THE DATASHEET OF

SMCJ26A-Q

Features

- Surface Mount SMC package
- Standoff Voltage: 5 to 120 volts
- Power Dissipation: 1500 watts
- RoHS compliant*
- AEC-Q101 compliant**

Applications

- Protection of power buses
- Protection of I/O interfaces
- Overvoltage transient protection
- Entertainment applications
- Comfort applications
- Telecom, computer, industrial and consumer electronics applications

SMCJ-Q Transient Voltage Suppressor Diode Series

General Information

Bourns offers Transient Voltage Suppressor Diodes for surge and ESD protection applications, in compact chip package DO-214AB (SMC) size format. The Transient Voltage Suppressor series offers a choice of Working Peak Reverse Voltage from 5 V up to 120 V. Typical fast response times are less than 1.0 picosecond from 0 V to Breakdown Voltage.

Bourns® Chip Diodes conform to JEDEC standards, are easy to handle with standard pick and place equipment and their flat configuration minimizes roll away.

Additional Information

Click these links for more information:

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Agency Recognition

Description	
UL	File Number: E153537

Electrical Characteristics (@ T_A = 25 °C Unless Otherwise Noted)

Parameter	Symbol	Value	Unit
Minimum Peak Pulse Power Dissipation (T_P = 1 ms) (Note 1,2)	P_{PK}	1500	Watts
Peak Forward Surge Current 8.3 ms Single Half Sine Wave Superimposed on Rated Load (JEDEC Method) (Note 3)	I_{FSM}	200	Amps
Operating Temperature Range	T_J	-55 to +150	°C
Storage Temperature Range	T_{STG}	-55 to +150	°C

1. Non-repetitive current pulse, per Pulse Waveform graph and derated above T_A = 25 °C per Pulse Derating Curve.
2. Mounted on 5.0 mm^2 (0.03 mm thick) copper pads to each terminal.
3. 8.3 ms Single Half-Sine Wave duty cycle = 4 pulses maximum per minute (unidirectional units only).

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WARNING Cancer and Reproductive Harm - www.P65Warnings.ca.gov

* RoHS Directive 2015/863, Mar 31, 2015 and Annex.
**"Q" part number suffix for automotive and other applications requiring appropriate AEC-Q101 compliance.
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Electrical Characteristics (@ T_A = 25 °C Unless Otherwise Noted)

