26	5
SMBJ36A	SMBJ36CA	MP	CP	36.0	40.00	44.20	1	58.1	10.33	5
SMBJ40A	SMBJ40CA	MR	CR	40.0	44.40	49.10	1	64.5	9.30	5
SMBJ43A	SMBJ43CA	MT	CT	43.0	47.80	52.80	1	69.4	8.65	5

Electrical Characteristics (T_A=25℃ unless otherwise noted) (Continue)

Part Number		Marking		Reverse Stand-Off Voltage V_{RWM} (V)	Breakdown Voltage V_{BR} (V) @I_T		Test Current I_T (mA)	Maximum Clamping Voltage V_C @I_{PP} (V)	Maximum Peak Pulse Current I_{PP} (A)	Maximum Reverse Leakage I_R @V_{RWM} (μA)
Uni	Bi	Uni	Bi		MIN	MAX				
SMBJ45A	SMBJ45CA	MV	CV	45.0	50.00	55.30	1	72.7	8.25	5
SMBJ48A	SMBJ48CA	MX	CX	48.0	53.30	58.90	1	77.4	7.75	5
SMBJ51A	SMBJ51CA	MZ	CZ	51.0	56.70	62.70	1	82.4	7.28	5
SMBJ54A	SMBJ54CA	NE	DE	54.0	60.00	66.30	1	87.1	6.89	5
SMBJ58A	SMBJ58CA	NG	DG	58.0	64.40	71.20	1	93.6	6.41	5
SMBJ60A	SMBJ60CA	NK	DK	60.0	66.70	73.70	1	96.8	6.20	5
SMBJ64A	SMBJ64CA	NM	DM	64.0	71.10	78.60	1	103.0	5.83	5
SMBJ70A	SMBJ70CA	NP	DP	70.0	77.80	86.00	1	113.0	5.31	5
SMBJ75A	SMBJ75CA	NR	DR	75.0	83.30	92.10	1	121.0	4.96	5
SMBJ78A	SMBJ78CA	NT	DT	78.0	86.70	95.80	1	126.0	4.76	5
SMBJ80A	SMBJ80CA	NB	DB	80.0	88.80	97.60	1	129.6	4.63	5
SMBJ85A	SMBJ85CA	NV	DV	85.0	94.40	104.00	1	137.0	4.38	5
SMBJ90A	SMBJ90CA	NX	DX	90.0	100.00	111.00	1	146.0	4.11	5
SMBJ100A	SMBJ100CA	NZ	DZ	100.0	111.00	123.00	1	162.0	3.70	5
SMBJ110A	SMBJ110CA	PE	EE	110.0	122.00	135.00	1	177.0	3.39	5
SMBJ120A	SMBJ120CA	PG	EG	120.0	133.00	147.00	1	193.0	3.11	5
SMBJ130A	SMBJ130CA	PK	EK	130.0	144.00	159.00	1	209.0	2.87	5
SMBJ140A	SMBJ140CA	PB	EB	140.0	155.00	171.00	1	226.8	2.65	5
SMBJ150A	SMBJ150CA	PM	EM	150.0	167.00	185.00	1	243.0	2.47	5
SMBJ160A	SMBJ160CA	PP	EP	160.0	178.00	197.00	1	259.0	2.32	5
SMBJ170A	SMBJ170CA	PR	ER	170.0	189.00	209.00	1	275.0	2.18	5
SMBJ180A	SMBJ180CA	PT	ET	180.0	201.00	220.00	1	291.6	2.06	5
SMBJ190A	SMBJ190CA	PV	EV	190.0	211.00	232.00	1	307.8	1.95	5
SMBJ200A	SMBJ200CA	PW	EW	200.0	224.00	247.00	1	324.0	1.85	5
SMBJ220A	SMBJ220CA	PX	EX	220.0	246.00	272.00	1	356.0	1.69	5
SMBJ250A	SMBJ250CA	PZ	EZ	250.0	279.00	309.00	1	405.0	1.48	5
SMBJ300A	SMBJ300CA	QE	FE	300.0	335.00	371.00	1	486.0	1.23	5
SMBJ350A	SMBJ350CA	QG	FG	350.0	391.00	432.00	1	567.0	1.06	5
SMBJ400A	SMBJ400CA	QK	FK	400.0	447.00	494.00	1	648.0	0.93	5
SMBJ440A	SMBJ440CA	QM	FM	440.0	492.00	543.00	1	713.0	0.84	5

Ratings and Characteristic Curves (T_A=25°C unless otherwise noted)

