

SMCJ5.0(C)A-T to SMCJ440(C)A-T

1500Watts

Automotive Transient Voltage Suppressors

PROSEMI offers AEC-Q101 qualified TVS diode device is specially designed to protect sensitive electronic devices from lightning and other transient voltage induced voltage transient events.



Features

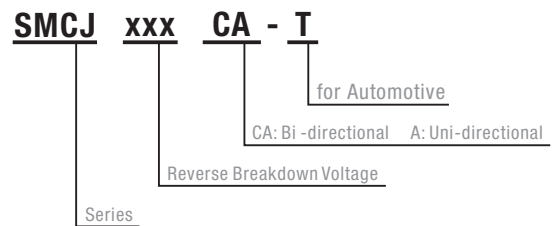
- Low profile package
- Very fast response time
- Unidirectional(A) and Bidirectional(CA) Protection
- AEC-Q101 qualified available
- Excellent Clamping Capability
- Glass Passivated Junction
- Built-in Strain relief



Applications

- I/O Interfaces
- Power lines
- Computers & Consumer Electronics
- Automotive and Telecommunication
- Industrial Electronics

Part Numbering System



Absolute Maximum Rating

Rating	Symbol	Value	Units
Peak Pulse Power ($t_p = 10/1000\mu s$) (see Note1,2&3)	P_{PPM}	1500	Watts
Peak pulse current (10/1000 μs) (see Note2&3)	I_{PPM}	See Electrical Characteristics	A
Peak Forward surge current (see Note4&5)	I_{FSM}	200	A
Power Dissipation on infinite heat sink $T_A = 50^\circ C$ (Fig5)	P_D	6.5	W
Operating Junction Temperature range	T_J	-55 ~ +150	$^\circ C$
Typical Thermal Resistance	$R_{\theta JA}$	75	$^\circ C/W$

Note1: Peak Pulse Power Rating as Pulse Width, per Fig1.

Note2: Peak Pulse Power or Current Derated above $T_A = 25^\circ C$ Per Fig. 2 and Non-Repetitive Current Pulse, Per Fig.3.

Note3: Mounted on 5.0x5.0mm² copper pad to each terminal.

Note4: 8.3ms Single Half Sine Wave or Equivalent Square Wave

Note5: Maximum Forward Surge Current only for Unidirectional Device per Fig6.

