



5KP SERIES

Glass Passivated Unidirectional and Bidirectional Transient Voltage Suppressors

Reverse Voltage 6.8 to 600 Volts Peak Pulse Power 5000 Watts

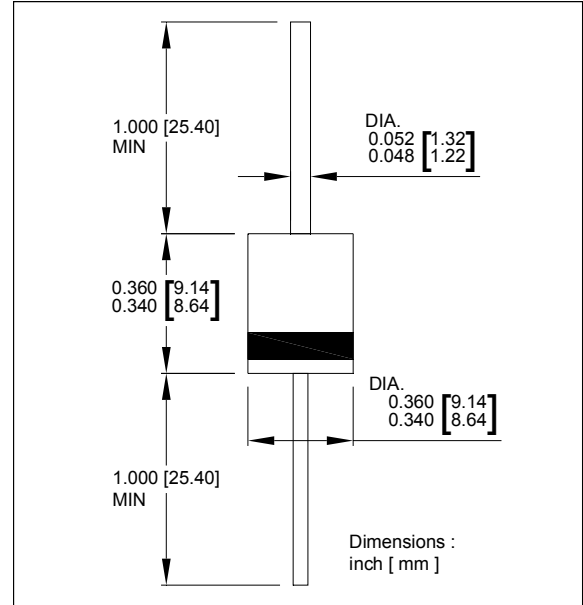
Features

- Glass passivated chip
- 5000W peak pulse power capability with a 10/1000 μ S waveform, repetitive rate(duty cycle):0.01%
- Low leakage
- Uni and Bidirectional unit
- Excellent clamping capability
- Very fast response time

Mechanical Data

- Case: Molded plastic
- Epoxy: UL 94V-0 rate flame retardant
- Lead: Axial leads, solderable per MIL-STD-202, Method 208 guaranteed
- Polarity: Color band denotes cathode end except Bipolar
- Mounting position: Any

R-6/P600



MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Rating at 25 °C ambient temperature unless otherwise specified.

Single phase, half wave, 60 Hz, resistive or inductive load. For capacitive load, derate current by 20%

Parameter	Symbol	Value	Unit
Peak Power dissipation with a 10/1000 μ S waveform	P _{PP}	Minimum 5000	Watts
Peak pulse current with a 10/1000 μ s waveform	I _{PP}	See Next Table	Amps
Power dissipation on infinite heatsink at T _L =75 °C	P _D	8.0	Watts
Peak forward surge current, 8.3ms single half sine-wave unidirectional only ⁽¹⁾	I _{FSM}	600	Amps
Maximum instantaneous forward voltage at 25A for unidirectional only ⁽²⁾	V _F	3.5	Volts
Operating junction and storage temperature range	T _J , T _{STG}	-55 to +150	°C

Note:

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

(2) V_F= 3.5V on 5KP5.0 thru 5KP90A devices and V_F= 5.0V on 5KP100 thru 5KP190A devices.

