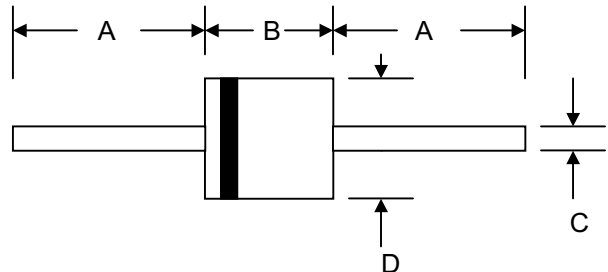


Data Sheet 5009, Rev.-

*Green Products*

**Features**

- Glass Passivated Die Construction
- 5000W Peak Pulse Power Dissipation
- 5.0V – 110V Standoff Voltage
- Uni- and Bi-Directional Versions Available
- Excellent Clamping Capability
- Fast Response Time
- Plastic Case Material has UL Flammability Classification Rating 94V-O
- UL Recognized File # E224235
- Green Products in Compliance with the RoHS Directive



**Mechanical Data**

- Case: JEDEC P-600 Molded Plastic
- Terminals: Axial Leads, Solderable per MIL-STD-750, Method 2026
- Polarity: Cathode Band or Cathode Notch
- Marking:  
Unidirectional – Device Code and Cathode Band  
Bidirectional – Device Code Only
- Weight: 2.10 grams (approx.)

P-600				
Dim	Min	Max	Min	Max
A	25.4	—	1.000	—
B	8.60	9.10	0.339	0.358
C	1.20	1.30	0.047	0.051
D	8.60	9.10	0.339	0.358
	In mm		In inch	

“C” Suffix Designates Bi-directional Devices  
 “A” Suffix Designates 5% Tolerance Devices  
 No Suffix Designates 10% Tolerance Devices

**Maximum Ratings and Electrical Characteristics @ $T_A=25^{\circ}\text{C}$  unless otherwise specified**

Characteristic	Symbol	Value	Unit
Peak Pulse Power Dissipation at $T_A = 25^{\circ}\text{C}$ (Note 1, 2, 5) Figure 1	PPPM	5000 Minimum	W
Peak Forward Surge Current per Figure 6 (Note 3)	IFSM	400	A
Peak Pulse Current on 10/1000 $\mu\text{S}$ Waveform (Note 1) Figure 3	IPPM	See Table 1	A
Steady State Power Dissipation (Note 2, 4)	PM(AV)	8.0	W
Operating and Storage Temperature Range	$T_J, T_{STG}$	-55 to +175	$^{\circ}\text{C}$

- Note: 1. Non-repetitive current pulse, per Figure 3 and derated above  $T_A = 25^{\circ}\text{C}$  per Figure 2  
 2. Mounted on 20mm<sup>2</sup> copper pad  
 3. 8.3ms single half sine-wave duty cycle = 4 pulses per minutes maximum  
 4. Lead temperature at  $75^{\circ}\text{C} = T_L$   
 5. Peak pulse power waveform is 10/1000 $\mu\text{S}$

