

Technical Data

Data Sheet N0240, Rev. B

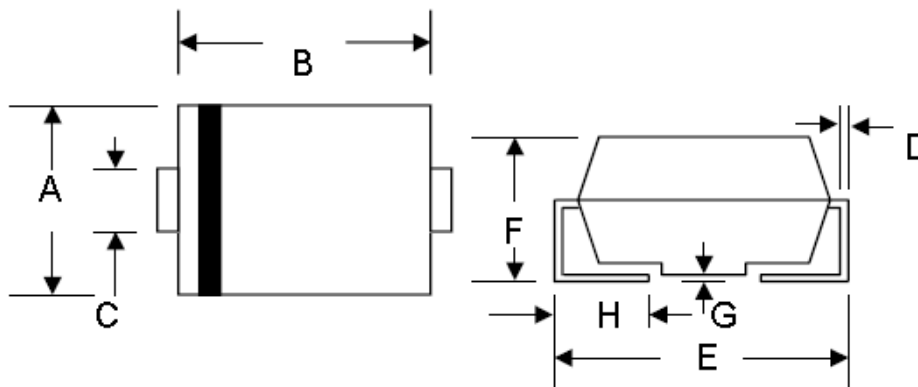
Features:

- Glass Passivated Die Construction
- 5000W Peak Pulse Power Dissipation
- Uni- and Bi-Directional Versions Available
- Excellent Clamping Capability
- Fast Response Time
- Plastic Case Material has UL Flammability Classification Rating 94V-O
- This is a Pb – Free Device
- All SMC Parts are Traceable to the Wafer Lot
- Additional testing can be offered upon request

Mechanical Data:

- Case: JEDEC DO-214AB Low Profile Molded Plastic
- Terminals: Solder Plated , Solderable per MIL-STD 750, Method 2026
- Polarity: Cathode Band or Cathode Notch
- Weight: 0.21 grams(approx.)

Mechanical Dimensions: In Inches (mm)

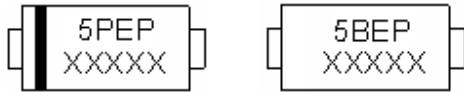


Dim.	SMC/DO-214AB			
	Min.	Max.	Min.	Max.
A	5.59	6.22	0.220	0.245
B	6.60	7.11	0.260	0.280
C	2.75	3.25	0.108	0.128
D	0.152	0.305	0.006	0.012
E	7.75	8.13	0.305	0.320
F	2.00	2.62	0.079	0.103
G	0.051	0.203	0.002	0.008
H	0.051	1.27	0.030	0.05
	In mm		In inch	

SMC

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Marking Diagram:

Where XXXXX is YYWWL



5.0SMCJ12A

5.0SMCJ12CA

5PEP/5BEP = Device Code
YY = Year
WW = Week
L = Lot Number

Cautions: Molding resin
Epoxy resin UL: 94V-0

Ordering Information

Device	Package	Shipping
5.0SMCJ SERIES	SMC (Pb-Free)	3000pcs / reel
5.0SMCJ58CA-T7	SMC (Pb-Free)	16mm/7" tape, 500pcs/reel

For information on tape and reel specifications, including part orientation and tape sizes, please refer to our Tape and Reel Packaging Specification.

Maximum Ratings and Electrical Characteristics @ $T_A=25^\circ\text{C}$ unless otherwise specified

Parameter	Symbol	Value	Unit
Peak Pulse Power Dissipation at $T_A=25^\circ\text{C}$ by 10x1000 μs Waveform (Fig.2)(Note 1), (Note 2)	P _{PPM}	5000	W
Peak Forward Surge Current, 8.3ms Single Half Sine Wave (Note 3)	I _{FSM}	400	A
Operating Junction and Storage Temperature Range	T _J , T _{STG}	-55 to 150	$^\circ\text{C}$

- Notes:** 1. Non-repetitive current pulse, per Fig. 4 and derated above $T_A = 25^\circ\text{C}$ per Fig. 3.
2. Mounted on copper pad area of 0.31x0.31" (8.0 x 8.0mm) to each terminal.
3. Measured on 8.3ms single half sine wave or equivalent square wave for unidirectional device only, duty cycle=4 per minute maximum.