RATING AND CHARACTERISTIC CURVES

Fig. 1 - Pulse Derating Curve

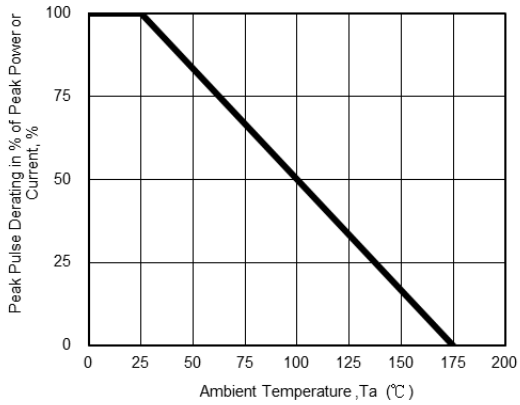


Fig. 2 - Maximum Non-Repetitive

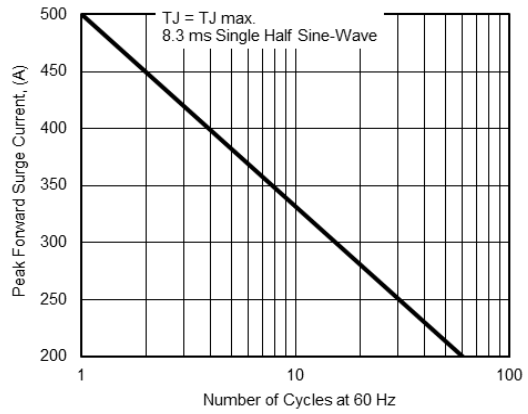


Fig. 3 - Steady State Power Derating Curve

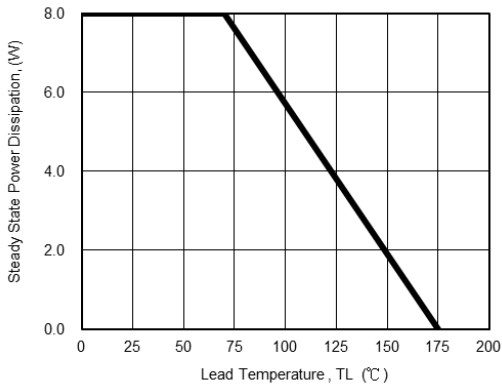


Fig. 4 - Peak Pulse Power Rating Curve

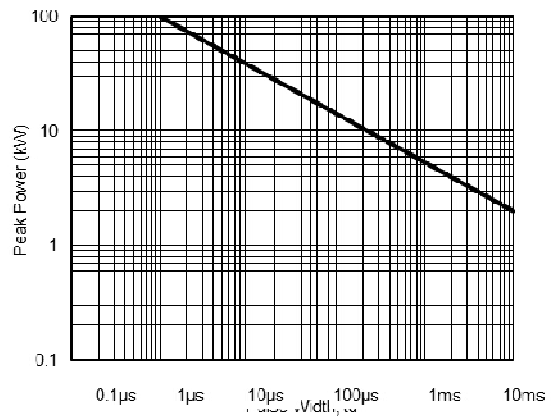
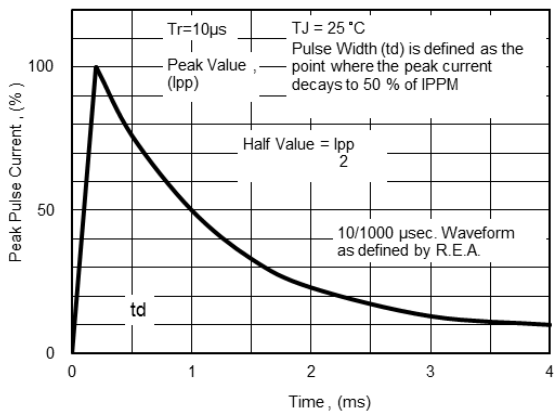


Fig. 5 - Pulse Waveform



LIFANG ELECTRONICS 5KP SERIES		Breakdown voltage VBR @ IT			Maximum Reverse Leakage IR(μ A) @VRWM	Working PeakReverse Voltage VRWM (Volts)	Maximum Reverse Surge Current Ipp(A) @10x1000us sinewave	Maximum Clamping Voltage Vc (Volts) @Ipp
Uni-polar	Bi-polar	Min (V)	Max (V)	IT (mA)				
5KP5.0	5KP5.0C	6.40	7.30	10	800	5.0	521	9.6
5KP5.0A	5KP5.0CA	6.40	7.00	10	800	5.0	543	9.2
5KP6.0	5KP6.0C	6.67	8.15	10	800	6.0	439	11.4
5KP6.0A	5KP6.0CA	6.67	7.37	10	800	6.0	485	10.3
5KP6.5	5KP6.5C	7.22	8.82	10	500	6.5	407	12.3
5KP6.5A	5KP6.5CA	7.22	7.98	10	500	6.5	446	11.2
5KP7.0	5KP7.0C	7.78	9.51	10	200	7.0	376	13.3
5KP7.0A	5KP7.0CA	7.78	8.60	10	200	7.0	417	12.0
5KP7.5	5KP7.5C	8.33	10.2	1	100	7.5	350	14.3
5KP7.5A	5KP7.5CA	8.33	9.21	1	100	7.5	388	12.9
5KP8.0	5KP8.0C	8.89	10.9	1	50	8.0	333	15.0
5KP8.0A	5KP8.0CA	8.89	9.83	1	50	8.0	368	13.6
5KP8.5	5KP8.5C	9.44	11.5	1	20	8.5	314	15.9
5KP8.5A	5KP8.5CA	9.44	10.4	1	20	8.5	347	14.4
5KP9.0	5KP9.0C	10.0	12.2	1	10	9.0	296	16.9
5KP9.0A	5KP9.0CA	10.0	11.1	1	10	9.0	325	15.4
5KP10	5KP10C	11.1	13.6	1	5.0	10	266	18.8
5KP10A	5KP10CA	11.1	12.3	1	5.0	10	294	17.0
5KP11	5KP11C	12.2	14.9	1	5.0	11	249	20.1
5KP11A	5KP11CA	12.2	13.5	1	5.0	11	275	18.2
5KP12	5KP12C	13.3	16.3	1	5.0	12	227	22.0
5KP12A	5KP12CA	13.3	14.7	1	5.0	12	251	19.9
5KP13	5KP13C	14.4	17.6	1	5.0	13	210	23.8
5KP13A	5KP13CA	14.4	15.9	1	5.0	13	233	21.5
5KP14	5KP14C	15.6	19.1	1	5.0	14	194	25.8
5KP14A	5KP14CA	15.6	17.2	1	5.0	14	216	23.2
5KP15	5KP15C	16.7	20.4	1	5.0	15	186	26.9
5KP15A	5KP15CA	16.7	18.5	1	5.0	15	205	24.4
5KP16	5KP16C	17.8	21.8	1	5.0	16	174	28.8
5KP16A	5KP16CA	17.8	19.7	1	5.0	16	192	26.0
5KP17	5KP17C	18.9	23.1	1	5.0	17	164	30.5
5KP17A	5KP17CA	18.9	20.9	1	5.0	17	181	27.6
5KP18	5KP18C	20.0	24.4	1	5.0	18	155	32.2
5KP18A	5KP18CA	20.0	22.1	1	5.0	18	171	29.2
5KP19	5KP19C	21.1	25.8	1	5.0	19	147	34.0
5KP19A	5KP19CA	21.1	23.3	1	5.0	19	162	30.8
5KP20	5KP20C	22.2	27.1	1	5.0	20	140	35.8
5KP20A	5KP20CA	22.2	24.5	1	5.0	20	154	32.4
5KP22	5KP22C	24.4	29.8	1	5.0	22	127	39.4
5KP22A	5KP22CA	24.4	26.9	1	5.0	22	141	35.5
5KP24	5KP24C	26.7	32.6	1	5.0	24	116	43.0
5KP24A	5KP24CA	26.7	29.5	1	5.0	24	129	38.9
5KP26	5KP26C	28.9	35.3	1	5.0	26	107	46.6
5KP26A	5KP26CA	28.9	31.9	1	5.0	26	119	42.1
5KP28	5KP28C	31.1	38.0	1	5.0	28	100	50.0
5KP28A	5KP28CA	31.1	34.4	1	5.0	28	110	45.4
5KP30	5KP30C	33.3	40.7	1	5.0	30	93.5	53.5
5KP30A	5KP30CA	33.3	36.8	1	5.0	30	103	48.4
5KP33	5KP33C	36.7	44.9	1	5.0	33	84.7	59.0
5KP33A	5KP33CA	36.7	40.6	1	5.0	33	93.8	53.3