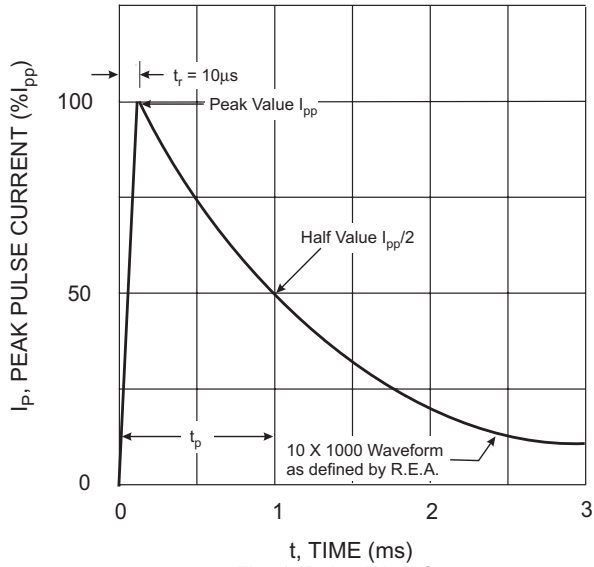


Fig. 1 Pulse Waveform

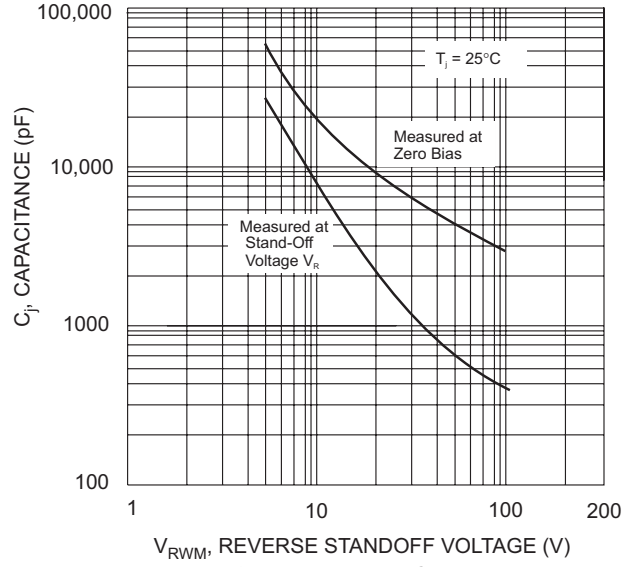


Fig. 2 Typical Junction Capacitance

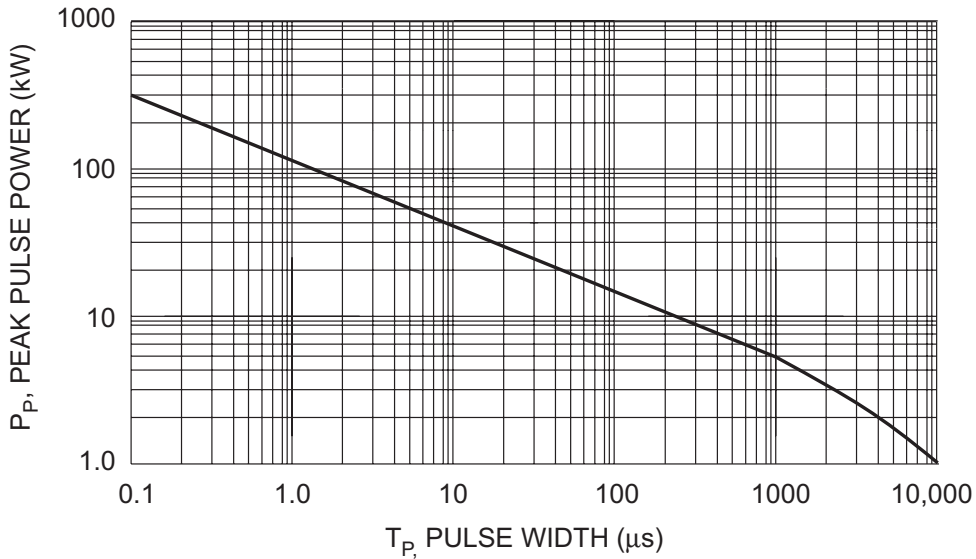


Fig. 3 Pulse Derating Curve

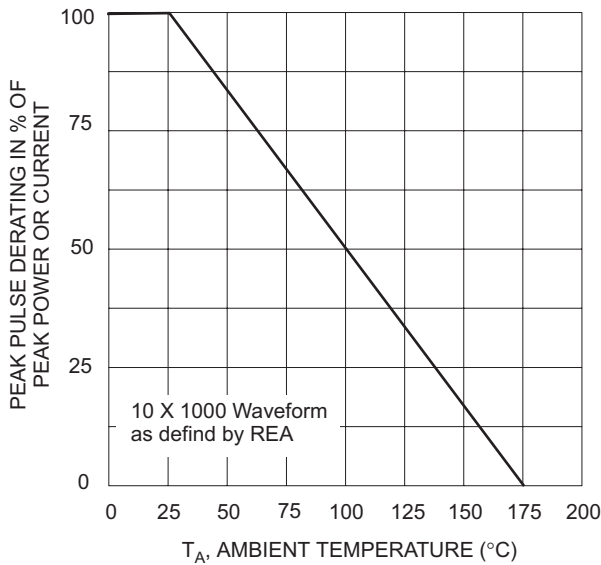


Fig. 4 Pulse Derating Curve

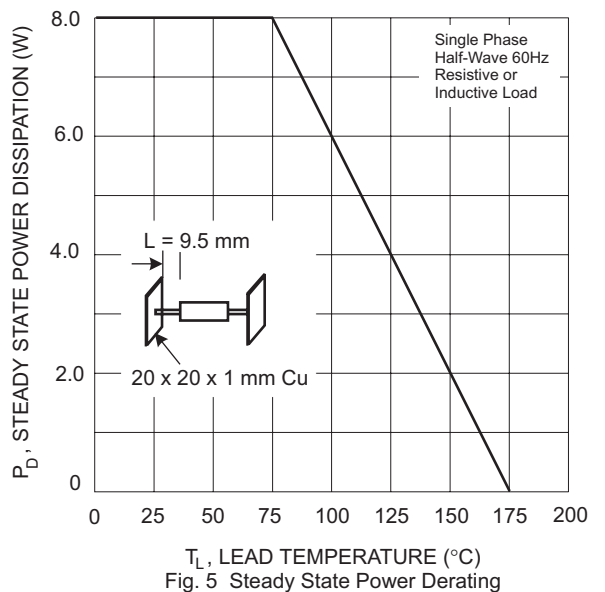


Fig. 5 Steady State Power Derating

## UNI-DIRECTIONAL 5000 WATT AXIAL LEAD TVS

UNI-DIRECTIONAL PART NUMBER	REVERSE STAND-OFF VOLTAGE VRWM (V)	BREAKDOWN VOLTAGE VBR (V) MIN. @IT	BREAKDOWN VOLTAGE VBR (V) MAX. @IT	TEST CURRENT IT (mA)	MAXIMUM CLAMPING VOLTAGE @Ipp Vc (V)	PEAK PULSE CURRENT Ipp (A)	REVERSE LEAKAGE @VRWM IR (uA)
5KP5.0-G	5.00	6.40	7.30	50	9.6	520	2000
5KP5.0A-G	5.00	6.40	7.00	50	9.2	543	2000
5KP6.0-G	6.00	6.67	8.15	50	11.4	439	5000
5KP6.0A-G	6.00	6.67	7.37	50	10.3	485	5000
5KP6.5-G	6.50	7.22	8.82	50	12.3	407	2000
5KP6.5A-G	6.50	7.22	7.98	50	11.2	447	2000
5KP7.0-G	7.00	7.78	9.51	50	13.3	378	1000
5KP7.0A-G	7.00	7.78	8.60	50	12.0	417	1000
5KP7.5-G	7.50	8.33	10.02	5	14.3	350	250
5KP7.5A-G	7.50	8.33	9.21	5	12.9	388	250
5KP8.0-G	8.00	8.99	10.90	5	15.0	333	150
5KP8.0A-G	8.00	8.99	9.83	5	13.6	367	150
5KP8.5-G	8.50	9.44	11.50	5	15.9	314	50
5KP8.5A-G	8.50	9.44	10.40	5	14.4	347	50
5KP9.0-G	9.00	10.00	12.20	5	16.9	295	20
5KP9.0A-G	9.00	10.00	11.20	5	15.4	325	20