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Electrical Characteristics

Part Number		Marking		Reverse Stand Off Voltage	Breakdown Voltage		Test Current	Maximum Clamping Voltage	Maximum Peak Pulse Current	Maximum Reverse Leakage
Uni	Bi	Uni	Bi	V_R (V)	V_{BR} (V) @ I_T		I_T (mA)	V_C (V) @ I_{PP}	I_{PP} (A)	I_R (μ A) @ V_R
					Min.	Max.				
SMCJ5.0A-T	SMCJ5.0CA-T	GDET	BDET	5.0	6.40	7.00	10	9.2	163.0	800
SMCJ6.0A-T	SMCJ6.0CA-T	GDGT	BDGT	6.0	6.67	7.37	10	10.3	145.7	800
SMCJ6.5A-T	SMCJ6.5CA-T	GDKT	BDKT	6.5	7.22	7.98	10	11.2	134.0	500
SMCJ7.0A-T	SMCJ7.0CA-T	GDMT	BDMT	7.0	7.78	8.60	10	12.0	125.0	200
SMCJ7.5A-T	SMCJ7.5CA-T	GDPT	BDPT	7.5	8.33	9.21	1	12.9	116.3	100
SMCJ8.0A-T	SMCJ8.0CA-T	GDRT	BDRT	8.0	8.89	9.83	1	13.6	110.3	50
SMCJ8.5A-T	SMCJ8.5CA-T	GDTT	BDTT	8.5	9.44	10.4	1	14.4	104.2	20
SMCJ9.0A-T	SMCJ9.0CA-T	GDVT	BDVT	9.0	10.0	11.1	1	15.4	97.4	10
SMCJ10A-T	SMCJ10CA-T	GDXT	BDXT	10.0	11.1	12.3	1	17.0	88.3	5
SMCJ11A-T	SMCJ11CA-T	GDZT	BDZT	11.0	12.2	13.5	1	18.2	82.5	1
SMCJ12A-T	SMCJ12CA-T	GEET	BEET	12.0	13.3	14.7	1	19.9	75.4	1
SMCJ13A-T	SMCJ13CA-T	GEGT	BEGT	13.0	14.4	15.9	1	21.5	69.8	1
SMCJ14A-T	SMCJ14CA-T	GEKT	BEKT	14.0	15.6	17.2	1	23.2	64.7	1
SMCJ15A-T	SMCJ15CA-T	GEMT	BEMT	15.0	16.7	18.5	1	24.4	61.5	1
SMCJ16A-T	SMCJ16CA-T	GEPT	BEPT	16.0	17.8	19.7	1	26.0	57.7	1
SMCJ17A-T	SMCJ17CA-T	GERT	BERT	17.0	18.9	20.9	1	27.6	54.4	1
SMCJ18A-T	SMCJ18CA-T	GETT	BETT	18.0	20.0	22.1	1	29.2	51.4	1
SMCJ20A-T	SMCJ20CA-T	GEVT	BEVT	20.0	22.2	24.5	1	32.4	46.3	1
SMCJ22A-T	SMCJ22CA-T	GEXT	BEXT	22.0	24.4	26.9	1	35.5	42.3	1
SMCJ24A-T	SMCJ24CA-T	GEZT	BEZT	24.0	26.7	29.5	1	38.9	38.6	1
SMCJ26A-T	SMCJ26CA-T	GFET	BFET	26.0	28.9	31.9	1	42.1	35.7	1
SMCJ28A-T	SMCJ28CA-T	GFGT	BFGT	28.0	31.1	34.4	1	45.4	33.1	1
SMCJ30A-T	SMCJ30CA-T	GFKT	BFKT	30.0	33.3	36.8	1	48.4	31.0	1
SMCJ33A-T	SMCJ33CA-T	GFMT	BFMT	33.0	36.7	40.6	1	53.3	28.2	1
SMCJ36A-T	SMCJ36CA-T	GFPT	BFPT	36.0	40.0	44.2	1	58.1	25.9	1
SMCJ40A-T	SMCJ40CA-T	GFRT	BFRT	40.0	44.4	49.1	1	64.5	23.3	1
SMCJ43A-T	SMCJ43CA-T	GFTT	BFTT	43.0	47.8	52.8	1	69.4	21.7	1
SMCJ45A-T	SMCJ45CA-T	GFVT	BFVT	45.0	50.0	55.3	1	72.7	20.6	1
SMCJ48A-T	SMCJ48CA-T	GFXT	BFXT	48.0	53.3	58.9	1	77.4	19.4	1
SMCJ51A-T	SMCJ51CA-T	GFZT	BFZT	51.0	56.7	62.7	1	82.4	18.2	1
SMCJ54A-T	SMCJ54CA-T	GGET	BGET	54.0	60.0	66.3	1	87.1	17.3	1
SMCJ58A-T	SMCJ58CA-T	GGGT	BGGT	58.0	64.4	71.2	1	93.6	16.1	1
SMCJ60A-T	SMCJ60CA-T	GGKT	BGKT	60.0	66.7	73.7	1	96.8	15.5	1
SMCJ64A-T	SMCJ64CA-T	GGMT	BGMT	64.0	71.1	78.6	1	103.0	14.6	1
SMCJ70A-T	SMCJ70CA-T	GGPT	BGPT	70.0	77.8	86.0	1	113.0	13.3	1

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Electrical Characteristics (continued)

