Socay TVS Diodes 400w 22V Surface Mount Transient Voltage Suppressors SMAJ22A SMC

Our Product Introduction

Basic Information

- Place of Origin: Shenzhen, Guangdong, China
- Brand Name: SOCAY
- Certification: UL,REACH,RoHS,ISO
- Model Number: SMAJ22A
- Minimum Order Quantity: 5000PCS
- Price: Negotiable
- Delivery Time: 5-8 work days

Product Specification

- Package Type: DO-214AC
- Reverse Stand-Off Voltage Vrwm: 22V
- Breakdown Voltage Vbr@It (Min.): 24.4V
- Breakdown Voltage Vbr@It (Max.): 26.9V
- Test Current It: 1mA
- Vc@Ipp: 35.5V
- Ipp: 11.27A
- Maximum Reverse Leakage Ir@Vrwm: 5μA

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Product Description

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DATASHEET: SMAJ_v2207.1.pdf

Brief introduction:
The SMAJ series is designed for the protection of electronic equipment from voltage transients due to lightning and other transient voltage events.

Application:
TVS devices are perfect for safeguarding I/O interfaces, VCC bus, and other vulnerable circuits utilized in Telecom, Computer, Industrial, and Consumer electronic applications.

Part Number		Merking		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				
SMAJ45A	SMAJ45CA	CV	YV	45.0	50.00	55.30	1	72.7	5.50	5
SMAJ48A	SMAJ48CA	CX	YX	48.0	53.30	58.90	1	77.4	5.17	5
SMAJ51A	SMAJ51CA	CZ	YZ	51.0	56.70	62.70	1	82.4	4.85	5
SMAJ54A	SMAJ54CA	RE	ZE	54.0	60.00	66.30	1	87.1	4.59	5
SMAJ58A	SMAJ58CA	RG	ZG	58.0	64.40	71.20	1	93.6	4.27	5
SMAJ60A	SMAJ60CA	RK	ZK	60.0	66.70	73.70	1	96.8	4.13	5
SMAJ64A	SMAJ64CA	RM	ZM	64.0	71.10	78.60	1	103.0	3.88	5
SMAJ70A	SMAJ70CA	RP	ZP	70.0	77.80	86.00	1	113.0	3.54	5
SMAJ75A	SMAJ75CA	RR	ZR	75.0	83.30	92.10	1	121.0	3.31	5
SMAJ78A	SMAJ78CA	RT	ZT	78.0	86.70	95.80	1	126.0	3.17	5
SMAJ80A	SMAJ80CA	RB	ZB	80.0	88.80	97.60	1	129.6	3.09	5
SMAJ85A	SMAJ85CA	RV	ZV	85.0	94.40	104.00	1	137.0	2.92	5
SMAJ90A	SMAJ90CA	RX	ZX	90.0	100.00	111.00	1	146.0	2.74	5
SMAJ100A	SMAJ100CA	RZ	ZZ	100.0	111.00	123.00	1	162.0	2.47	5
SMAJ110A	SMAJ110CA	SE	VE	110.0	122.00	135.00	1	177.0	2.26	5
SMAJ120A	SMAJ120CA	SG	VG	120.0	133.00	147.00	1	193.0	2.07	5
SMAJ130A	SMAJ130CA	SK	VK	130.0	144.00	159.00	1	209.0	1.91	5
SMAJ140A	SMAJ140CA	SB	VB	140.0	155.00	171.00	1	226.8	1.76	5
SMAJ150A	SMAJ150CA	SM	VM	150.0	167.00	185.00	1	243.0	1.65	5
SMAJ160A	SMAJ160CA	SP	VP	160.0	178.00	197.00	1	259.0	1.54	5
SMAJ170A	SMAJ170CA	SR	VR	170.0	189.00	209.00	1	275.0	1.45	5
SMAJ180A	SMAJ180CA	ST	VT	180.0	201.00	220.00	1	291.6	1.37	5
SMAJ190A	SMAJ190CA	SV	VV	190.0	211.00	232.00	1	307.8	1.30	5
SMAJ200A	SMAJ200CA	SW	VW	200.0	224.00	247.00	1	324.0	1.23	5
SMAJ220A	SMAJ220CA	SX	VX	220.0	246.00	272.00	1	356.0	1.12	5
SMAJ250A	SMAJ250CA	SZ	VZ	250.0	279.00	309.00	1	405.0	0.99	5

SMAJ300A	SMAJ300CA	DE	HE	300.0	335.00	371.00	1	486.0	0.82	5
SMAJ350A	SMAJ350CA	DG	HG	350.0	391.00	432.00	1	567.0	0.71	5
SMAJ400A	SMAJ400CA	DK	HK	400.0	447.00	494.00	1	648.0	0.62	5
SMAJ440A	SMAJ440CA	DM	HM	440.0	492.00	543.00	1	713.0	0.56	5

Notes:

1.1.Suffix 'A ' denotes 5% tolerance device.

2. 2.Add suffix ' CA ' after part number to specify Bi-directional devices.

3. 3.For Bi-Directional devices having V_R of 10 volts and under, the I_R limit is double.

Characteristics:

The junction is passivated with glass
Low inductance
Low leakage
Uni and Bidirectional unit
The clamping capability is excellent
Plated with matte tin that is lead-free.
Halogen free and RoHS compliant
To optimize board space for surface mounted applications
The plastic package has a flammability rating of Underwriters Laboratory 94V-0.
Over-specification of voltage or current is a common cause of failure
The Whisker test is conducted according to JEDEC JESD201A, specifically following its table 4a and 4c.
The device has a peak power capability of 400W when using a 10 × 1000μs waveform repetition rate (duty cycle) of 0.01%.
Fast response time: typically less than 1.0ps from 0 Volts to VBR min
Typical infrared (IR) is less than 5 microamps (μA) above 12 volts.
Soldering at high temperatures: terminals should be heated to 260°C for 40 seconds.
IEC-61000-4-2 ESD 15kV(Air), 8kV (Contact)
Typical maximum temperature coefficient ΔVBR = 0.1% × VBR@25°C× ΔT
ESD protection of data lines in accordance with IEC 61000-4-2(IEC801-2)
EFT protection of data lines in accordance with IEC 61000-4-4(IEC801-4)

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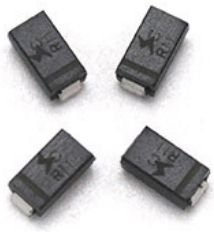

Parameter	Symbol	Value	Unit
Peak Pulse Power Dissipation with a 10/1000μs waveform (Fig.1)(Note 1), (Note 2)	P_{PPM}	400	Watts
Peak Pulse Current with a 10/1000μs waveform.(Note1,Fig.3)	I_{PP}	See Next Table	Amps
Power Dissipation on Infinite Heat Sink at T_L=75°C	$P_{M(AV)}$	1.0	Watt
Peak Forward Surge Current, 8.3ms Single Half Sine Wave (Note 3)	I_{FSM}	40	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. Apply a non-repetitive current pulse as shown in Figure 3 and derate above TA = 25 as per Figure 2. 2.
2.Mount the device on 5.0mm x 5.0mm (0.03mm thick) copper pads on each terminal.
3.The device should produce a single half sine-wave or equivalent square wave with a duration of 8.3ms. The duty cycle should not exceed 4 pulses per minute. Non-essential fillers have been removed.
4.The forward voltage (VF) should be less than 3.5V for VBR values below 200V and less than 6.5V for VBR values above 201V. All units and metrics should be strictly adhered to.

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