

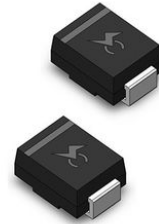


BOM List Service SMBJ16A DO-214AA Original Circuit Protection TVS Diode SMBJ16A

Our Product Introduction

Basic Information

- Place of Origin: Shenzhen, Guangdong, China
- Brand Name: SOCAY
- Certification: UL, REACH, RoHS, ISO
- Model Number: SMBJ16A
- 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

- SMBJ16A Name: TVS Diodes
- SMBJ16A Package Type: DO-214AA/SMB
- SMBJ16A V_{rw}: 16V
- SMBJ16A V_{br}@I_t (Min.): 17.8V
- SMBJ16A V_{br}@I_t (Max.): 19.7V
- SMBJ16A I_t: 1mA
- SMBJ16A V_c@I_{pp}: 26V
- SMBJ16A I_r@V_{rw}: 5μA

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Product Description

BOM List Service SMBJ16A DO-214AA Original Circuit Protection TVS Diode SMBJ16A

TVS Diode SMBJ16A DATASHEET: [SMBJ_v88.2.pdf](#)

TVS Diode SMBJ16A Explanation:

The TVS Diode SMBJ16A is designed specifically to protect sensitive electronic equipment from voltage transients induced by lightning and other transient voltage events.

TVS Diode Part Number		Marking		TVS Diode Reverse Stand-Off Voltage VRWM (V)	TVS Diode Breakdown Voltage VBR (V) @IT		TVS Diode Test Current IT (mA)	TVS Diode Maximum Clamping Voltage VC @IPP (V)	TVS Diode Maximum Peak Pulse Current IPP (A)	TVS Diode Maximum Reverse Leakage IR @VRWM (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	K	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	K	A	7.0	7.78	8.60	10	12.0	50.00	200
SMBJ7.5A	SMBJ7.5CA	K	P	7.5	8.33	9.21	1	12.9	46.51	100
SMBJ8.0A	SMBJ8.0CA	K	AR	8.0	8.89	9.83	1	13.6	44.12	50
SMBJ8.5A	SMBJ8.5CA	K	AT	8.5	9.44	10.40	1	14.4	41.67	10
SMBJ9.0A	SMBJ9.0CA	K	AV	9.0	10.00	11.10	1	15.4	38.96	5
SMBJ10A	SMBJ10CA	K	AX	10.0	11.10	12.30	1	17.0	35.29	5
SMBJ11A	SMBJ11CA	K	W	11.0	12.20	13.50	1	18.2	32.97	5
SMBJ12A	SMBJ12CA	L	BE	12.0	13.30	14.70	1	19.9	30.15	5
SMBJ13A	SMBJ13CA	L	BG	13.0	14.40	15.90	1	21.5	27.91	5
SMBJ14A	SMBJ14CA	L	BK	14.0	15.60	17.20	1	23.2	25.86	5
SMBJ15A	SMBJ15CA	L	B	15.0	16.70	18.50	1	24.4	24.59	5
SMBJ16A	SMBJ16CA	L	BP	16.0	17.80	19.70	1	26.0	23.08	5

Part Number		Marking		Reverse Stand-Off Voltage V_{RRM} (V)	Breakdown Voltage V_{BR} (V) @ I_R		Test Current I_T (mA)	Maximum Clamping Voltage V_C @ I_{TCL} (V)	Maximum Peak Pulse Current I_{PP} (A)	Maximum Reverse Leakage I_{RS} @ V_{RRM} (μ A)
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 ($T_A=25^\circ\text{C}$ unless otherwise noted) (Continue)

Part Number		Marking		Reverse Stand-Off Voltage V_{RRM} (V)	Breakdown Voltage V_{BR} (V) @ I_R		Test Current I_T (mA)	Maximum Clamping Voltage V_C @ I_{TCL} (V)	Maximum Peak Pulse Current I_{PP} (A)	Maximum Reverse Leakage I_{RS} @ V_{RRM} (μ A)
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	136.00	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	336.00	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