5KP10-G	10.00	11.10	13.60	5	18.8	266	10
5KP10A-G	10.00	11.10	12.30	5	17.0	294	10
5KP11-G	11.00	12.20	14.90	5	20.1	249	10
5KP11A-G	11.00	12.20	13.50	5	18.2	274	10
5KP12-G	12.00	13.30	16.30	5	22.0	227	10
5KP12A-G	12.00	13.30	14.70	5	19.9	251	10
5KP13-G	13.00	14.40	17.60	5	23.8	210	10
5KP13A-G	13.00	14.40	15.90	5	21.5	232	10
5KP14-G	14.00	15.60	19.10	5	25.8	194	10
5KP14A-G	14.00	15.60	17.20	5	23.2	215	10
5KP15-G	15.00	16.70	20.40	5	26.9	188	10
5KP15A-G	15.00	16.70	18.50	5	24.4	206	10
5KP16-G	16.00	17.80	21.80	5	28.8	176	10
5KP16A-G	16.00	17.80	19.70	5	26.0	192	10
5KP17-G	17.00	18.90	23.10	5	30.5	164	10
5KP17A-G	17.00	18.90	20.90	5	27.6	181	10
5KP18-G	18.00	20.00	24.40	5	32.2	155	10
5KP18A-G	18.00	20.00	22.10	5	29.2	172	10
5KP20-G	20.00	22.20	27.10	5	35.8	139	10
5KP20A-G	20.00	22.20	24.50	5	32.4	154	10
5KP22-G	22.00	24.40	29.80	5	39.4	127	10
5KP22A-G	22.00	24.40	26.90	5	35.5	141	10
5KP24-G	24.00	26.70	32.60	5	43.0	116	10
5KP24A-G	24.00	26.70	29.50	5	38.9	128	10
5KP26-G	26.00	28.90	35.30	5	46.6	107	10
5KP26A-G	26.00	28.90	31.90	5	42.1	119	10
5KP28-G	28.00	31.10	38.00	5	50.0	99	10
5KP28A-G	28.00	31.10	34.40	5	45.4	110	10
5KP30-G	30.00	33.30	40.70	5	53.5	93	10
5KP30A-G	30.00	33.30	36.90	5	48.4	103	10
5KP33-G	33.00	36.70	44.90	5	59.0	85	10
5KP33A-G	33.00	36.70	40.60	5	53.3	94	10
5KP36-G	36.00	40.00	48.90	5	64.3	78	10
