

P6KExx(C)A-T Series

Reverse Voltage 5.8 ~ 509V

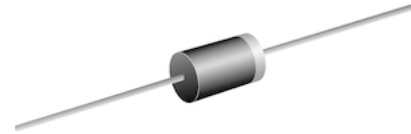
Automotive Surface Mounted Transient Voltage Suppressor

PROSEMI offers AEC-Q101 qualified Transient Voltage Suppressor is specially designed to protect sensitive electronic devices from lightning and other transient voltage induced voltage transient events.



Features

- Glass passivated chip
- 600 W peak pulse power capability with a 10/1000 us waveform, repetitive rate (duty cycle):0.01 %
- Excellent clamping capability
- Low reverse leakage
- Very fast response time
- Lead and body according with RoHS standard



**DO-204AC
(DO-15) Axial Leaded**

Mechanical Characteristics

- Case: DO-15 Molded plastic
- Lead: Solderable per MIL-STD-750, method 2026
- Epoxy: UL 94V-0 rate flame retardant
- Polarity: Color band denotes cathode end except Bipolar
- Mounting position: Any

Applications

- I/O Interfaces
- Power lines
- Telecommunication
- Consumer electronic
- Industrial Electronics

Maximum Ratings & Characteristics

Ratings at 25 °C ambient temperature unless otherwise specified.

Parameter	Symbol	Value	Units
Peak power dissipation with a 10/1000 us waveform(1)	P_{PP}	600	W
Peak pulse current with a 10/1000 us waveform(1)	I_{PP}	See Next Table	A
Power dissipation on infinite heatsink at $T_L = 75\text{ °C}$	P_D	5.0	W
Peak forward surge current, 8.3 ms single half sine wave unidirectional only(2)	I_{FSM}	100	A
Maximum instantaneous forward voltage at 25 A for unidirectional only(3)	V_F	3.5/6.5	V
Operating junction and storage temperature range	T_J, T_{STG}	-55 to + 150	°C

1) Non-repetitive current pulse per Fig.5 and derated above $T_A = 25\text{ °C}$ per Fig.1 ;

2) Measured on 8.3 ms single half sine-wave or equivalent square wave, duty cycle = 4 pulses per minute maximum ;

3) $V_F < 3.5\text{ V}$ for devices of $V_{BR} < 200\text{ V}$ and $V_F < 6.5\text{ V}$ for devices of $V_{BR} > 201\text{ V}$.

