

## 5.0SMDJ11(C)A-T to 5.0SMDJ220A-T

# 5000Watts

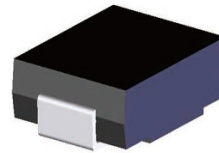
### Automotive Transient Voltage Suppressors

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

- 5000 watts Peak Pulse Power (10/1000µs)
- Unidirectional and Bidirectional Protection
- Fast Response Time : Typically < 1ns
- Excellent Clamping Capability
- Glass Passivated Junction
- Built-in Strain relief
- AEC-Q101 qualified available
- Low inductance
- Low profile package
- High temperature solder:260 °C/10 seconds at terminal

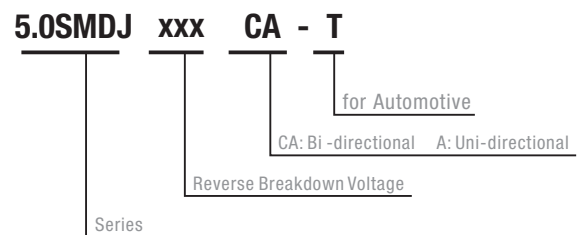


DO-214AB/SMC

#### Applications

- JEDEC DO-214AB package
- Molding compound flammability rating: UL 94V-0
- Marking: Marking Code
- Packaging: Tape and Reel per EIA 481 RoHS Compliant

#### Part Numbering System



#### Absolute Maximum Rating

Rating	Symbol	Value	Units
Peak power dissipation with a 10/1000 us waveform(1)	P <sub>PPM</sub>	5000	Watts
Peak pulse current with a 10/1000 us waveform(1)	I <sub>PPM</sub>	See Electrical Characteristics	A
Peak forward surge current, 8.3 ms single half sinewave unidirectional only(2)	I <sub>FSM</sub>	300	A
Power dissipation on infinite heatsink at TL = 75°C	P <sub>D</sub>	6.5	W
Operating junction and storage temperature range	T <sub>J</sub> , T <sub>STG</sub>	-65 ~ +150	°C

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

Note2: Peak Pulse Power or Current Derated above TA=25 °C Per Fig. 2 and Non-Repetitive Current Pulse, Per Fig.3.

Note3: Mounted on 5.0x5.0mm<sup>2</sup> 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.

