

SMDJ5.0(C)A-T to SMDJ440(C)A-T

3000Watts

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

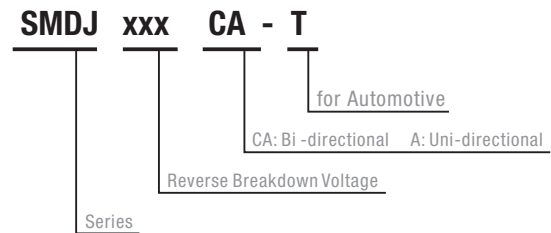
- Low profile package
- Very fast response time
- Unidirectional(A) and Bidirectional(CA) Protection
- AEC-Q101 qualified available
- Excellent Clamping Capability
- Glass Passivated Junction
- Built-in Strain relief



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)	PPPM	3000	Watts
Peak pulse current (10/1000 μs) (see Note2&3)	IPPM	See Electrical Characteristics	A
Peak Forward surge current (see Note4&5)	IFSM	300	A
Power Dissipation on infinite heat sink $T_A = 50^\circ C$ (Fig5)	Pd	6.5	W
Operating Junction Temperature range	T _J	-55 ~ +150	°C
Typical Thermal Resistance	R _{θJA}	75	°C/W

Note1: Peak Pulse Power Rating as Pulse Width ,perFig1.

Note2: Peak Pusle 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	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.				
SMDJ5.0A-T	SMDJ5.0CA-T	RDET	DEET	5.0	6.40	7.00	10	9.2	326.09	800
SMDJ6.0A-T	SMDJ6.0CA-T	RDGT	DDGT	6.0	6.67	7.37	10	10.3	291.26	800
SMDJ6.5A-T	SMDJ6.5CA-T	RDKT	DDKT	6.5	7.22	7.98	10	11.2	267.86	500
SMDJ7.0A-T	SMDJ7.0CA-T	PDMT	DDMT	7.0	7.78	8.60	10	12.0	250.00	200
SMDJ7.5A-T	SMDJ7.5CA-T	PDPT	DDPT	7.5	8.33	9.21	1	12.9	232.56	100
SMDJ8.0A-T	SMDJ8.0CA-T	PDRT	DDRT	8.0	8.89	9.83	1	13.6	220.59	50
SMDJ8.5A-T	SMDJ8.5CA-T	PDTT	DDTT	8.5	9.44	10.4	1	14.4	208.33	20
SMDJ9.0A-T	SMDJ9.0CA-T	PDVT	DDVT	9.0	10.0	11.1	1	15.4	194.81	10
SMDJ10A-T	SMDJ10CA-T	PDXT	DDXT	10.0	11.1	12.3	1	17.0	176.47	5
SMDJ11A-T	SMDJ11CA-T	PDZT	DDZT	11.0	12.2	13.5	1	18.2	164.84	2