Electrical Characteristics

Part Number		Reverse Stand off Voltage V_{RWM} (V)	Breakdown Voltage $V_{BR}(V)@I_T$		Test Current I_T (mA)	Maximum Clamping Voltage $V_C@I_{PP}$ (V)	Maximum PeakPulse Current I_{PP} (A)	Maximum Reverse Leakage $I_R@V_{RWM}$ (μ A)
UNI-POLAR	BI-POLAR		MIN	MAX				
P6KE6.8A-T	P6KE6.8CA-T	5.80	6.45	7.14	10	10.5	58.1	1000
P6KE7.5A-T	P6KE7.5CA-T	6.40	7.13	7.88	10	11.3	54.0	500
P6KE8.2A-T	P6KE8.2CA-T	7.00	7.79	8.61	10	12.1	50.4	200
P6KE9.1A -T	P6KE9.1CA-T	7.80	8.65	9.55	1	13.4	45.5	50
P6KE10A -T	P6KE10CA-T	8.60	9.50	10.50	1	14.5	42.1	10
P6KE11A-T	P6KE11CA-T	9.40	10.50	11.60	1	15.6	39.1	5
P6KE12A-T	P6KE12CA-T	10.20	11.40	12.60	1	16.7	36.5	5
P6KE13A-T	P6KE13CA-T	11.10	12.40	13.70	1	18.2	33.5	1
P6KE15A-T	P6KE15CA-T	12.80	14.30	15.80	1	21.2	28.8	1
P6KE16A-T	P6KE16CA-T	13.60	15.20	16.80	1	22.5	27.1	1
P6KE18A-T	P6KE18CA-T	15.30	17.10	18.90	1	25.5	24.2	1
P6KE20A-T	P6KE20CA-T	17.10	19.00	21.00	1	27.7	22.0	1
P6KE22A-T	P6KE22CA-T	18.80	20.90	23.10	1	30.6	19.9	1
P6KE24A-T	P6KE24CA-T	20.50	22.80	25.20	1	33.2	18.4	1
P6KE27A-T	P6KE27CA-T	23.10	25.70	28.40	1	37.5	16.3	1
P6KE30A-T	P6KE30CA-T	25.60	28.50	31.50	1	41.4	14.7	1
P6KE33A-T	P6KE33CA-T	28.20	31.40	34.70	1	45.7	13.3	1
P6KE36A-T	P6KE36CA-T	30.80	34.20	37.80	1	49.9	12.2	1
P6KE39A-T	P6KE39CA-T	33.30	37.10	41.00	1	53.9	11.3	1
P6KE43A-T	P6KE43CA-T	36.80	40.90	45.20	1	59.3	10.3	1
P6KE47A-T	P6KE47CA-T	40.20	44.70	49.40	1	64.8	9.4	1
P6KE51A -T	P6KE51CA-T	43.60	48.50	53.60	1	70.1	8.7	1
P6KE56A-T	P6KE56CA-T	47.80	53.20	58.80	1	77.0	7.9	1
P6KE62A-T	P6KE62CA-T	53.00	58.90	65.10	1	85.0	7.2	1
P6KE68A-T	P6KE68CA-T	58.10	64.60	71.40	1	92.0	6.6	1
P6KE75A-T	P6KE75CA-T	64.10	71.30	78.80	1	103.0	5.9	1
P6KE82A-T	P6KE82CA-T	70.10	77.90	86.10	1	113.0	5.4	1
P6KE91A-T	P6KE91CA-T	77.80	86.50	95.50	1	125.0	4.9	1
P6KE100A-T	P6KE100CA-T	85.50	95.00	105.00	1	137.0	4.5	1
P6KE110A-T	P6KE110CA-T	94.00	105.00	116.00	1	152.0	4.0	1
P6KE120A-T	P6KE120CA-T	102.00	114.00	126.00	1	165.0	3.7	1
P6KE130A-T	P6KE130CA-T	111.00	124.00	137.00	1	179.0	3.4	1

Electrical Characteristics (continued)

Part Number		Reverse Stand off Voltage V_{RWM} (V)	Breakdown Voltage		Test Current I_T (mA)	Maximum Clamping Voltage $V_C@I_{PP}$ (V)	Maximum Peak Pulse Current I_{PP} (A)	Maximum Reverse Leakage $I_R@V_{RWM}$ (μ A)
			$V_{BR}(V)@I_T$	MIN				
UNI-POLAR	BI-POLAR							
P6KE150A-T	P6KE150CA-T	128.00	143.00	158.00	1	207.0	2.9	1
P6KE160A-T	P6KE160CA-T	136.00	152.00	168.00	1	219.0	2.8	1
P6KE170A-T	P6KE170CA-T	145.00	162.00	179.00	1	234.0	2.6	1
P6KE180A-T	P6KE180CA-T	154.00	171.00	189.00	1	246.0	2.5	1
P6KE200A-T	P6KE200CA-T	171.00	190.00	210.00	1	274.0	2.2	1
P6KE220A-T	P6KE220CA-T	185.00	209.00	231.00	1	328.0	1.9	1
P6KE250A-T	P6KE250CA-T	214.00	237.00	263.00	1	344.0	1.8	1
P6KE300A-T	P6KE300CA-T	256.00	285.00	315.00	1	414.0	1.5	1
P6KE350A-T	P6KE350CA-T	300.00	332.00	368.00	1	482.0	1.3	1
P6KE400A-T	P6KE400CA-T	342.00	380.00	420.00	1	548.0	1.1	1
P6KE440A-T	P6KE440CA-T	376.00	418.00	462.00	1	602.0	1.0	1
P6KE480A-T	P6KE480CA-T	408.00	456.00	504.00	1	658.0	0.9	1
P6KE510A-T	P6KE510CA-T	434.00	485.00	535.00	1	698.0	0.9	1
P6KE520A-T	P6KE520CA-T	442.00	494.00	546.00	1	698.0	0.9	1
P6KE530A-T	P6KE530CA-T	450.00	503.00	556.00	1	725.0	0.8	1
P6KE540A-T	P6KE540CA-T	459.00	513.00	567.00	1	740.0	0.8	1
P6KE550A-T	P6KE550CA-T	467.00	522.50	577.50	1	760.0	0.8	1
P6KE600A-T	P6KE600CA-T	509.00	570.00	630.00	1	780.0	0.8	1