Unidirectional Device		Bidirectional Device		Breakdown Voltage V_{BR} (Volts)			Working Peak Reverse Voltage	Maximum Reverse Leakage @ V_{RWM}	Maximum Clamping Voltage @ I_{pp} (10/1000 μs)	Maximum Peak Pulse Current (10/1000 μs)	Maximum Clamping Voltage @ I_{pp} (8/20 μs)	Maximum Peak Pulse Current (8/20 μs)
Part No.	Marking	Part No.	Marking	Min.	Max.	@ I_T (mA)	V_{RWM} (V)	I_R (μA)	V_C (V)	I_{pp} (A)	V_C (V)	I_{pp} (A)
SMCJ5.0A-Q	GDEQ	SMCJ5.0CA-Q	BDEQ	6.40	7,00	10	5	800	9.2	163	12.0	815.0
SMCJ6.0A-Q	GDGQ	SMCJ6.0CA-Q	BDGQ	6.67	7.37	10	6	800	10.3	145.7	13.4	728.5
SMCJ6.5A-Q	GDKQ	SMCJ6.5CA-Q	BDKQ	7.22	7.98	10	6.5	500	11.2	134	15.0	670.0
NEW! SMCJ7.0A-Q	GDMQ	SMCJ7.0CA-Q	BDMQ	7.78	8.60	10	7	200	12	125	16.0	625.0
SMCJ7.5A-Q	GDPQ	SMCJ7.5CA-Q	BDPQ	8.33	9.21	1	7.5	100	12.9	116.3	16.8	581.5
SMCJ8.0A-Q	GDRQ	SMCJ8.0CA-Q	BDRQ	8.89	9.83	1	8	50	13.6	110.3	17.7	551.5
SMCJ8.5A-Q	GDTQ	SMCJ8.5CA-Q	BDTQ	9.44	10.4	1	8.5	20	14.4	104.2	18.7	521.0
SMCJ9.0A-Q	GDVQ	SMCJ9.0CA-Q	BDVQ	10.0	11.1	1	9	10	15.4	97.4	20.0	487.0
SMCJ10A-Q	GDXQ	SMCJ10CA-Q	BDXQ	11.1	12.3	1	10	5	17	88.3	22.1	441.5
SMCJ11A-Q	GDZQ	SMCJ11CA-Q	BDZQ	12.2	13.5	1	11	1	18.2	82.5	23.7	412.5
SMCJ12A-Q	GEEQ	SMCJ12CA-Q	BEEQ	13.3	14.7	1	12	1	19.9	75.4	25.9	377.0
SMCJ13A-Q	GEGQ	SMCJ13CA-Q	BEGQ	14.4	15.9	1	13	1	21.5	69.8	28.0	349.0
SMCJ14A-Q	GEKQ	SMCJ14CA-Q	BEKQ	15.6	17.2	1	14	1	23.2	64.7	30.2	323.5
SMCJ15A-Q	GEMQ	SMCJ15CA-Q	BEMQ	16.7	18.5	1	15	1	24.4	61.5	31.7	307.5
SMCJ16A-Q	GEPQ	SMCJ16CA-Q	BEPQ	17.8	19.7	1	16	1	26	57.7	33.8	288.5
SMCJ17A-Q	GERQ	SMCJ17CA-Q	BERQ	18.9	20.9	1	17	1	27.6	54.4	35.9	272.0
SMCJ18A-Q	GETQ	SMCJ18CA-Q	BETQ	20.0	22.1	1	18	1	29.2	51.4	38.0	257.0
SMCJ20A-Q	GEVQ	SMCJ20CA-Q	BEVQ	22.2	24.5	1	20	1	32.4	46.3	42.1	231.5
SMCJ22A-Q	GEXQ	SMCJ22CA-Q	BEXQ	24.4	26.9	1	22	1	35.5	42.3	46.2	211.5
SMCJ24A-Q	GEZQ	SMCJ24CA-Q	BEZQ	26.7	29.5	1	24	1	38.9	38.6	50.6	193.0
SMCJ26A-Q	GFEQ	SMCJ26CA-Q	BFEQ	28.9	31.9	1	26	1	42.1	35.7	54.7	178.5
SMCJ28A-Q	GFGQ	SMCJ28CA-Q	BFGQ	31.1	34.4	1	28	1	45.4	33.1	59.0	165.5
SMCJ30A-Q	GFKQ	SMCJ30CA-Q	BFKQ	33.3	36.8	1	30	1	48.4	31	63	155
SMCJ33A-Q	GFMQ	SMCJ33CA-Q	BFMQ	36.7	40.6	1	33	1	53.3	28.1	69.3	141.0
SMCJ36A-Q	GFPQ	SMCJ36CA-Q	BFPQ	40	44.2	1	36	1	58.1	25.9	75.5	129.5
SMCJ40A-Q	GFRQ	SMCJ40CA-Q	BFRQ	44.4	49.1	1	40	1	64.5	23.3	83.9	116.5
SMCJ43A-Q	GFTQ	SMCJ43CA-Q	BFTQ	47.8	52.8	1	43	1	69.4	21.7	90.2	108.5
SMCJ45A-Q	GFVQ	SMCJ45CA-Q	BFVQ	50	55.3	1	45	1	72.7	20.6	94.5	103.0
SMCJ48A-Q	GFXQ	SMCJ48CA-Q	BFXQ	53.3	58.9	1	48	1	77.4	19.4	100.6	97.0
SMCJ51A-Q	GFZQ	SMCJ51CA-Q	BFZQ	56.7	62.7	1	51	1	82.4	18.2	107.1	91.0
SMCJ54A-Q	GGEQ	SMCJ54CA-Q	BGEQ	60	66.3	1	54	1	87.1	17.3	113.2	86.5
SMCJ58A-Q	GGGQ	SMCJ58CA-Q	BGGQ	64.4	71.2	1	58	1	93.6	16.1	121.7	80.5
SMCJ60A-Q	GGKQ	SMCJ60CA-Q	BGKQ	66.7	73.7	1	60	1	96.8	15.5	125.8	77.5
SMCJ64A-Q	GGMQ	SMCJ64CA-Q	BGMQ	71.1	78.6	1	64	1	103	14.6	133.9	73.0
SMCJ70A-Q	GGPQ	SMCJ70CA-Q	BGPQ	77.8	86.0	1	70	1	113	13.3	146.9	66.5
NEW! SMCJ75A-Q	GGRQ	SMCJ75CA-Q	BGRQ	83.3	92.1	1	75	1	121	12.4	157.3	62.0
SMCJ78A-Q	GGTQ	SMCJ78CA-Q	BGTQ	86.7	95.8	1	78	1	126	11.9	163.8	59.5
SMCJ85A-Q	GGVQ	SMCJ85CA-Q	BGVQ	94.4	104	1	85	1	137	11	178	55
SMCJ90A-Q	GGXQ	SMCJ90CA-Q	BGXQ	100	111	1	90	1	146	10.3	189.8	51.5
SMCJ100A-Q	GGZQ	SMCJ100CA-Q	BGZQ	111	123	1	100	1	162	9.3	210.6	46.5
SMCJ110A-Q	GHEQ	SMCJ110CA-Q	BHEQ	122	135	1	110	1	177	8.4	230.1	42.5
SMCJ120A-Q	GHGQ	SMCJ120CA-Q	BHGQ	133	147	1	120	1	193	7.9	250.9	39.0

