Socay Fast Switching TVS Diodes DO-214AB 8.0SMDJ 8000W 14V Surface Mount Transient Voltage Suppressor

Our Product Introduction

Basic Information

- Place of Origin: Shenzhen, Guangdong, China
- Brand Name: SOCAY
- Certification: UL,REACH,RoHS,ISO
- Model Number: 8.0SMDJ14A
- Minimum Order Quantity: 500PCS
- Price: Negotiable
- Packaging Details: tape reel,bulk
- Delivery Time: 1-3WEEKS

Product Specification

- Key Words: TVS Diodes
- Vrwm: 14V
- Vbr@It (Min.): 15.60V
- Vbr@It (Max.): 17.20V
- It: 10mA
- Vc@Ipp: 23.2V
- Ipp: 348.28A
- Ir@Vrwm: 200μA
- Storage Temperature Range: -55 To +150
- Highlight: **Fast Switching TVS Diodes**, **8.0SMDJ14A TVS Diodes**, **8.0SMDJ14A**

Product Description

Socay TVS Fast Switching Diodes DO-214AB 8.0SMDJ 8000W 14V Surface Mount Transient Voltage Suppressor

DATASHEET: 8.0SMDJ_v2107.1.pdf

Weight	0.007 ounce, 0.21 gram
Case	JEDEC DO-214AB Molded Plastic over glass passivated junction
Polarity	Color band denotes cathode except Bipolar
Terminal	Matte Tin-plated leads, Solderable per JESD22-B102D

Slection Method
1.To determine the customer's product, operating voltage, application port, and required protection level.
2.The VRWM value of the device must be greater than or equal to the normal operating voltage in the customer's circuit.
3.Ensure that the VC (clamp voltage) value is below the maximum voltage for the back-end chip.
4.Select the appropriate device package and power based on the application port and protection level.

Description:
The 8.0SMDJ series is designed specifically to protect sensitiveelectronic equipment from voltage transients induced by lightningand other transient voltage events.

Part Number		Marking		Reverse Stand-Off Voltage VRWM (V)	Breakdown Voltage VBR (V) @IT		Test Current IT (mA)	Maximum Clamping Voltage VC @IPP (V)	Maximum Peak Pulse Current IPP (A)	Maximum Reverse Leakage IR @VRWM (μA)
Uni	Bi	Uni	Bi		MIN	MAX				
8.0SMDJ14A	8.0SMDJ14CA	8PEG	8BEG	14	15.60	17.20	10	23.2	348.28	200
8.0SMDJ15A	8.0SMDJ15CA	8PEK	8BEK	15	16.70	18.50	1	24.4	331.15	100
8.0SMDJ16A	8.0SMDJ16CA	8PEM	8BEM	16	17.80	19.70	1	26.0	310.77	50
8.0SMDJ17A	8.0SMDJ17CA	8PEP	8BEP	17	18.90	20.90	1	27.6	292.75	20
8.0SMDJ18A	8.0SMDJ18CA	8PER	8BER	18	20.00	22.10	1	29.2	276.71	10
8.0SMDJ19A	8.0SMDJ19CA	8PET	8BET	19	21.10	23.30	1	30.8	262.51	10
8.0SMDJ20A	8.0SMDJ20CA	8PEV	8BEV	20	22.20	24.50	1	32.4	249.38	5
8.0SMDJ22A	8.0SMDJ22CA	8PEX	8BEX	22	24.40	26.90	1	35.5	227.61	5

Features:
Glass passivated chip
Low leakage
Uni and Bidirectional unit
Excellent clamping capability
8000W Peak power capability at 10 × 1000μs waveformRepetition rate (duty cycle):0.01%
Very fast response time
RoHS compliant

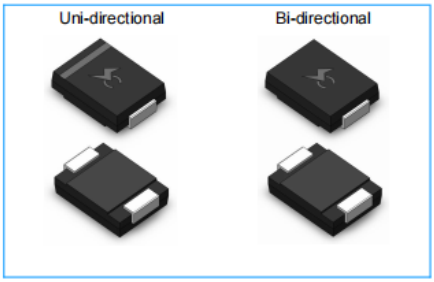
Applications:
TVS devices are ideal for the protection of I/O interfaces, VCC busand other vulnerable circuits used in Telecom, Computer, Industrialand Consumer electronic applications.

