

SMC


Bi-directional



Uni-direction

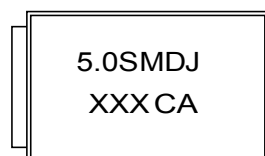
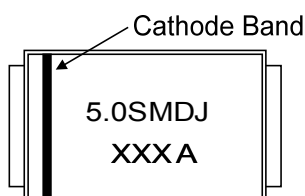
Symbol

Features

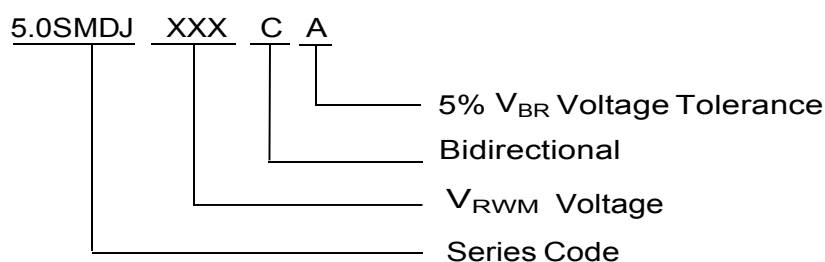
- Peak power dissipation 5000W@10 x 1000 us Pulse
- Low incremental surge resistance
- Excellent clamping capability
- Glass passivated junction
- Fast response time
- Low leakage current
- Halogen free and RoHS compliant

Mechanical Data

- CASE: SMCJ(DO-214AB) Molded Plastic
- Polarity: By cathode band denotes uni-directional device, none cathode band denotes bi-directional device
- Mounting Position:Any

Making Code & information


Package	Packing Description	Packing Quantity
SMC	Tape/Reel,13" reel	3000


Maximum Ratings & Thermal Characteristics

(Ratings at 25°C ambient temperature unless otherwise specified.)

Parameter	Symbol	Value	Units	Remarks
Peak Pulse Power Dissipation	P_{PPM}	5000	W	(Note1)(Note2)
Steady State Power Dissipation	P_D	6.5	W	(Note3)
Peak Forward Surge Current	I_{FSM}	300	A	(Note4)
Maximum Instantaneous Forward Voltage at 100A	V_{FM}	5	V	(Note5)
Typical Thermal Resistance Junction to Lead	$R_{\theta JL}$	15	°C/W	
Typical Thermal Resistance Junction to Ambient	$R_{\theta JA}$	75	°C/W	
Operating Temperature Range	T_J	-55 to 150	°C	
Storage Temperature Range	T_{STG}	-55 to 150	°C	

Notes1: Non-repetitive current pulse , 10/1000us Waveform.

Notes2: Mounted on copper pad area of 8×8mm to each terminal.

 Notes3: Infinite HeatSink at $T_A=50^\circ\text{C}$

Notes4: Measured on 8.3ms single half sine wave or equivalent square wave, duty cycle=4 perminute maximum.

 Notes5: For UnidirectionalOnly, $V_{FM}<3.5\text{V}$ for $V_{BR} \leq 200\text{V}$ and $V_{FM}<5.0\text{V}$ for $V_{BR} \geq 201\text{V}$.

Electrical Characteristics

(Ratings at 25°C ambient temperature unless otherwise specified).

Part Number		Reverse Stand off Voltage V_R (V)	Breakdown Voltage V_{BR} @ I_T (V)		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_R (μ A)
Uni	Bi		Min	Max				
5.0SMDJ12A	5.0SMDJ12CA	12	13.3	14.7	10	19.9	252	800
5.0SMDJ13A	5.0SMDJ13CA	13	14.4	15.9	10	21.5	233	500
5.0SMDJ14A	5.0SMDJ14CA	14	15.6	17.2	10	23.2	216	200
5.0SMDJ15A	5.0SMDJ15CA	15	16.7	18.5	1	24.4	205	100
5.0SMDJ16A	5.0SMDJ16CA	16	17.8	19.7	1	26	193	50
5.0SMDJ17A	5.0SMDJ17CA	17	18.9	20.9	1	27.6	181	20
5.0SMDJ18A	5.0SMDJ18CA	18	20	22.1	1	29.2	172	10
5.0SMDJ20A	5.0SMDJ20CA	20	22.2	24.5	1	32.4	155	5
5.0SMDJ22A	5.0SMDJ22CA	22	24.4	26.9	1	35.5	141	5
5.0SMDJ24A	5.0SMDJ24CA	24	26.7	29.5	1	38.9	129	5
5.0SMDJ26A	5.0SMDJ26CA	26	28.9	31.9	1	42.1	119	5
5.0SMDJ28A	5.0SMDJ28CA	28	31.1	34.4	1	45.4	110	5
5.0SMDJ30A	5.0SMDJ30CA	30	33.3	36.8	1	48.4	103	5
5.0SMDJ33A	5.0SMDJ33CA	33	36.7	40.6	1	53.3	93.9	5
5.0SMDJ36A	5.0SMDJ36CA	36	40	44.2	1	58.1	86.1	5
5.0SMDJ40A	5.0SMDJ40CA	40	44.4	49.1	1	64.5	77.6	5
5.0SMDJ43A	5.0SMDJ43CA	43	47.8	52.8	1	69.4	72.1	5
5.0SMDJ45A	5.0SMDJ45CA	45	50	55.3	1	72.7	68.8	5
5.0SMDJ48A	5.0SMDJ48CA	48	53.3	58.9	1	77.4	64.7	5
5.0SMDJ51A	5.0SMDJ51CA	51	56.7	62.7	1	82.4	60.7	5
5.0SMDJ54A	5.0SMDJ54CA	54	60	66.3	1	87.1	57.5	5
5.0SMDJ58A	5.0SMDJ58CA	58	64.4	71.2	1	93.6	53.5	5
5.0SMDJ60A	5.0SMDJ60CA	60	66.7	73.7	1	96.8	51.7	5
5.0SMDJ64A	5.0SMDJ64CA	64	71.1	78.6	1	103	48.6	5
5.0SMDJ70A	5.0SMDJ70CA	70	77.8	86	1	113	44.3	5
5.0SMDJ75A	5.0SMDJ75CA	75	83.3	92.1	1	121	41.4	5
5.0SMDJ78A	5.0SMDJ78CA	78	86.7	95.8	1	126	39.7	5
5.0SMDJ85A	5.0SMDJ85CA	85	94.4	104	1	137	36.5	5
5.0SMDJ90A	5.0SMDJ90CA	90	100	111	1	146	34.3	5
5.0SMDJ100A	5.0SMDJ100CA	100	111	123	1	162	30.9	5
5.0SMDJ110A	5.0SMDJ110CA	110	122	135	1	177	28.3	5
5.0SMDJ120A	5.0SMDJ120CA	120	133	147	1	193	26	5
5.0SMDJ130A	5.0SMDJ130CA	130	144	159	1	209	24	5
5.0SMDJ150A	5.0SMDJ150CA	150	167	185	1	243	20.6	5
5.0SMDJ160A	5.0SMDJ160CA	160	178	197	1	259	19.3	5
5.0SMDJ170A	5.0SMDJ170CA	170	189	209	1	275	18.2	5