SMDJ12A-T	SMDJ12CA-T	PEET	DEET	12.0	13.3	14.7	1	19.9	150.75	2
SMDJ13A-T	SMDJ13CA-T	PEGT	DEGT	13.0	14.4	15.9	1	21.5	139.53	2
SMDJ14A-T	SMDJ14CA-T	PEKT	DEKT	14.0	15.6	17.2	1	23.2	129.31	2
SMDJ15A-T	SMDJ15CA-T	PEMT	DEMT	15.0	16.7	18.5	1	24.4	122.95	2
SMDJ16A-T	SMDJ16CA-T	PEPT	DEPT	16.0	17.8	19.7	1	26.0	115.38	2
SMDJ17A-T	SMDJ17CA-T	PERT	DERT	17.0	18.9	20.9	1	27.6	108.70	2
SMDJ18A-T	SMDJ18CA-T	PETT	DETT	18.0	20.0	22.1	1	29.2	102.74	2
SMDJ20A-T	SMDJ20CA-T	PEVT	DEV T	20.0	22.2	24.5	1	32.4	92.59	2
SMDJ22A-T	SMDJ22CA-T	PEXT	DEXT	22.0	24.4	26.9	1	35.5	84.51	2
SMDJ24A-T	SMDJ24CA-T	PEZT	DEZT	24.0	26.7	29.5	1	38.9	77.12	2
SMDJ26A-T	SMDJ26CA-T	PFET	DFET	26.0	28.9	31.9	1	42.1	71.26	2
SMDJ28A-T	SMDJ28CA-T	PFGT	DFGT	28.0	31.1	34.4	1	45.4	66.08	2
SMDJ30A-T	SMDJ30CA-T	PFKT	DFKT	30.0	33.3	36.8	1	48.4	61.98	2
SMDJ33A-T	SMDJ33CA-T	PFMT	DFMT	33.0	36.7	40.6	1	53.3	56.29	2
SMDJ36A-T	SMDJ36CA-T	PFPT	DFPT	36.0	40.0	44.2	1	58.1	51.64	2
SMDJ40A-T	SMDJ40CA-T	PFRT	DFRT	40.0	44.4	49.1	1	64.5	46.51	2
SMDJ43A-T	SMDJ43CA-T	PFTT	DFTT	43.0	47.8	52.8	1	69.4	43.23	2
SMDJ45A-T	SMDJ45CA-T	PFVT	DFVT	45.0	50.0	55.3	1	72.7	41.27	2
SMDJ48A-T	SMDJ48CA-T	PFXT	DFXT	48.0	53.3	58.9	1	77.4	38.76	2
SMDJ51A-T	SMDJ51CA-T	PFZT	DFZT	51.0	56.7	62.7	1	82.4	36.41	2
SMDJ54A-T	SMDJ54CA-T	PGET	DGET	54.0	60.0	66.3	1	87.1	34.44	2
SMDJ58A-T	SMDJ58CA-T	PGGT	DGGT	58.0	64.4	71.2	1	93.6	32.05	2
SMDJ60A-T	SMDJ60CA-T	PGKT	DGKT	60.0	66.7	73.7	1	96.8	30.99	2
SMDJ64A-T	SMDJ64CA-T	PGMT	DGMT	64.0	71.0	78.6	1	103.0	29.13	2
SMDJ70A-T	SMDJ70CA-T	PGPT	DGPT	70.0	77.8	86.0	1	113.0	26.55	2