Maximum Ratings (TA=25 unless otherwise noted)			
Parameter	**Symbol**	**Value**	**Unit**
Peak Pulse Power Dissipation with a 10/1000μs waveform (Fig.1)(Note 1), (Note 2)	P_{PPM}	8000	Watts
Peak Pulse Current with a 10/1000μs waveform. (Note1,Fig.3)	I_{PP}	See Next Table	Amps
Power Dissipation on Infinite Heat Sink at T_L=75	$P_{M(AV)}$	6.5	Watt
Peak Forward Surge Current, 8.3ms Single Half Sine Wave (Note 3)	I_{FSM}	300	Amps

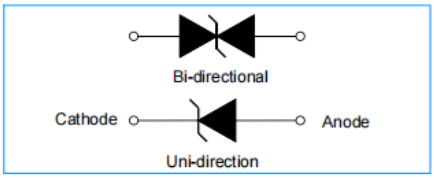
Maximum Instantaneous Forward Voltage at 25A for Unidirectional Only (Note 4)	V_F	3.5/5.0	Voltage
Operating junction and Storage Temperature Range.	T_J , T_{STG}	-55 to +150	

Notes:

1. Non-repetitive current pulse, per Fig. 3 and derated above T_A = 25 per Fig. 2.
2. Mounted on 5.0mm x 5.0mm (0.03mm thick) Copper Pads to each terminal.
3. 8.3ms single half sine-wave, or equivalent square wave, Duty cycle = 4 pulses per minutes maximum.
4. V_F < 3.5V for V_{BR} < 200V and V_F< 6.5V for V_{BR} > 201V.



Functional Diagram



Electrical Characteristics (T_A=25℃ unless otherwise noted)

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				
8.0SMDJ14A	8.0SMDJ14CA	8PEG	8BEG	14	15.60	17.20	10	23.2	348.28	200
8.0SMDJ15A	8.0SMDJ15CA	8PEK	8BEK	15	16.70	18.50	1	24.4	331.15	100
8.0SMDJ16A	8.0SMDJ16CA	8PEM	8BEM	16	17.80	19.70	1	26.0	310.77	50
8.0SMDJ17A	8.0SMDJ17CA	8PEP	8BEP	17	18.90	20.90	1	27.6	292.75	20
8.0SMDJ18A	8.0SMDJ18CA	8PER	8BER	18	20.00	22.10	1	29.2	276.71	10
8.0SMDJ19A	8.0SMDJ19CA	8PET	8BET	19	21.10	23.30	1	30.8	262.51	10

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				
8.0SMDJ20A	8.0SMDJ20CA	8PEV	8BEV	20	22.20	24.50	1	32.4	249.38	5
8.0SMDJ22A	8.0SMDJ22CA	8PEX	8BEX	22	24.40	26.90	1	35.5	227.61	5
8.0SMDJ24A	8.0SMDJ24CA	8PEZ	8BEZ	24	26.70	29.50	1	38.9	207.71	5
8.0SMDJ26A	8.0SMDJ26CA	8PFE	8BFE	26	28.90	31.90	1	42.1	191.92	5
8.0SMDJ28A	8.0SMDJ28CA	8PFG	8BFG	28	31.10	34.40	1	45.4	177.97	5
8.0SMDJ30A	8.0SMDJ30CA	8PFK	8BFK	30	33.30	36.80	1	48.4	166.94	5
8.0SMDJ33A	8.0SMDJ33CA	8PFM	8BFM	33	36.70	40.60	1	53.3	151.59	5
8.0SMDJ36A	8.0SMDJ36CA	8PFP	8BFP	36	40.00	44.20	1	58.1	139.07	5
8.0SMDJ40A	8.0SMDJ40CA	8PFR	8BFR	40	44.40	49.10	1	64.5	125.27	5
8.0SMDJ43A	8.0SMDJ43CA	8PFT	8BFT	43	47.80	52.80	1	69.4	116.43	5
8.0SMDJ45A	8.0SMDJ45CA	8PFV	8BFV	45	50.00	55.30	1	72.7	111.14	5
8.0SMDJ48A	8.0SMDJ48CA	8PFX	8BFX	48	53.30	58.90	1	77.4	104.39	5
8.0SMDJ51A	8.0SMDJ51CA	8PFZ	8BFZ	51	56.70	62.70	1	82.4	98.06	5
8.0SMDJ54A	8.0SMDJ54CA	8PGE	8BGE	54	60.00	66.30	1	87.1	92.77	5
8.0SMDJ58A	8.0SMDJ58CA	8PGG	8BGG	58	64.40	71.20	1	93.6	86.32	5
8.0SMDJ60A	8.0SMDJ60CA	8PGK	8BGK	60	66.70	73.70	1	96.8	83.47	5
8.0SMDJ64A	8.0SMDJ64CA	8PGM	8BGM	64	71.10	78.60	1	103.0	78.45	5
8.0SMDJ70A	8.0SMDJ70CA	8PGP	8BGP	70	77.80	86.00	1	113.0	71.50	5
8.0SMDJ75A	8.0SMDJ75CA	8PGR	8BGR	75	83.30	92.10	1	121.0	66.78	5
8.0SMDJ78A	8.0SMDJ78CA	8PGT	8BGT	78	86.70	95.80	1	126.0	64.13	5
8.0SMDJ80A	8.0SMDJ80CA	8PGB	8BGB	80	88.80	97.60	1	129.6	62.35	5
8.0SMDJ85A	8.0SMDJ85CA	8PGV	8BGV	85	94.40	104.00	1	137.0	58.98	5