Figure 1 - Peak Pulse Power Rating Curve

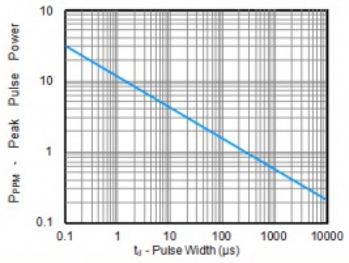


Figure 2 - Pulse Derating Curve

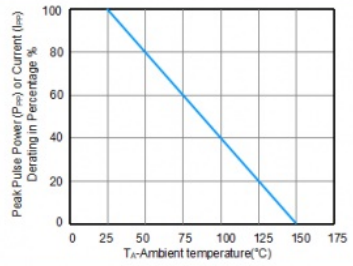


Figure 3 - Pulse Waveform

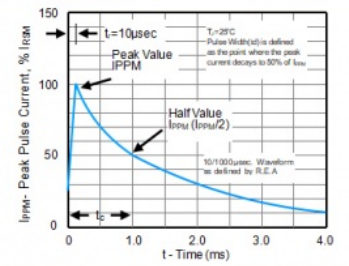


Figure 4 - Typical Junction Capacitance

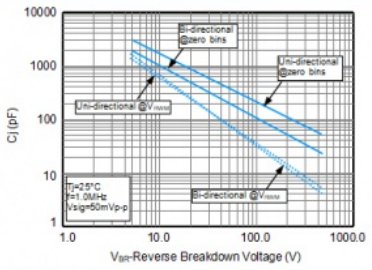


Figure 5 - Steady State Power Derating Curve

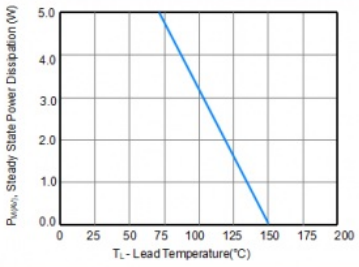
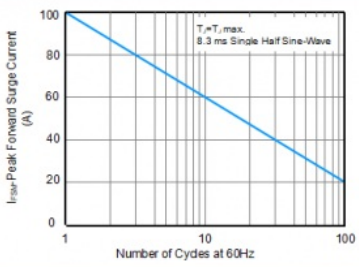
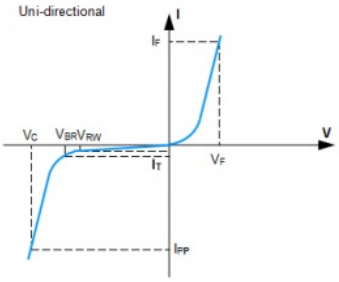
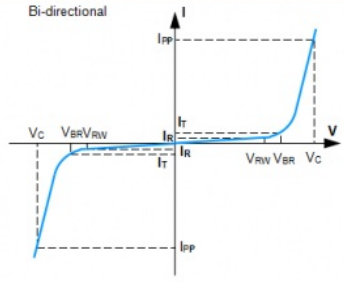


Figure 6 - Maximum Non-Repetitive Surge Current



I-V Curve Characteristics





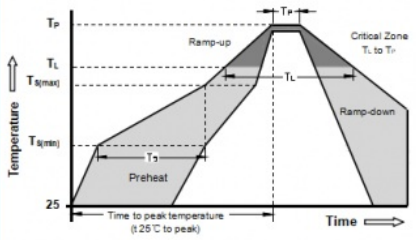
Physical Specifications

Weight	0.003 ounce, 0.093 gram
Case	JEDEC DO-214AA Molded Plastic over glass passivated junction
Polarity	Color band denotes cathode except Bipolar
Terminal	Matte Tin-plated leads, Solderable per JESD22-B102D

Environmental Specifications

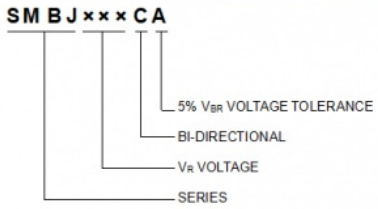
Temperature Cycle	JESD22-A104
Pressure Cooker	JESD22-A102
High Temp. Storage	JESD22-A103
HTRB	JESD22-A108
Thermal Shock	JESD22-A106

Soldering Parameters

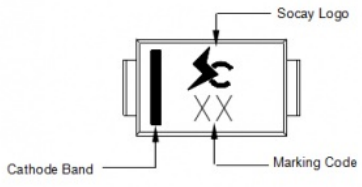


Reflow Condition		Lead–free assembly
Pre Heat	-Temperature Min ($T_{s(min)}$)	150°C
	-Temperature Max ($T_{s(max)}$)	200°C
	- Time (min to max) (T_s)	60 -180 Seconds
Average ramp up rate (Liquidus Temp T_L) to peak		3°C/second max
$T_{S(max)}$ to TL - Ramp-up Rate		3°C/second max
Reflow	- Temperature (T_L) (Liquidus)	217°C
	- Time (min to max) (T_L)	60 -150 Seconds
Peak Temperature (T_P)		260 +0/-5°C
Time within 5°C of actual peak Temperature (t_p)		20 -40 Seconds
Ramp-down Rate		6°C/second max
Time 25°C to peak Temperature (T_P)		8 minutes Max
Do not exceed		280°C