5KP36A-G	36.00	40.00	44.20	5	58.1	85	10
5KP40-G	40.00	44.40	54.30	5	71.4	70	10
5KP40A-G	40.00	44.40	49.10	5	64.5	78	10
5KP43-G	43.00	47.80	58.40	5	76.6	65	10
5KP43A-G	43.00	47.80	52.80	5	69.4	72	10
5KP45-G	45.00	50.00	61.10	5	80.3	62	10
5KP45A-G	45.00	50.00	55.30	5	72.7	69	10
5KP48-G	48.00	53.30	65.10	5	85.5	58	10
5KP48A-G	48.00	53.30	58.90	5	77.4	65	10
5KP51-G	51.00	56.70	69.30	5	91.1	55	10
5KP51A-G	51.00	56.70	62.70	5	82.4	61	10
5KP54-G	54.00	60.00	73.30	5	96.3	52	10
5KP54A-G	54.00	60.00	66.30	5	87.1	57	10
5KP58-G	58.00	64.40	78.70	5	103.0	49	10
5KP58A-G	58.00	64.40	71.20	5	93.6	53	10
5KP60-G	60.00	66.70	81.50	5	107.0	47	10
5KP60A-G	60.00	66.70	73.70	5	96.8	52	10
5KP64-G	64.00	71.10	86.90	5	114.0	44	10
5KP64A-G	64.00	71.10	78.60	5	103.0	49	10
5KP70-G	70.00	77.80	95.10	5	125.0	40	10
5KP70A-G	70.00	77.80	86.00	5	113.0	44	10
5KP75-G	75.00	83.30	102.00	5	134.0	37	10
5KP75A-G	75.00	83.30	92.10	5	121.0	41	10
5KP78-G	78.00	86.70	106.00	5	139.0	36	10
5KP78A-G	78.00	86.70	95.80	5	126.0	40	10
5KP85-G	85.00	94.40	115.00	5	151.0	33	10
5KP85A-G	85.00	94.40	104.00	5	137.0	36	10
5KP90-G	90.00	100.00	122.00	5	160.0	31	10
5KP90A-G	90.00	100.00	111.00	5	146.0	34	10
5KP100-G	100.00	111.00	136.00	5	179.0	28	10
5KP100A-G	100.00	111.00	123.00	5	162.0	31	10
5KP110-G	110.00	122.00	149.00	5	196.0	26	10
5KP110A-G	110.00	122.00	135.00	5	177.0	28	10