Electrical Characteristics @ $T_A=25^{\circ}\text{C}$ unless otherwise specified

UNI-POLAR	BI-POLAR	DEVICE MARKING CODE		REVERSE STANDOFF VOLTAGE V_{RWM} (V)	BREAKDOWN VOLTAGE V_{BR} (V) MIN. @ I_T	BREAKDOWN VOLTAGE V_{BR} (V) MAX. @ I_T	TEST CURRENT (I_T) mA	MAXIMUM CLAMPING VOLTAGE @ $_{pp}$ V_C (V)	PEAK PULSE CURRENT I_{PP} (A)	REVERSE LEAKAGE @ V_{RWM} I_R (μA)
		UNI	BI							
5.0SMCJ12A	5.0SMCJ12CA	5PEP	5BEP	12.00	13.30	14.70	10	19.9	252.0	800
5.0SMCJ13A	5.0SMCJ13CA	5PEQ	5BEQ	13.00	14.40	15.90	10	21.5	233.0	500
5.0SMCJ14A	5.0SMCJ14CA	5PER	5BER	14.00	15.60	17.20	10	23.2	216.0	200
5.0SMCJ15A	5.0SMCJ15CA	5PES	5BES	15.00	16.70	18.50	1	24.4	205.0	100
5.0SMCJ16A	5.0SMCJ16CA	5PET	5BET	16.00	17.80	19.70	1	26.0	193.0	50
5.0SMCJ17A	5.0SMCJ17CA	5PEU	5BEU	17.00	18.90	20.90	1	27.6	181.0	20
5.0SMCJ18A	5.0SMCJ18CA	5PEV	5BEV	18.00	20.00	22.10	1	29.2	172.0	10
5.0SMCJ20A	5.0SMCJ20CA	5PEW	5BEW	20.00	22.20	24.50	1	32.4	155.0	5
5.0SMCJ22A	5.0SMCJ22CA	5PEX	5BEX	22.00	24.40	26.90	1	35.5	141.0	5
5.0SMCJ24A	5.0SMCJ24CA	5PEZ	5BEZ	24.00	26.70	29.50	1	38.9	129.0	5
5.0SMCJ26A	5.0SMCJ26CA	5PFE	5BFE	26.00	28.90	31.90	1	42.1	119.0	5
5.0SMCJ28A	5.0SMCJ28CA	5PFG	5BFG	28.00	31.10	34.40	1	45.4	110.0	5
5.0SMCJ30A	5.0SMCJ30CA	5PFK	5BFK	30.00	33.30	36.80	1	48.4	103.0	5
5.0SMCJ33A	5.0SMCJ33CA	5PFM	5BFM	33.00	36.70	40.60	1	53.3	93.9	5
5.0SMCJ36A	5.0SMCJ36CA	5PFP	5BFP	36.00	40.00	44.20	1	58.1	86.1	5