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Electrical Characteristics (continued)

Part Number		Marking		Reverse Stand Off V_R (V)	Breakdown Voltage		Test Current I_T (mA)	Maximum Clamping Voltage V_C (V) @ I_{PP}	Maximum Peak Pulse Current I_{PP} (A)	Maximum Reverse Leakage I_R (μ A) @ V_R
Uni	Bi	Uni	Bi		V_{BR} (V) @ I_T	Min.				
SMDJ75A-T	SMDJ75CA-T	PGRT	DGRT	75.0	83.3	92.1	1	121.0	24.79	2
SMDJ78A-T	SMDJ78CA-T	PGTT	DGTT	78.0	86.7	95.8	1	126.0	23.81	2
SMDJ80A-T	SMDJ80CA-T	PGBT	DGBT	80.0	88.8	97.6	1	129.6	23.15	2
SMDJ85A-T	SMDJ85CA-T	PGVT	DGVT	85.0	94.4	104.0	1	137.0	21.90	2
SMDJ90A-T	SMDJ90CA-T	PGXT	DGXT	90.0	100.0	111.0	1	146.0	20.55	2
SMDJ100A-T	SMDJ100CA-T	PGZT	DGZT	100.0	111.0	123.0	1	162.0	18.52	2
SMDJ110A-T	SMDJ110CA-T	PHET	DHET	110.0	122.0	135.0	1	177.0	16.95	2
SMDJ120A-T	SMDJ120CA-T	PHGT	DHGT	120.0	133.0	147.0	1	193.0	15.54	2
SMDJ130A-T	SMDJ130CA-T	PHKT	DHKT	130.0	144.0	159.0	1	209.0	14.35	2
SMDJ150A-T	SMDJ150CA-T	PHMT	DHMT	150.0	167.0	185.0	1	243.0	12.35	2
SMDJ160A-T	SMDJ160CA-T	PHPT	DHPT	160.0	178.0	197.0	1	259.0	11.58	2
SMDJ170A-T	SMDJ170CA-T	PHRT	DHRT	170.0	189.0	209.0	1	275.0	10.91	2
SMDJ180A-T	SMDJ180CA-T	HHTT	IHTT	180.0	201.0	222.0	1	292.0	10.29	2
SMDJ190A-T	SMDJ190CA-T	HHVT	IHVT	190.0	209.0	243.0	1	308.0	9.75	2
SMDJ200A-T	SMDJ200CA-T	HHXT	IHXT	200.0	224.0	247.0	1	324.0	9.26	2
SMDJ220A-T	SMDJ220CA-T	HHET	IHET	220.0	246.0	272.0	1	356.0	8.43	2
SMDJ250A-T	SMDJ250CA-T	PHZT	DHZT	250.0	279.0	309.0	1	405.0	7.41	2
SMDJ300A-T	SMDJ300CA-T	PJET	DJET	300.0	335.0	371.0	1	486.0	6.17	2
SMDJ350A-T	SMDJ350CA-T	PJGT	DJGT	350.0	391.0	432.0	1	567.0	5.29	2
SMDJ400A-T	SMDJ400CA-T	PJKT	DJKT	400.0	447.0	494.0	1	648.0	4.63	2
SMDJ440A-T	SMDJ440CA-T	PJMT	DJMT	440.0	492.0	543.0	1	713.0	4.21	2