Part Number		Marking		Reverse Stand Off Voltage	Breakdown Voltage		Test Current	Maximum Clamping Voltage	Maximum Peak Pulse Current	Maximum Reverse Leakage
Uni	Bi	Uni	Bi	V_R (V)	V_{BR} (V) @ I_T		I_T (mA)	V_C (V) @ I_{PP}	I_{PP} (A)	I_R (μ A) @ V_R
					Min.	Max.				
SMCJ75A-T	SMCJ75CA-T	GGRT	BGRT	75.0	83.3	92.1	1	121.0	12.4	1
SMCJ78A-T	SMCJ78CA-T	GGTT	BGTT	78.0	86.7	95.8	1	126.0	11.9	1
SMCJ85A-T	SMCJ85CA-T	GGVT	BGVT	85.0	94.4	104.0	1	137.0	11.0	1
SMCJ90A-T	SMCJ90CA-T	GGXT	BGXT	90.0	100.0	111.0	1	146.0	10.3	1
SMCJ100A-T	SMCJ100CA-T	GGZT	BGZT	100.0	111.0	123.0	1	162.0	9.3	1
SMCJ110A-T	SMCJ110CA-T	GHET	BHET	110.0	122.0	135.0	1	177.0	8.5	1
SMCJ120A-T	SMCJ120CA-T	GHGT	BHGT	120.0	133.0	147.0	1	193.0	7.8	1
SMCJ130A-T	SMCJ130CA-T	GHKT	BHKT	130.0	144.0	159.0	1	209.0	7.2	1
SMCJ150A-T	SMCJ150CA-T	GHMT	BHMT	150.0	167.0	185.0	1	243.0	6.2	1
SMCJ160A-T	SMCJ160CA-T	GHPT	BHPT	160.0	178.0	197.0	1	259.0	5.8	1
SMCJ170A-T	SMCJ170CA-T	GHRT	BHRT	170.0	189.0	209.0	1	275.0	5.5	1
SMCJ180A-T	SMCJ180CA-T	GHTT	BHTT	180.0	201.0	222.0	1	292.0	5.1	1
SMCJ190A-T	SMCJ190CA-T	GHUT	BHUT	190.0	209.0	243.0	1	308.0	4.8	1
SMCJ200A-T	SMCJ200CA-T	GHVT	BHVT	200.0	224.0	247.0	1	324.0	4.6	1
SMCJ220A-T	SMCJ220CA-T	GHXT	BHXT	220.0	246.0	272.0	1	356.0	4.2	1
SMCJ250A-T	SMCJ250CA-T	GHZT	BHZT	250.0	279.0	309.0	1	405.0	3.7	1
SMCJ300A-T	SMCJ300CA-T	GJET	BJET	300.0	335.0	371.0	1	486.0	3.1	1
SMCJ350A-T	SMCJ350CA-T	GJGT	BJGT	350.0	391.0	432.0	1	567.0	2.6	1
SMCJ400A-T	SMCJ400CA-T	GJKT	BJKT	400.0	447.0	494.0	1	648.0	2.3	1
SMCJ440A-T	SMCJ440CA-T	GJMT	BJMT	440.0	492.0	543.0	1	713.0	2.1	1