5.0SMCJ40A	5.0SMCJ40CA	5PFR	5BFR	40.00	44.40	49.10	1	64.5	77.6	5
5.0SMCJ43A	5.0SMCJ43CA	5PFT	5BFT	43.00	47.80	52.80	1	69.4	72.1	5
5.0SMCJ45A	5.0SMCJ45CA	5PFV	5BFV	45.00	50.00	55.30	1	72.7	68.8	5
5.0SMCJ48A	5.0SMCJ48CA	5PFX	5BFX	48.00	53.30	58.90	1	77.4	64.7	5
5.0SMCJ51A	5.0SMCJ51CA	5PFZ	5BFZ	51.00	56.70	62.70	1	82.4	60.7	5
5.0SMCJ54A	5.0SMCJ54CA	5PGE	5BGE	54.00	60.00	66.30	1	87.1	57.5	5
5.0SMCJ58A	5.0SMCJ58CA	5PGG	5BGG	58.00	64.40	71.20	1	93.6	53.5	5
5.0SMCJ60A	5.0SMCJ60CA	5PGK	5BGK	60.00	66.70	73.70	1	96.8	51.7	5
5.0SMCJ64A	5.0SMCJ64CA	5PGM	5BGM	64.00	71.10	78.60	1	103.0	48.6	5
5.0SMCJ70A	5.0SMCJ70CA	5PGP	5BGP	70.00	77.80	86.00	1	113.0	44.3	5
5.0SMCJ75A	5.0SMCJ75CA	5PGR	5BGR	75.00	83.30	92.10	1	121.0	41.4	5
5.0SMCJ78A	5.0SMCJ78CA	5PGT	5BGT	78.00	86.70	95.80	1	126.0	39.7	5
5.0SMCJ85A	5.0SMCJ85CA	5PGV	5BGV	85.00	94.40	104.00	1	137.0	36.5	5
5.0SMCJ90A	5.0SMCJ90CA	5PGX	5BGX	90.00	100.00	111.00	1	146.0	34.3	5
5.0SMCJ100A	5.0SMCJ100CA	5PGZ	5BGZ	100.00	111.00	123.00	1	162.0	30.9	5
5.0SMCJ110A	5.0SMCJ110CA	5PHE	5BHE	110.00	122.00	135.00	1	177.0	28.3	5
5.0SMCJ120A	5.0SMCJ120CA	5PHG	5BHG	120.00	133.00	147.00	1	193.0	26.0	5
5.0SMCJ130A	5.0SMCJ130CA	5PHK	5BHK	130.00	144.00	159.00	1	209.0	24.0	5
5.0SMCJ150A	5.0SMCJ150CA	5PHM	5BHM	150.00	167.00	185.00	1	243.0	20.6	5
5.0SMCJ160A	5.0SMCJ160CA	5PHP	5BHP	160.00	178.00	197.00	1	259.0	19.3	5
5.0SMCJ170A	5.0SMCJ170CA	5PHR	5BHR	170.00	189.00	209.00	1	275.0	18.2	5