## BI-DIRECTIONAL 5000 WATT AXIAL LEAD TVS

BI-DIRECTIONAL PART NUMBER	REVERSE STAND-OFF VOLTAGE VRWM (V)	BREAKDOWN VOLTAGE VBR (V) MIN. @IT	BREAKDOWN VOLTAGE VBR (V) MAX. @IT	TEST CURRENT IT (mA)	MAXIMUM CLAMPING VOLTAGE @Ipp Vc (V)	PEAK PULSE CURRENT Ipp (A)	REVERSE LEAKAGE @VRWM IR (uA)
5KP5.0C-G	5.00	6.40	7.30	50	9.6	520	4000
5KP5.0CA-G	5.00	6.40	7.00	50	9.2	543	4000
5KP6.0C-G	6.00	6.67	8.15	50	11.4	439	10000
5KP6.0CA-G	6.00	6.67	7.37	50	10.3	485	10000
5KP6.5C-G	6.50	7.22	8.82	50	12.3	407	4000
5KP6.5CA-G	6.50	7.22	7.98	50	11.2	447	4000
5KP7.0C-G	7.00	7.78	9.51	50	13.3	378	2000
5KP7.0CA-G	7.00	7.78	8.60	50	12.0	417	2000
5KP7.5C-G	7.50	8.33	10.02	5	14.3	350	500
5KP7.5CA-G	7.50	8.33	9.21	5	12.9	388	500
5KP8.0C-G	8.00	8.99	10.90	5	15.0	333	300
5KP8.0CA-G	8.00	8.99	9.83	5	13.6	367	300
5KP8.5C-G	8.50	9.44	11.50	5	15.9	314	100
5KP8.5CA-G	8.50	9.44	10.40	5	14.4	347	100
5KP9.0C-G	9.00	10.00	12.20	5	16.9	295	40
5KP9.0CA-G	9.00	10.00	11.20	5	15.4	325	40
5KP10C-G	10.00	11.10	13.60	5	18.8	266	10
5KP10CA-G	10.00	11.10	12.30	5	17.0	294	10
5KP11C-G	11.00	12.20	14.90	5	20.1	249	10
5KP11CA-G	11.00	12.20	13.50	5	18.2	274	10
5KP12C-G	12.00	13.30	16.30	5	22.0	227	10
5KP12CA-G	12.00	13.30	14.70	5	19.9	251	10
5KP13C-G	13.00	14.40	17.60	5	23.8	210	10
5KP13CA-G	13.00	14.40	15.90	5	21.5	232	10
5KP14C-G	14.00	15.60	19.10	5	25.8	194	10
5KP14CA-G	14.00	15.60	17.20	5	23.2	215	10
5KP15C-G	15.00	16.70	20.40	5	26.9	188	10
5KP15CA-G	15.00	16.70	18.50	5	24.4	206	10
5KP16C-G	16.00	17.80	21.80	5	28.8	176	10
5KP16CA-G	16.00	17.80	19.70	5	26.0	192	10
5KP17C-G	17.00	18.90	23.10	5	30.5	164	10
5KP17CA-G	17.00	18.90	20.90	5	27.6	181	10
5KP18C-G	18.00	20.00	24.40	5	32.2	155	10
5KP18CA-G	18.00	20.00	22.10	5	29.2	172	10
5KP20C-G	20.00	22.20	27.10	5	35.8	139	10
5KP20CA-G	20.00	22.20	24.50	5	32.4	154	10
5KP22C-G	22.00	24.40	29.80	5	39.4	127	10
5KP22CA-G	22.00	24.40	26.90	5	35.5	141	10