Ratings and Characteristics Curves (TA=25℃ unless otherwise noted)

Fig. 1 - Pulse Derating Curve

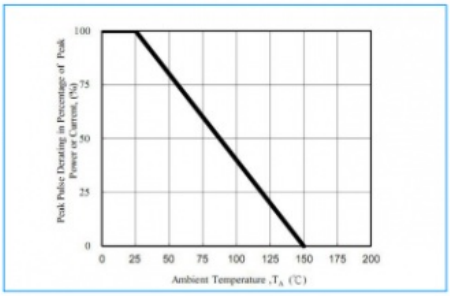


Fig. 2 - Maximum Non-Repetitive Surge Current

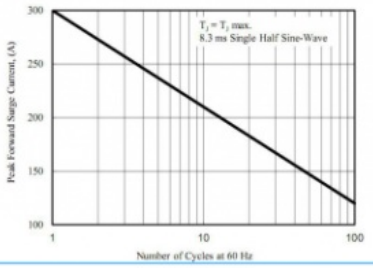


Fig. 3 - Steady State Power Derating Curve

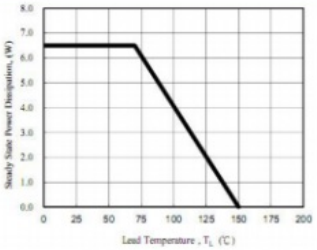


Fig. 4 - Peak Pulse Power Rating Curve

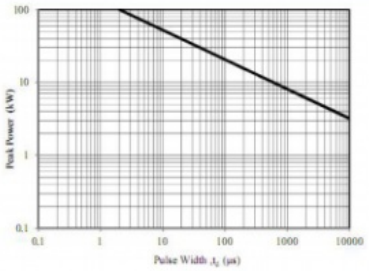


Fig. 5 - Pulse Waveform

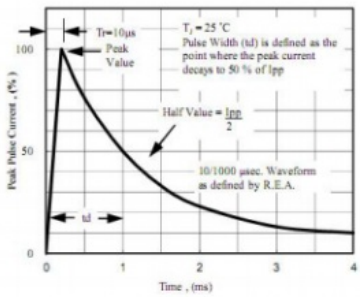
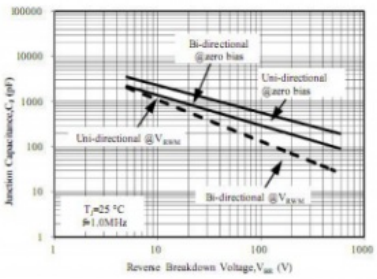
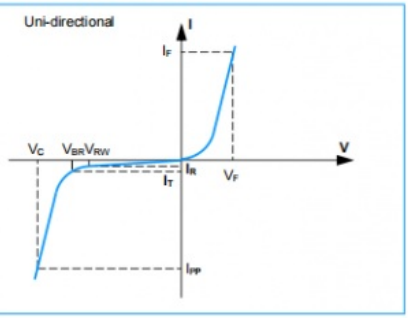
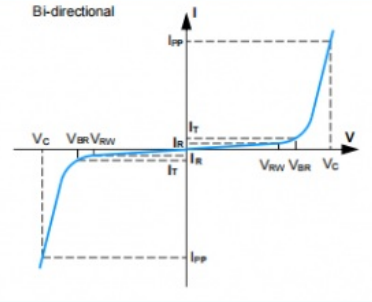


Fig. 6 - Typical Junction Capacitance



I-V Curve Characteristics





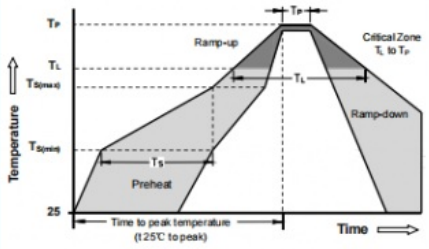
Physical Specifications

Weight	0.007 ounce, 0.21 gram
Case	JEDEC DO-214AB Molded Plastic over glass passivated junction
Polarity	Color band denotes cathode except Bipolar
Terminal	Matte Tin-plated leads, Solderable per JESD22-B102D