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Typical Characteristics

Figure 1. Peak Pulse Power Rating Curve

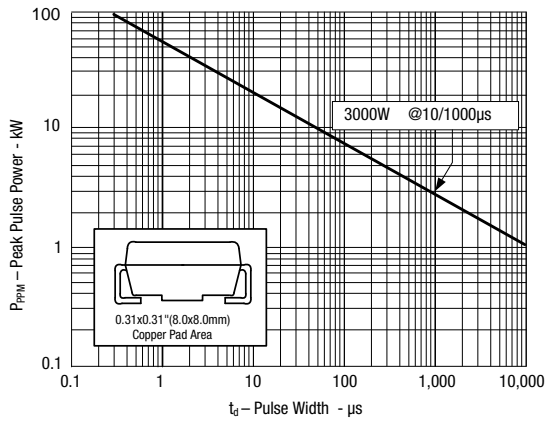


Figure 2. Pulse Derating Curve

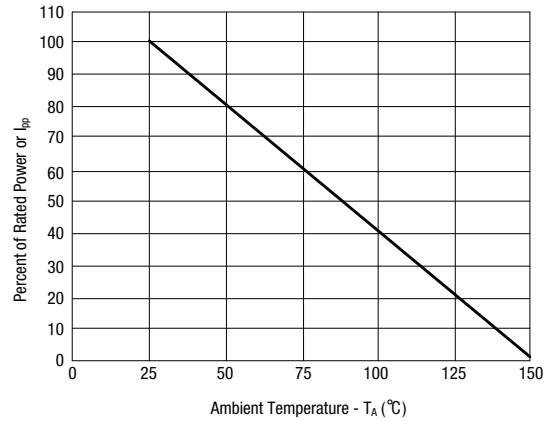


Figure 3. Pulse Waveform

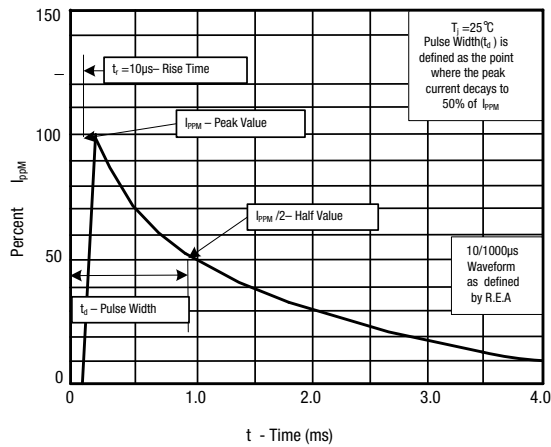


Figure 4. Typical Junction Capacitance

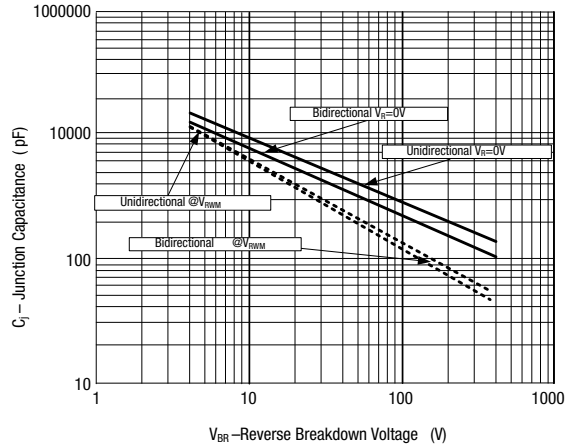


Figure 5. Steady State Power Dissipation Derating Curve

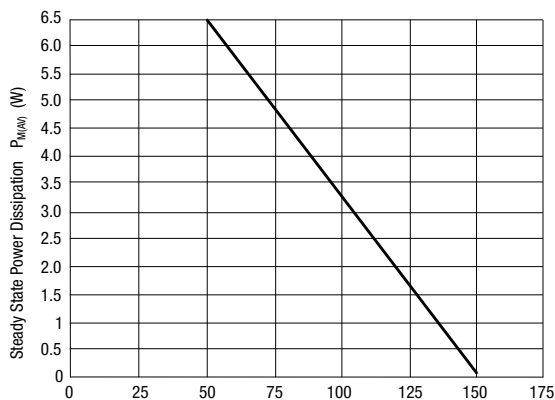
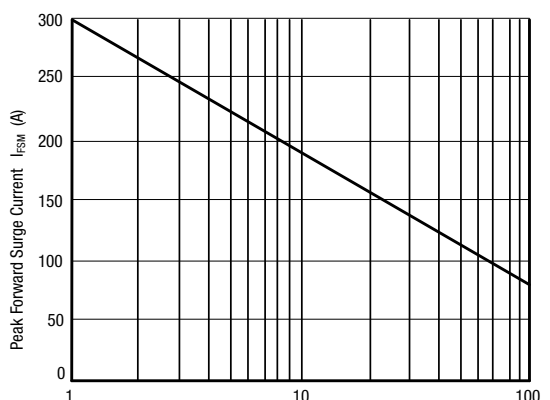


Figure 6. Maximum Non-Repetitive Forward Surge Current Only Unidirectional

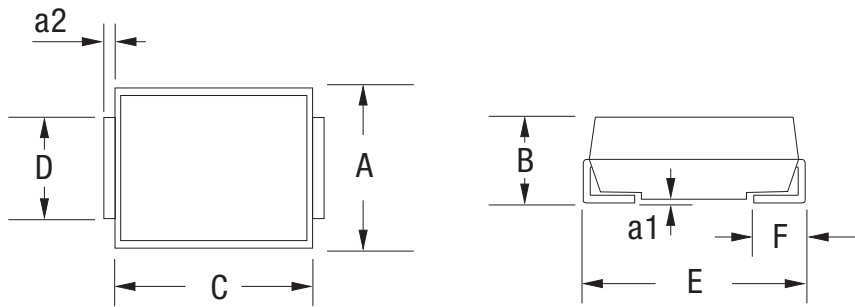


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Dimension (Unit: mm)



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
- 12mm wide tape on 330mm(13 inch) diameter reel –specification EIA Standard 481.