## Automotive Transient Voltage Suppressors

### 5.0SMDJ11(C)A-T to 5.0SMDJ220A-T

### 5000Watts

#### Electrical Characteristics

Part Number		Device Marking Code		Reverse Stand-off Voltage	Breakdown Voltage $V_{BR} @ I_T$		Test Current	Max. Clamping Voltage @ $I_{PP}$	Max. Peak Pulse Current	Max. Reverse Leakage @ $V_{RWM}$
UNI-POLAR	BI-POLAR	UNI	BI	$V_{RWM}(V)$	Min.(V)	Max.(V)	$I_T(mA)$	$V_C MAX.(V)$	$I_{PP}(A)$	$I_R(\mu A)$
5.0SMDJ11A-T	5.0SMDJ11CA-T	5PENT	5BENT	11.0	12.20	13.50	10	18.2	274.7	800
5.0SMDJ12A-T	5.0SMDJ12CA-T	5PEPT	5BEPT	12.0	13.30	14.70	10	19.9	251.3	800
5.0SMDJ13A-T	5.0SMDJ13CA-T	5PEQT	5BEQT	13.0	14.40	15.90	10	21.5	232.6	500
5.0SMDJ14A-T	5.0SMDJ14CA-T	5PERT	5BERT	14.0	15.60	17.20	10	23.2	215.5	200
5.0SMDJ15A-T	5.0SMDJ15CA-T	5PEST	5BEST	15.0	16.70	18.50	1	24.4	204.9	100
5.0SMDJ16A-T	5.0SMDJ16CA-T	5PETT	5BETT	16.0	17.80	19.70	1	26.0	192.3	50
5.0SMDJ17A-T	5.0SMDJ17CA-T	5PEUT	5BEUT	17.0	18.90	20.90	1	27.6	181.2	20
5.0SMDJ18A-T	5.0SMDJ18CA-T	5PEVT	5BEVT	18.0	20.00	22.10	1	29.2	171.2	10
5.0SMDJ20A-T	5.0SMDJ20CA-T	5PEWT	5BEWT	20.0	22.20	24.50	1	32.4	154.3	5
5.0SMDJ22A-T	5.0SMDJ22CA-T	5PEXT	5BEXT	22.0	24.40	26.90	1	35.5	140.8	5
5.0SMDJ24A-T	5.0SMDJ24CA-T	5PEZT	5BEZT	24.0	26.70	29.50	1	38.9	128.5	5
5.0SMDJ26A-T	5.0SMDJ26CA-T	5PFET	5BFET	26.0	28.90	31.90	1	42.1	118.8	5
5.0SMDJ28A-T	5.0SMDJ28CA-T	5PFGT	5BFGT	28.0	31.10	34.40	1	45.4	110.1	5
5.0SMDJ30A-T	5.0SMDJ30CA-T	5PFKT	5BFKT	30.0	33.30	36.80	1	48.4	103.3	5
5.0SMDJ33A-T	5.0SMDJ33CA-T	5PFMT	5BFMT	33.0	36.70	40.60	1	53.3	93.8	5
5.0SMDJ36A-T	5.0SMDJ36CA-T	5PFPT	5BFPT	36.0	40.00	44.20	1	58.1	86.1	5
5.0SMDJ40A-T	5.0SMDJ40CA-T	5PFRT	5BFRT	40.0	44.40	49.10	1	64.5	77.5	5
5.0SMDJ43A-T	5.0SMDJ43CA-T	5PFTT	5BFTT	43.0	47.80	52.80	1	69.4	72.0	5
5.0SMDJ45A-T	5.0SMDJ45CA-T	5PFVT	5BFVT	45.0	50.00	55.30	1	72.7	68.8	5
5.0SMDJ48A-T	5.0SMDJ48CA-T	5PFXT	5BFXT	48.0	53.30	58.90	1	77.4	64.6	5
5.0SMDJ51A-T	5.0SMDJ51CA-T	5PFZT	5BFZT	51.0	56.70	62.70	1	82.4	60.7	5
5.0SMDJ54A-T	5.0SMDJ54CA-T	5PGET	5BGET	54.0	60.00	66.30	1	87.1	57.4	5
5.0SMDJ58A-T	5.0SMDJ58CA-T	5PGGT	5BGGT	58.0	64.40	71.20	1	93.6	53.4	5
5.0SMDJ60A-T	5.0SMDJ60CA-T	5PGKT	5BGKT	60.0	66.70	73.70	1	96.8	51.7	5
5.0SMDJ64A-T	5.0SMDJ64CA-T	5PGMT	5BGMT	64.0	71.10	78.60	1	103.0	48.5	5
5.0SMDJ70A-T	5.0SMDJ70CA-T	5PGPT	5BGPT	70.0	77.80	86.00	1	113.0	44.2	5
5.0SMDJ75A-T	5.0SMDJ75CA-T	5PGRT	5BGRT	75.0	83.30	92.10	1	121.0	41.3	5
5.0SMDJ78A-T	5.0SMDJ78CA-T	5PGTT	5BGTT	78.0	86.70	95.80	1	126.0	39.7	5
5.0SMDJ85A-T	5.0SMDJ85CA-T	5PGVT	5BGVT	85.0	94.40	104.00	1	137.0	36.5	5
5.0SMDJ90A-T	5.0SMDJ90CA-T	5PGXT	5BGXT	90.0	100.00	111.00	1	146.0	34.2	5
5.0SMDJ100A-T	5.0SMDJ100CA-T	5PGZT	5BGZT	100.0	111.00	123.00	1	162.0	30.9	5
5.0SMDJ110A-T	5.0SMDJ110CA-T	5PHET	5BHET	110.0	122.00	135.00	1	177.0	28.2	5
5.0SMDJ120A-T	5.0SMDJ120CA-T	5PHGT	5BHGT	120.0	133.00	147.00	1	193.0	25.9	5
5.0SMDJ130A-T	5.0SMDJ130CA-T	5PHKT	5BHKT	130.0	144.00	159.00	1	209.0	23.9	5
5.0SMDJ150A-T	5.0SMDJ150CA-T	5PHMT	5BHMT	150.0	155.00	171.00	1	226.8	22.0	5

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## 5000Watts

### Electrical Characteristics

Part Number		Device Marking Code		Reverse Stand-off Voltage	Breakdown Voltage $V_{BR} @ I_T$		Test Current	Max. Clamping Voltage @ $I_{PP}$	Max. Peak Pulse Current	Max. Reverse Leakage @ $V_{RWM}$
UNI-POLAR	BI-POLAR	UNI	BI	$V_{RWM}(V)$	Min.(V)	Max.(V)	$I_T(mA)$	$V_C MAX.(V)$	$I_{PP}(A)$	$I_R(\mu A)$
5.0SMDJ160A-T	5.0SMDJ160CA-T	5PHPT	5BHPT	160.0	167.00	185.00	1	243.0	20.6	5
5.0SMDJ170A-T	5.0SMDJ170CA-T	5PHRT	5BHRT	170.0	178.00	197.00	1	259.0	19.3	5
5.0SMDJ180A-T	5.0SMDJ180CA-T	5PHTT	5BHTT	180.0	189.0	209.0	1	275.0	18.2	5
5.0SMDJ190A-T		5PHVT		190.0	200.0	220.0	1	291.6	17.1	5
5.0SMDJ200A-T		5PHXT		200.0	211.0	232.0	1	307.8	16.2	5
5.0SMDJ210A-T		5PHZT		210.0	224.0	247.0	1	324.0	15.4	5
5.0SMDJ220A-T		5PIET		220.0	246.0	272.0	1	356.0	14.0	5