Notes:
1. Suffix 'A' denotes a 5 % tolerance unidirectional device.
2. Suffix 'CA' denotes a 5 % tolerance bidirectional device.

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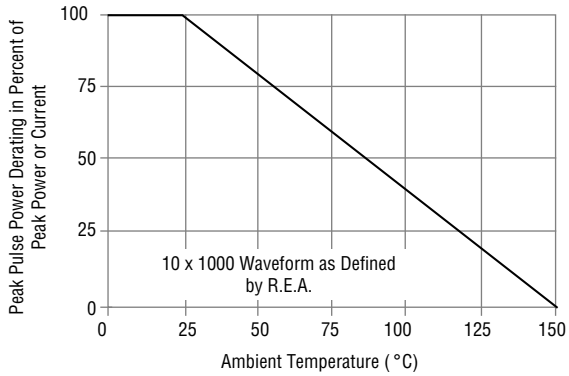
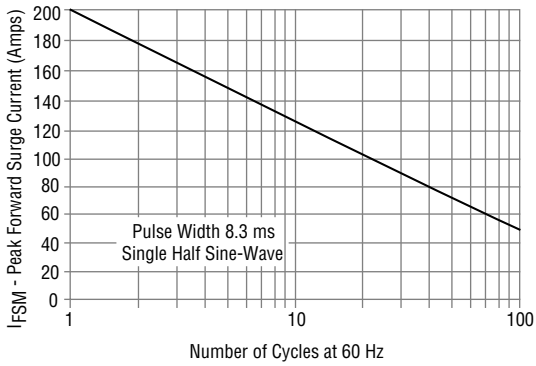
Performance Graphs