Ratings and Characteristics Curves (TA=25°C unless otherwise noted)

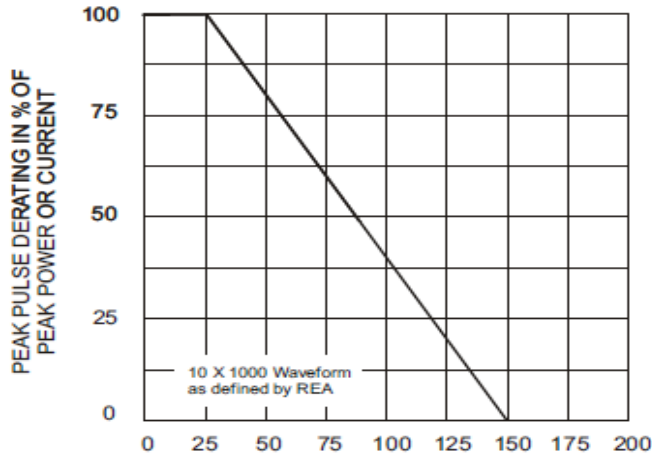


Fig. 1 - Pulse Derating Curve

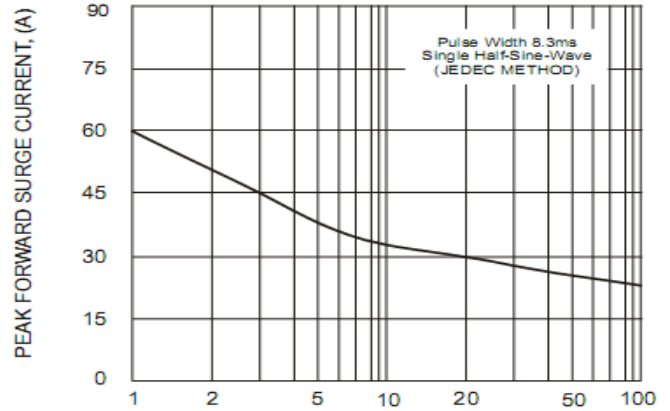


Fig. 2 - Maximum Non-Repetitive Surge Current

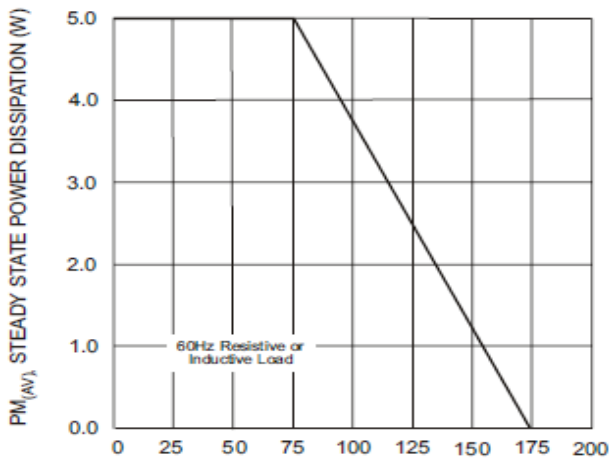


Fig. 3 - Steady State Power Derating Curve

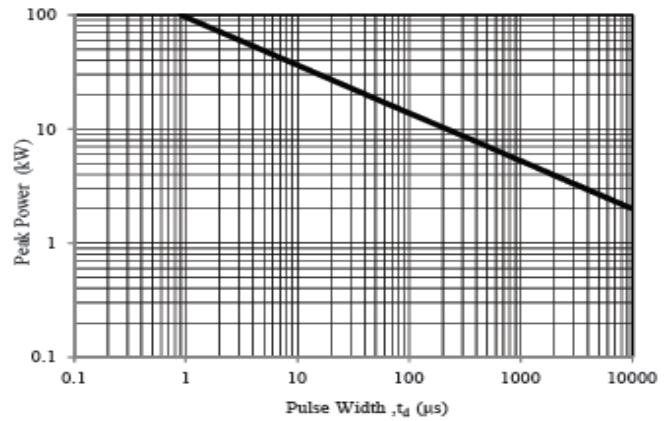


Fig. 4 - Peak Pulse Power Rating Curve

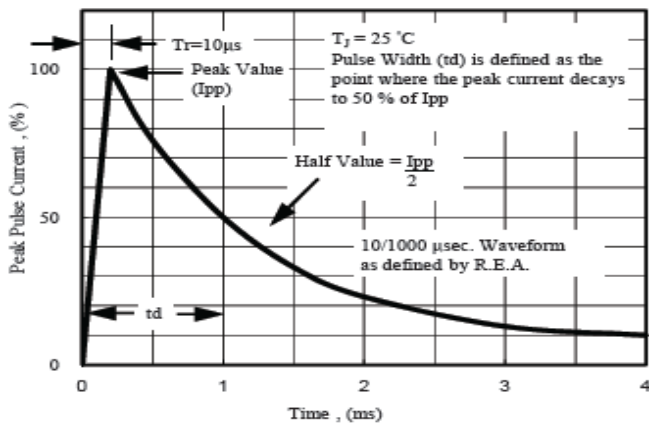


Fig. 5 - Pulse Waveform