Environmental Specifications

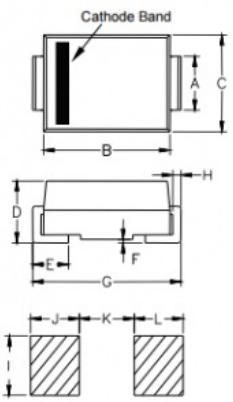
Temperature Cycle	JESD22-A104
Pressure Cooker	JESD22-A102
High Temp. Storage	JESD22-A103
HTRB	JESD22-A108
Thermal Shock	JESD22-A106

Soldering Parameters



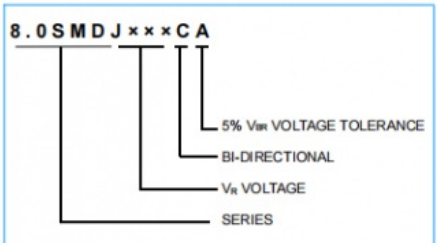
Reflow Condition		Lead–free assembly
Pre Heat	-Temperature Min ($T_{s(min)}$)	150°C
	-Temperature Max ($T_{s(max)}$)	200°C
	- Time (min to max) (t_s)	60 -180 Seconds
Average ramp up rate (Liquidus Temp T_L) to peak		3°C/second max
$T_{S(max)}$ to TL - Ramp-up Rate		3°C/second max
Reflow	- Temperature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

Dimensions

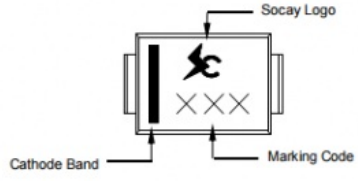


Dimensions	Inches		Millimeters	
	Min	Max	Min	Max
A	0.108	0.126	2.750	3.200
B	0.260	0.280	6.520	7.110
C	0.217	0.244	5.520	6.220
D	0.080	0.112	2.050	2.850
E	0.030	0.060	0.750	1.520
F	-	0.008	-	0.203
G	0.305	0.320	7.640	8.130
H	0.006	0.012	0.150	0.310
I	0.121	-	3.070	-
J	0.068	-	1.715	-
K	-	0.185	-	4.690
L	0.068	-	1.715	-

Part Numbering



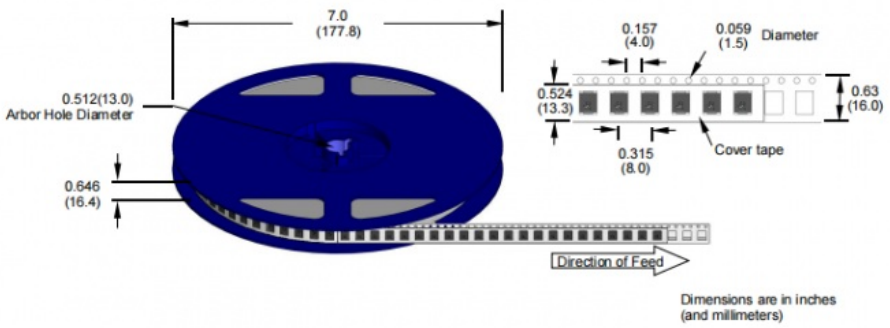
Part Marking



Packaging

Part Number	Component Package	Quantity	Packaging	Option	Packaging Specification
8.0SMDJXXXXX	DO-214AB	500	Tape & Reel -16mm/7"tape		EIA STD RS-481

Tape and Reel Specifications



FAQ

Q1. May I request a sample order?
A: Yes, we welcome sample orders to test and check the quality. Mixed samples are also acceptable.
Q2. What is the lead time?
A: Sample production requires 1 day, while mass production takes 1-2 weeks for order quantities exceeding
Q3. Do you have any MOQ ?
A: MOQ depend on the type of product, 1pc for sample checking is available
Q4. How are the goods shipped and what is the estimated delivery time?
A: We typically use DHL, UPS, FedEx or TNT for shipping, with an estimated delivery time of 3-5 days. Airline and sea shipping are also available.
Q5. How to proceed an order ?
A: Firstly let us know your requirements or application.
Secondly We quote according to your requirements or our suggestions.
Thirdly customer confirms the samples and places deposit for formal order.
Fourthly We arrange the production.
Q6: Do you offer a guarantee for your products?
A: Yes, we offer a 2-5 year warranty on all of our products.

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