Figure 1 - Peak Pulse Power Rating Curve

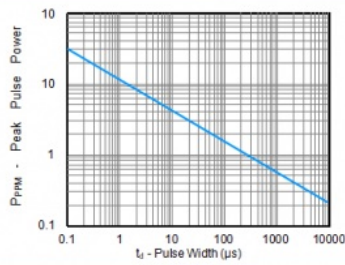


Figure 2 - Pulse Derating Curve

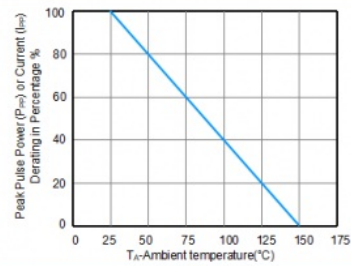


Figure 3 - Pulse Waveform

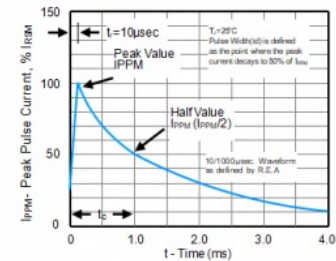


Figure 4 - Typical Junction Capacitance

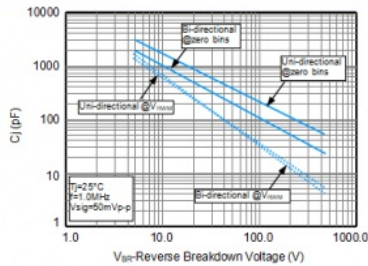


Figure 5 - Steady State Power Derating Curve

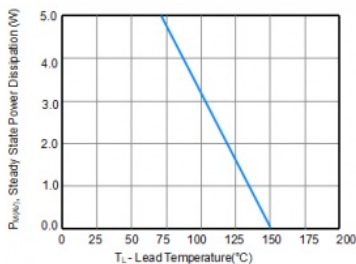
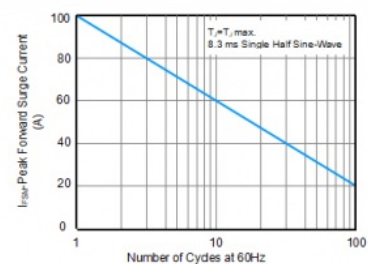
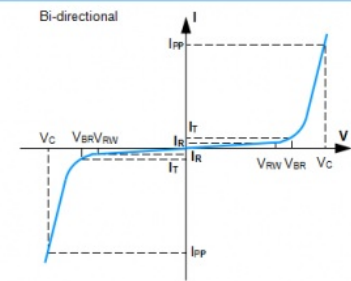
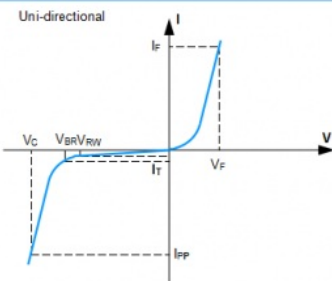


Figure 6 - Maximum Non-Repetitive Surge Current



I-V Curve Characteristics



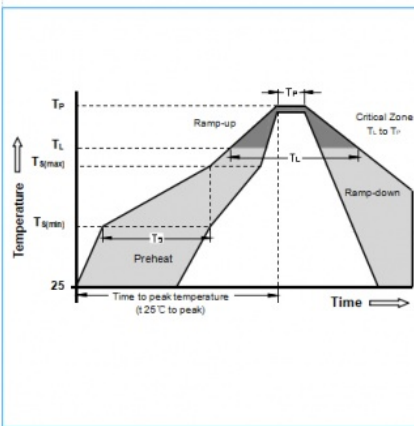
Physical Specifications

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

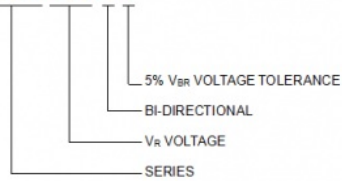
Soldering Parameters



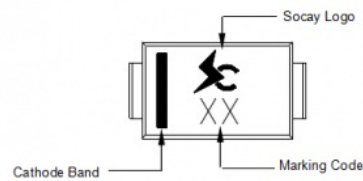
Reflow Condition		Lead-free assembly
Pre Heat	-Temperature Min ($T_{s(min)}$)	150°C
	-Temperature Max ($T_{s(max)}$)	200°C
	-Time (min to max) (T_s)	60 -180 Seconds
Average ramp up rate (Liquidus Temp T_L) to peak		3°C/second max
$T_{s(max)}$ to T_L - Ramp-up Rate		3°C/second max
Reflow	- Temperature (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

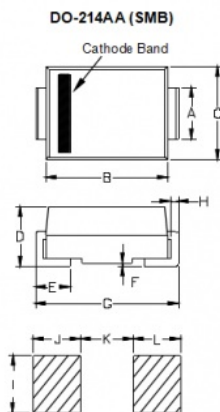
SMBJxxxCA



Part Marking



Dimensions

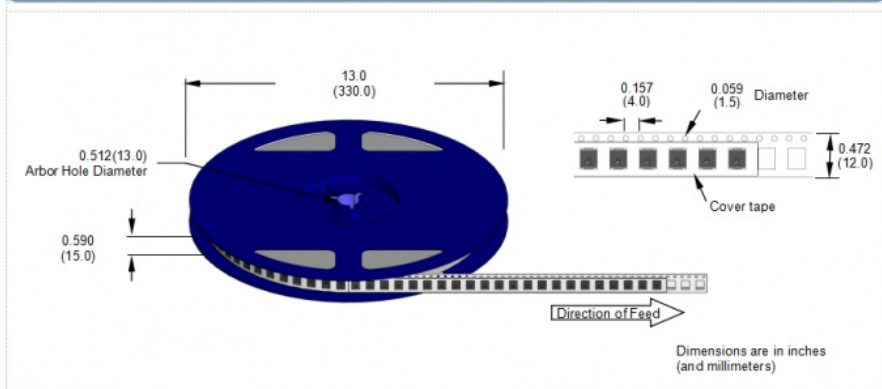


Dimensions	Inches		Millimeters	
	Min	Max	Min	Max
A	0.073	0.087	1.85	2.21
B	0.167	0.191	4.25	4.85
C	0.130	0.155	3.30	3.94
D	0.085	0.104	2.15	2.65
E	0.030	0.060	0.75	1.52
F	--	0.008	--	0.203
G	0.200	0.220	5.08	5.59
H	0.006	0.012	0.15	0.31
I	0.089	-	2.26	-
J	0.085	-	2.10	-
K	-	0.107	-	2.74
L	0.085	-	2.10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

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





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