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Typical Characteristics

Figure 1: Peak Pulse Power Rating Curve

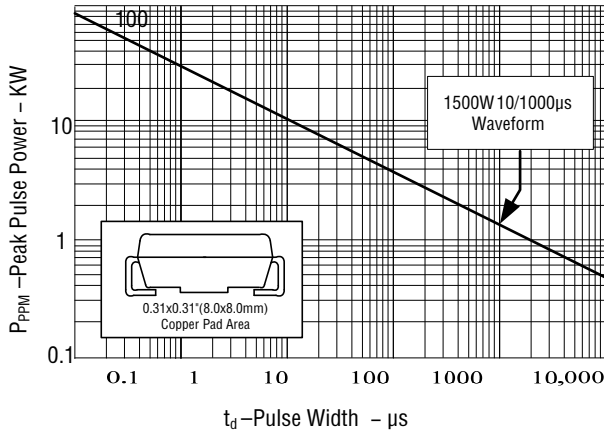


Figure 2: Pulse Derating Curve

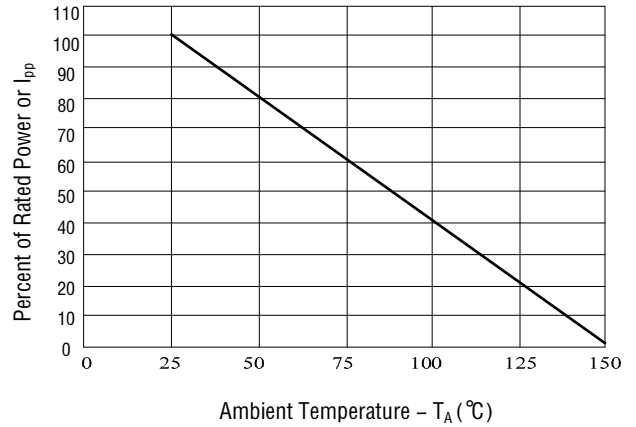


Figure 3: Pulse Waveform

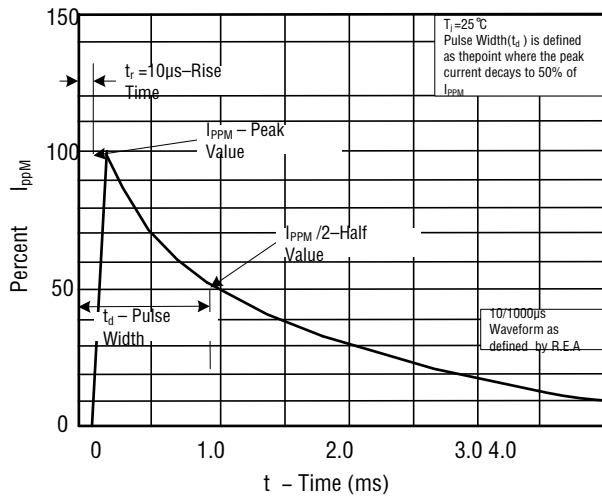


Figure 4: Typical Junction Capacitance

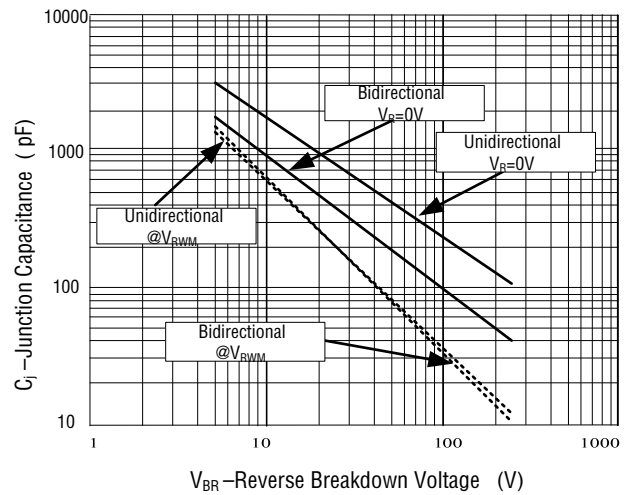


Figure 5: Steady State Power Dissipation Derating Curve

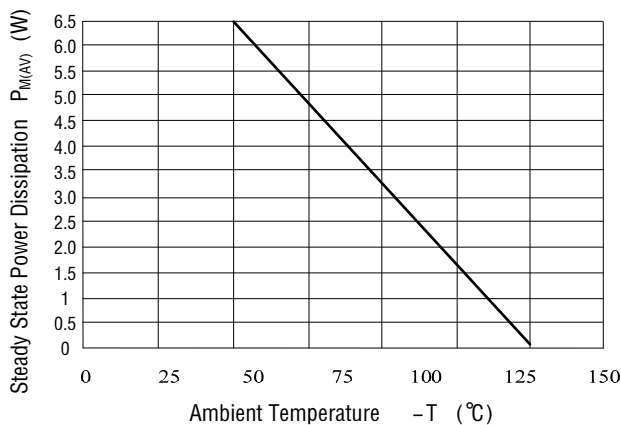
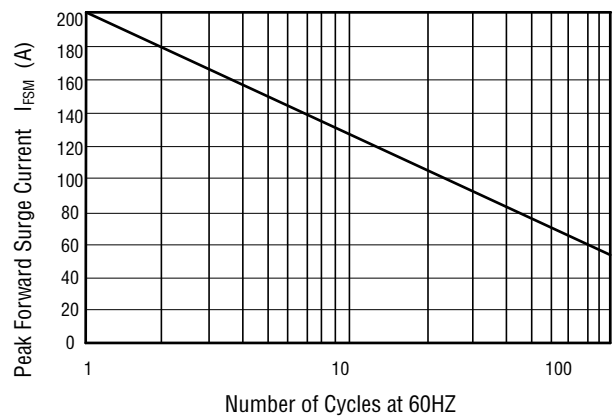


Figure 6: Maximum Non-Repetitive Forward Surge Current Only Unidirectional

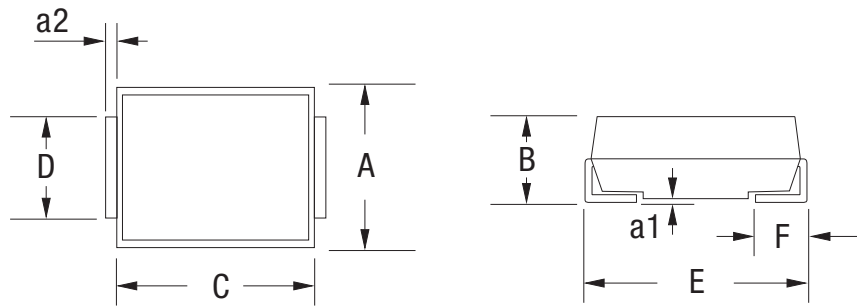


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Dimension (Unit: mm)



A		B		C		D		E		F		a1		a2	
Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
5.500	6.100	2.100	2.700	6.500	7.100	2.750	3.250	7.400	8.400	0.760	1.520	-	0.203	0.152	0.305

Packaging

- Quantity: 3,000pcs
- 16mm wide tape on 330mm(13 inch) diameter reel –specification EIA Standard 481.