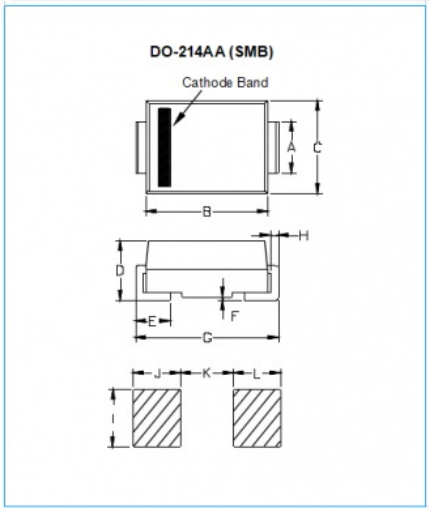
Part Numbering



Part Marking



Dimensions

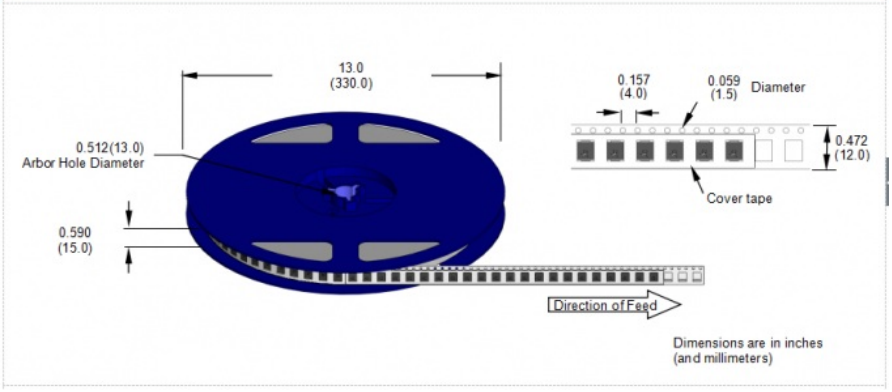


Dimensions	Inches		Millimeters	
	Min	Max	Min	Max
A	0.073	0.087	1.85	2.21
B	0.167	0.191	4.25	4.85
C	0.130	0.155	3.30	3.94
D	0.085	0.104	2.15	2.65
E	0.030	0.060	0.75	1.52
F	--	0.008	--	0.203
G	0.200	0.220	5.08	5.59
H	0.006	0.012	0.15	0.31
I	0.089	-	2.26	-
J	0.085	-	2.10	-
K	-	0.107	-	2.74
L	0.085	-	2.10	-

Packaging

Part Number	Component Package	Reel (PCS)	Per Carton (PCS)	Packaging Option	Reel Diameters (mm)
SMBJXXXXX	DO-214AA (SMB)	3000	48000	Tape & Reel -15mm/13"tape	330.0

Tape and Reel Specifications



Overvoltage protection:
When the power supply voltage of the protected line is higher than a certain value, the protector cuts off the line; when the power supply voltage returns to the normal range, the protector automatically turns on. Common overvoltage protection devices include ceramic gas discharge tubes, TVS diodes, ESD electrostatic protectors, semiconductor discharge tubes, varistors, and zener diodes.
Overcurrent protection:
When the load of the protected line increases and generates more than 1.2 times the rated current, the protector cuts off the line after a delay. Commonly used overcurrent protection devices include self-restoring fuses.
Electric shock protection:
When the phase wire of the protected line is connected to the earth directly or through an unexpected load, a non-sinusoidal waveform is generated and its effective value is an instantaneously changing residual current. When the current is greater than a certain value, the protector cuts off the line.
Short circuit protection:
When the protected line tends to be short-circuited and generates a current greater than 5 times the rated current, the protector cuts off the line.
Power failure protection function:
The so-called power-off protection function means that the switching device can store the last channel switching command during normal operation. When a power outage occurs due to an emergency, the device will still save this command, and the device will automatically restore to the original switching command after power is restored. state.
Surge protector:
Surge protectors are mainly composed of varistors (varistors, voltage-limiting diodes) and discharge gaps (discharge channels). They are used to protect other electronic equipment and systems and provide equipotential connections.
Leakage Protection:
When the phase wire of the protected line is connected to the earth directly or through an unexpected load, an approximately sinusoidal waveform is generated and the effective value is a slowly changing residual current. When the current is greater than a certain value, the protector cuts off the line.
Under voltage protection:
When the power supply voltage of the protected line is lower than a certain value, the protector cuts off the line; when the power supply voltage returns to the normal range, the protector automatically turns on.
Voltage protection level (Up):
The peak value of the standard lightning pulse breakdown voltage, the residual voltage of the protected terminal under the rated discharge current Isn. For power system arresters, the installation location is determined according to the overvoltage classification protection level; for information system protectors, the protection level Must match the compatibility of the system and equipment to be protected.

Shenzhen Socay Electronics Co., Ltd.

+8618126201429 sylvia@socay.com socaydiode.com

4/F, Block C, HeHengXing Science & Technology Park, 19 MinQing Road, LongHua District, Shenzhen City, GuangDong Province, China