5KP24C-G	24.00	26.70	32.60	5	43.0	116	10
5KP24CA-G	24.00	26.70	29.50	5	38.9	128	10
5KP26C-G	26.00	28.90	35.30	5	46.6	107	10
5KP26CA-G	26.00	28.90	31.90	5	42.1	119	10
5KP28C-G	28.00	31.10	38.00	5	50.0	99	10
5KP28CA-G	28.00	31.10	34.40	5	45.4	110	10
5KP30C-G	30.00	33.30	40.70	5	53.5	93	10
5KP30CA-G	30.00	33.30	36.90	5	48.4	103	10
5KP33C-G	33.00	36.70	44.90	5	59.0	85	10
5KP33CA-G	33.00	36.70	40.60	5	53.3	94	10
5KP36C-G	36.00	40.00	48.90	5	64.3	78	10
5KP36CA-G	36.00	40.00	44.20	5	58.1	85	10
5KP40C-G	40.00	44.40	54.30	5	71.4	70	10
5KP40CA-G	40.00	44.40	49.10	5	64.5	78	10
5KP43C-G	43.00	47.80	58.40	5	76.6	65	10
5KP43CA-G	43.00	47.80	52.80	5	69.4	72	10
5KP45C-G	45.00	50.00	61.10	5	80.3	62	10
5KP45CA-G	45.00	50.00	55.30	5	72.7	69	10
5KP48C-G	48.00	53.30	65.10	5	85.5	58	10
5KP48CA-G	48.00	53.30	58.90	5	77.4	65	10
5KP51C-G	51.00	56.70	69.30	5	91.1	55	10
5KP51CA-G	51.00	56.70	62.70	5	82.4	61	10
5KP54C-G	54.00	60.00	73.30	5	96.3	52	10
5KP54CA-G	54.00	60.00	66.30	5	87.1	57	10
5KP58C-G	58.00	64.40	78.70	5	103.0	49	10
5KP58CA-G	58.00	64.40	71.20	5	93.6	53	10
5KP60C-G	60.00	66.70	81.50	5	107.0	47	10
5KP60CA-G	60.00	66.70	73.70	5	96.8	52	10
5KP64C-G	64.00	71.10	86.90	5	114.0	44	10
5KP64CA-G	64.00	71.10	78.60	5	103.0	49	10
5KP70C-G	70.00	77.80	95.10	5	125.0	40	10
5KP70CA-G	70.00	77.80	86.00	5	113.0	44	10
5KP75C-G	75.00	83.30	102.00	5	134.0	37	10
5KP75CA-G	75.00	83.30	92.10	5	121.0	41	10
5KP78C-G	78.00	86.70	106.00	5	139.0	36	10
5KP78CA-G	78.00	86.70	95.80	5	126.0	40	10
5KP85C-G	85.00	94.40	115.00	5	151.0	33	10
5KP85CA-G	85.00	94.40	104.00	5	137.0	36	10
5KP90C-G	90.00	100.00	122.00	5	160.0	31	10
5KP90CA-G	90.00	100.00	111.00	5	146.0	34	10
5KP100C-G	100.00	111.00	136.00	5	179.0	28	10
5KP100CA-G	100.00	111.00	123.00	5	162.0	31	10
5KP110C-G	110.00	122.00	149.00	5	196.0	26	10
5KP110CA-G	110.00	122.00	135.00	5	177.0	28	10

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