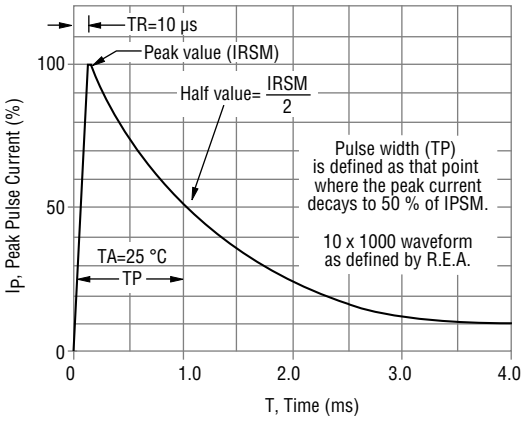
Peak Pulse Power Derating Curve



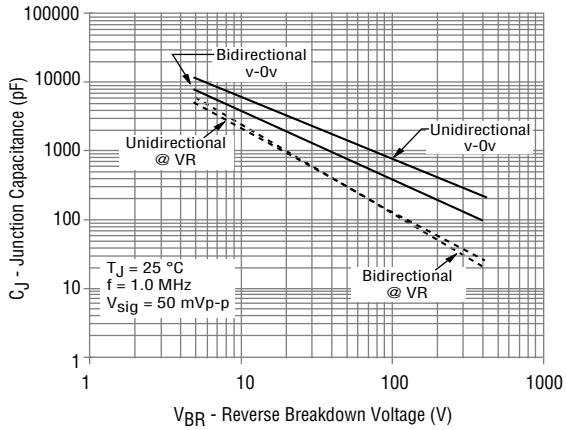
Maximum Non-Repetitive Surge Current



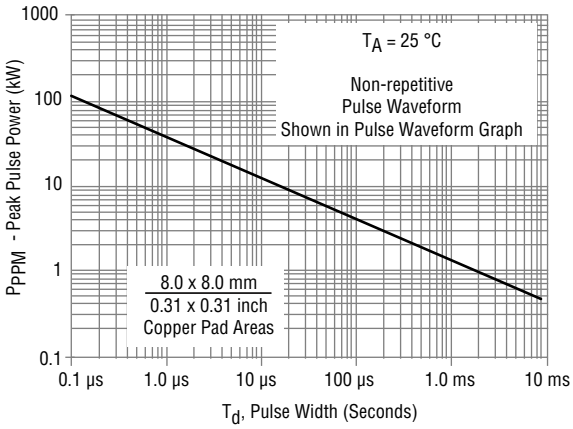
Pulse Waveform



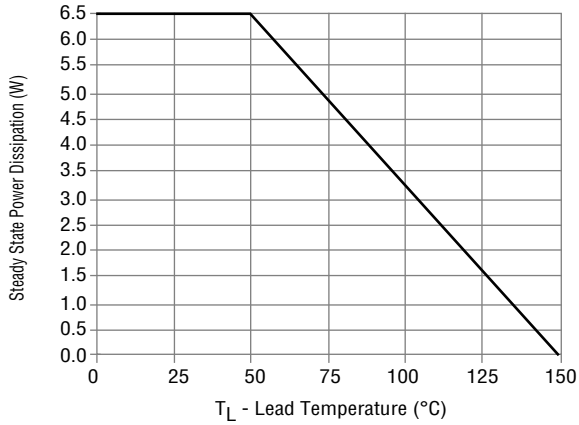
Typical Junction Capacitance



Pulse Rating Curve



Steady State Power Derating Curve



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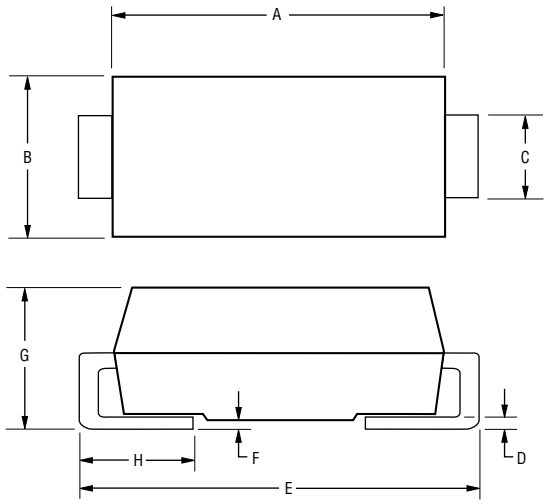
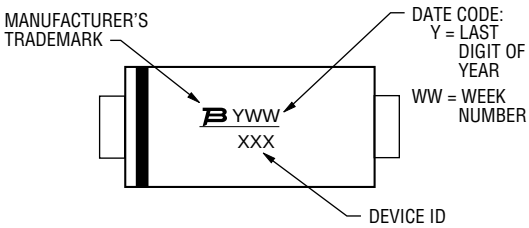
Product Dimensions



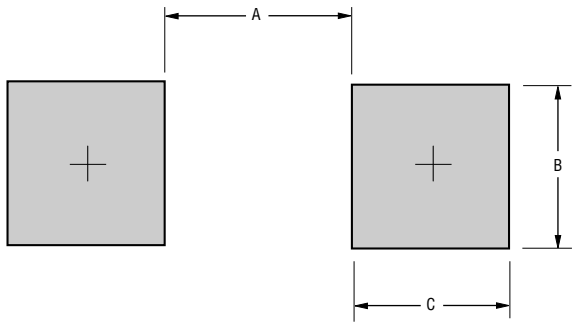
Dimension	SMC (DO-214AB)
A	6.60 - 7.11 (0.260 - 0.280)
B	5.59 - 6.22 (0.220 - 0.245)
C	2.90 - 3.20 (0.115 - 0.125)
D	0.15 - 0.31 (0.006 - 0.012)
E	7.75 - 8.13 (0.305 - 0.320)
F	0.203 (0.008) MAX.
G	2.00 - 2.62 (0.079 - 0.103)
H	0.76 - 1.52 (0.030 - 0.060)

DIMENSIONS: MM (INCHES)

Typical Part Marking



Recommended Footprint



Dimension	SMC (DO-214AB)
A (Max.)	4.69 (0.185)
B (Min.)	3.07 (0.121)
C (Min.)	1.52 (0.060)

DIMENSIONS: MM (INCHES)