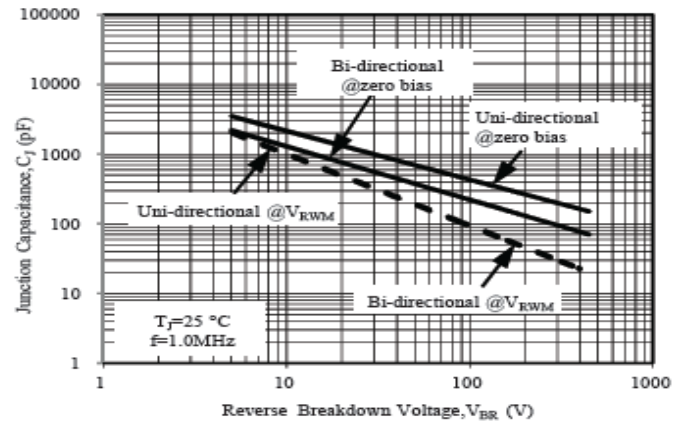
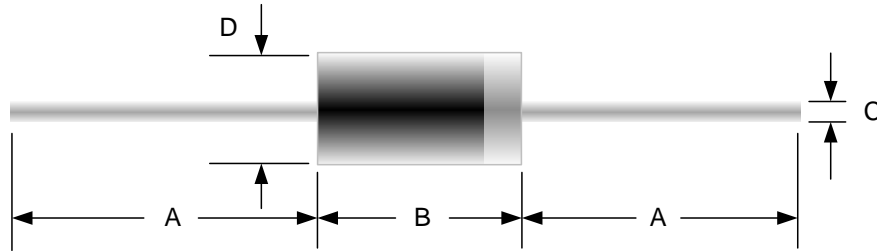


Fig. 6 - Typical Junction Capacitance

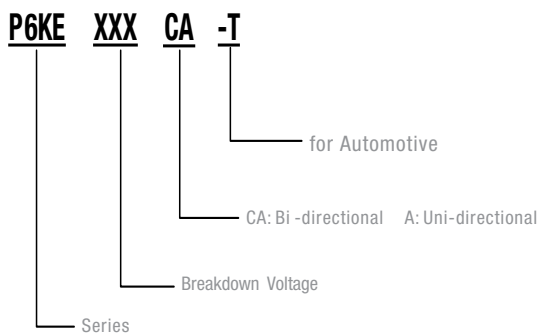
PACKAGE OUTLINE DIMENSION



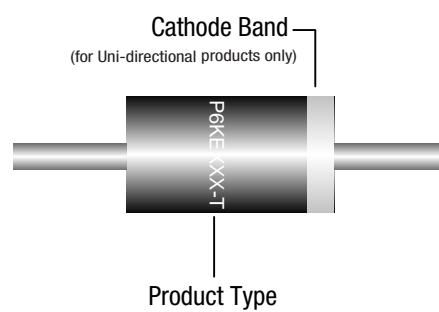
DO-204AC(DO-15)

Ref. (mm)	Inches		Millimeters	
	Min.	Max.	Min.	Max.
A	1.000	-	25.40	-
B	0.230	0.300	5.80	7.60
C	0.028	0.034	0.70	0.90
D	0.104	0.140	2.60	3.60

Part Numbering System



Part Marking System



Package Information

Qty: 4,000 /Tape and reel
500 /Bulk