### Typical Characteristics

Figure 1: Peak Pulse Power Rating Curve

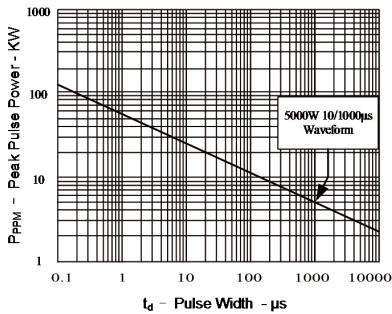


Figure 2: Pulse Derating Curve

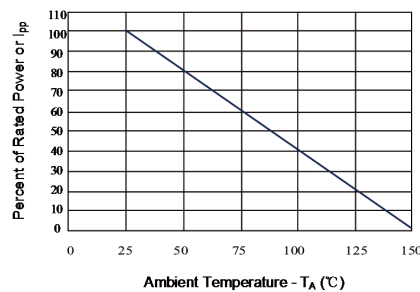


Figure 3: Pulse Waveform

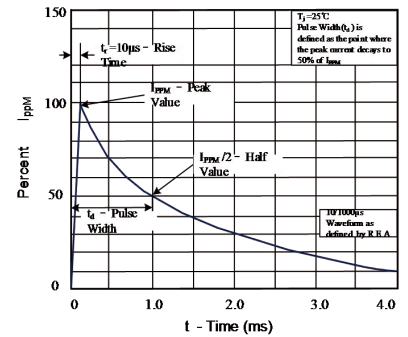


Figure 4: Typical Junction Capacitance

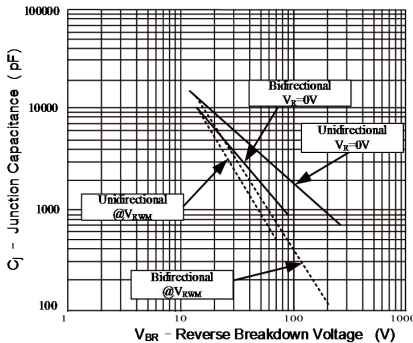


Figure 5: Steady State Power Dissipation Derating Curve

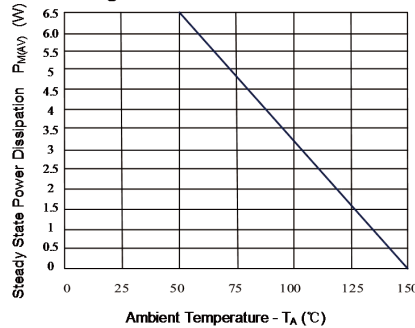
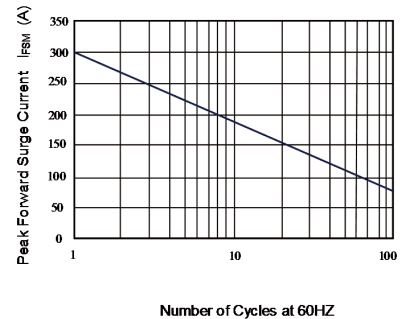


Figure 6: Maximum Non-Repetitive Forward Surge Current Only Unidirectional

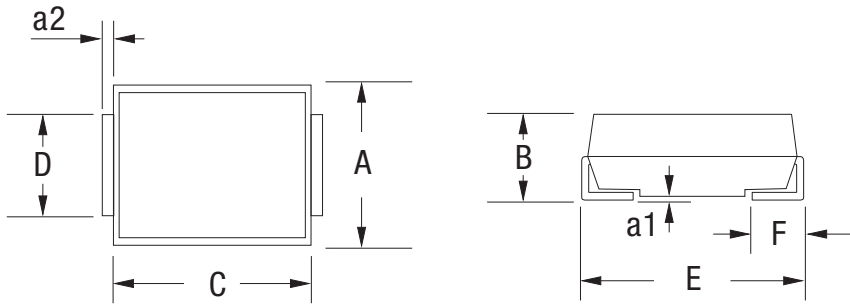


## Automotive Transient Voltage Suppressors

P4SMFL5.0(C)A-T to P4SMFL220A-T

5000Watts

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.