Ratings and Characteristic Curves

(Ratings at 25°C ambient temperature unless otherwise specified).

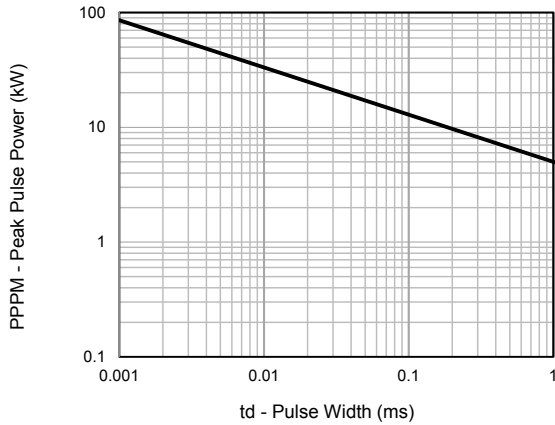


Fig.1 - Peak Pulse Power Rating

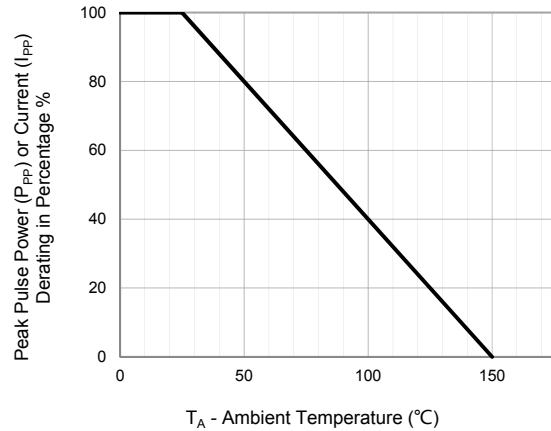


Fig.2 - Pulse Derating Curve

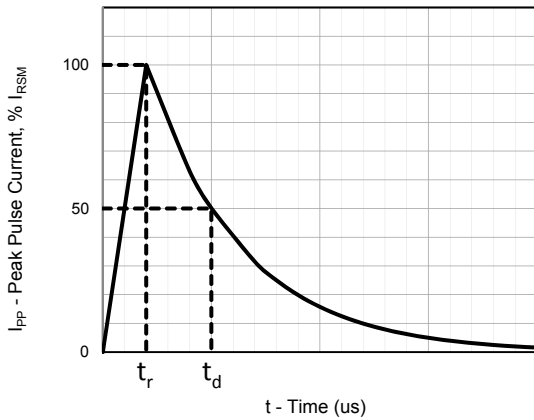


Fig.3 - Pulse Waveform

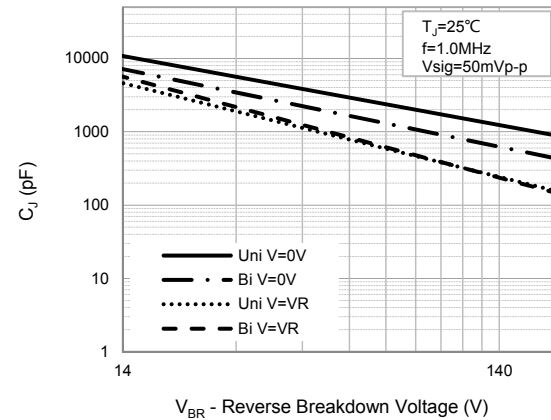


Fig.4 - Typical Junction Capacitance

Package Outline Dimensions: SMC(DO-214AB)

Dim	Millimeters		Inches	
	Min	Max	Min	Max
L	6.75	6.95	0.265	0.274
D	5.75	5.95	0.226	0.234
D1	2.9	3.1	0.114	0.122
T	7.9	8.1	0.311	0.319
T1	0.85	1.3	0.034	0.051
d	-	0.2	-	0.008
H	2.45	2.65	0.096	0.104
H1	2.3	2.5	0.09	0.098

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