Physical Specifications

Case ..... Molded plastic per UL Class 94V-0
Polarity..... Cathode band indicates unidirectional device
No cathode band indicates bidirectional device

How to Order

SMCJ 5 CA - Q

Package
SMCJ-Q = SMC/DO-214AB

Working Peak Reverse Voltage
5 ~ 120 = 5 ~ 120 V_{RWM} (Volts)

Suffix
A = 5 % Tolerance Unidirectional Device
CA = 5 % Tolerance Bidirectional Device

AEC-Q101 Suffix
Q = AEC-Q101 Compliant, 13-inch Reel
QH = AEC-Q101 Compliant, 7-inch Reel

Environmental Specifications

Moisture Sensitivity Level 1
ESD Classification (HBM)..... 3B

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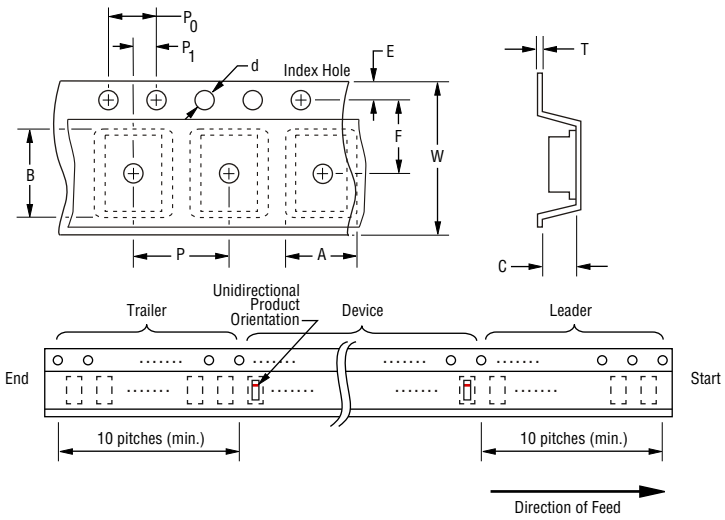
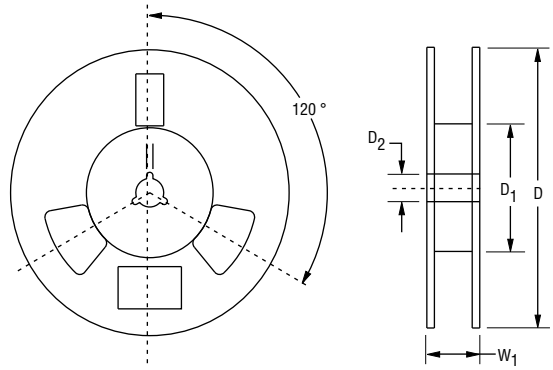
Packaging Information

The product will be dispensed in tape and reel format (see diagram below).





DIMENSIONS: MM / (INCHES)

Devices are packed in accordance with EIA standard RS-481-A and specifications shown here.

Item	Symbol	SMC (DO-214AB)	
		7-Inch Reel	13-Inch Reel
Carrier Width	A	6.0 ± 2.0 (0.236 - 0.079)	
Carrier Length	B	8.3 ± 0.20 (0.327 ± 0.008)	
Carrier Depth	C	2.5 ± 0.20 (0.098 ± 0.008)	
Sprocket Hole	d	1.50 ± 0.10 (0.059 ± 0.004)	
Reel Outside Diameter	D	178 (7.008)	330 (12.992)
Reel Inner Diameter	D_1	50.0 (1.969) MIN.	
Feed Hole Diameter	D_2	13.0 +0.50/-0.20 (0.512 +0.020/-0.008)	
Sprocket Hole Position	E	1.75 ± 0.10 (0.069 ± 0.004)	
Punch Hole Position	F	7.50 ± 0.10 (0.295 ± 0.004)	
Punch Hole Pitch	P	8.00 ± 0.10 (0.315 ± 0.004)	
Sprocket Hole Pitch	P_0	4.00 ± 0.10 (0.157 ± 0.004)	
Embossment Center	P_1	2.00 ± 0.10 (0.079 ± 0.004)	
Overall Tape Thickness	T	0.30 ± 0.10 (0.012 ± 0.004)	
Tape Width	W	16.00 ± 0.30 (0.630 ± 0.012)	
Reel Width	W_1	22.4 (0.882) MAX.	
Quantity per Reel	--	500	3000

REV. 07/21

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- Obsolete Management
- Cost Control Management
- Shortage Management
- Alternative Solution
- Excess Inventory Management