“C” Suffix Designates Bi-directional Devices

“A” Suffix Designates 5% Tolerance Devices

No Suffix Designates 10% Tolerance Devices

For bidirectional type having V_{RWM} of 20 volts and less, the I_R limit is double.

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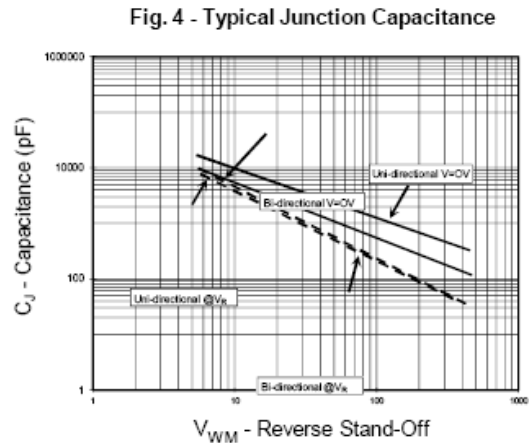
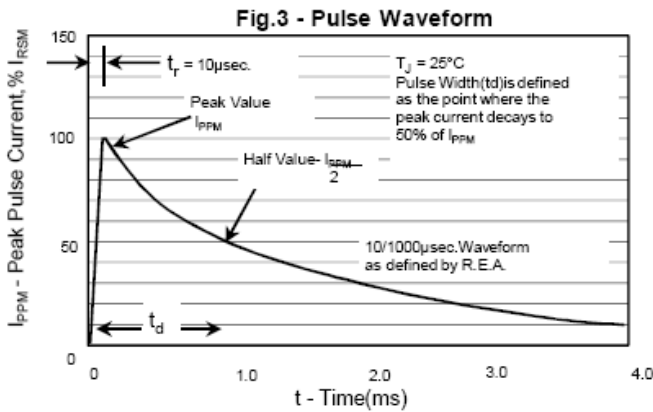
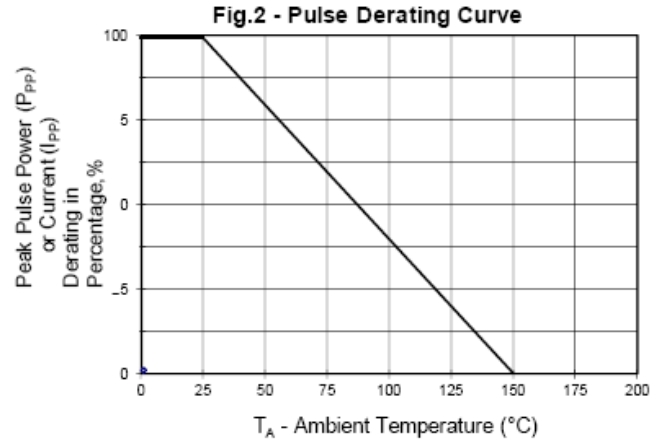
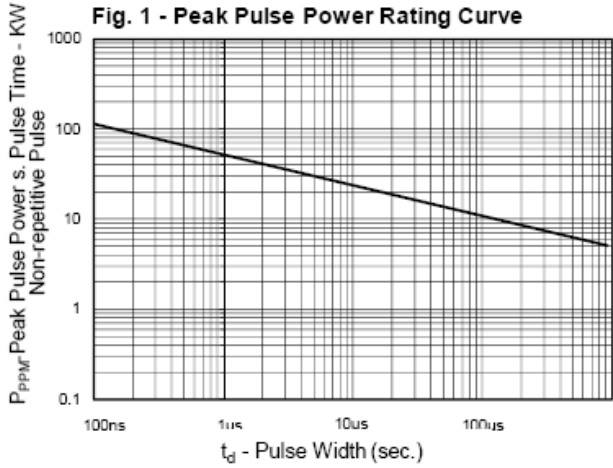


Fig. 5 - Steady State Power Derating Curve

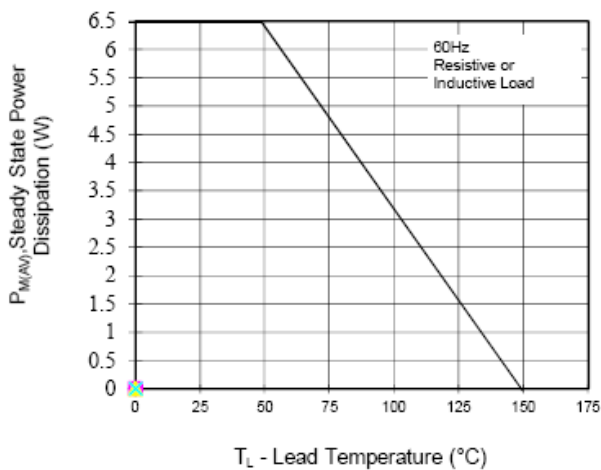
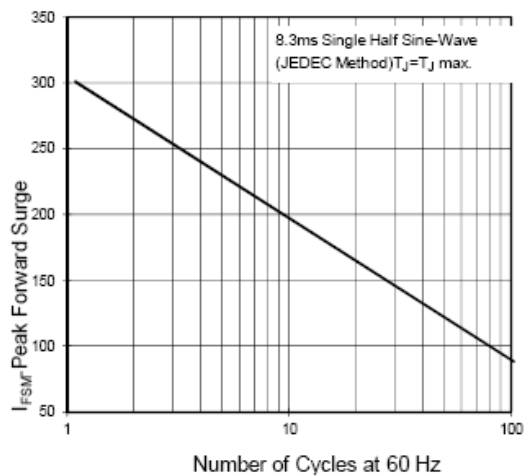


Fig.6 - Maximum Non-Repetitive Forward Surge Current Uni-Directional Only





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