5KP36	5KP36C	40.0	48.9	1	5.0	36	77.8	64.3
5KP36A	5KP36CA	40.0	44.2	1	5.0	36	86.1	58.1
5KP40	5KP40C	44.4	54.3	1	5.0	40	70.0	71.4
5KP40A	5KP40CA	44.4	49.1	1	5.0	40	77.5	64.5
5KP43	5KP43C	47.8	58.4	1	5.0	43	65.2	76.7
5KP43A	5KP43CA	47.8	52.8	1	5.0	43	72.0	69.4
5KP45	5KP45C	50.0	61.1	1	5.0	45	62.3	80.3
5KP45A	5KP45CA	50.0	55.3	1	5.0	45	68.8	72.7
5KP48	5KP48C	53.3	65.1	1	5.0	48	58.5	85.5
5KP48A	5KP48CA	53.3	58.9	1	5.0	48	64.6	77.4
5KP51	5KP51C	56.7	69.3	1	5.0	51	54.9	91.1
5KP51A	5KP51CA	56.7	62.7	1	5.0	51	60.7	82.4
5KP54	5KP54C	60.0	73.3	1	5.0	54	51.9	96.3
5KP54A	5KP54CA	60.0	66.3	1	5.0	54	57.4	87.1
5KP58	5KP58C	64.4	78.7	1	5.0	58	48.5	103
5KP58A	5KP58CA	64.4	71.2	1	5.0	58	53.4	93.6
5KP60	5KP60C	66.7	81.5	1	5.0	60	46.7	107
5KP60A	5KP60CA	66.7	73.7	1	5.0	60	51.7	96.8
5KP64	5KP64C	71.1	86.9	1	5.0	64	43.9	114
5KP64A	5KP64CA	71.1	78.6	1	5.0	64	48.5	103
5KP70	5KP70C	77.8	95.1	1	5.0	70	40.0	125
5KP70A	5KP70CA	77.8	86.0	1	5.0	70	44.2	113
5KP75	5KP75C	83.3	102	1	5.0	75	37.3	134
5KP75A	5KP75CA	83.3	92.1	1	5.0	75	41.3	121
5KP78	5KP78C	86.7	106	1	5.0	78	36.0	139
5KP78A	5KP78CA	86.7	95.8	1	5.0	78	39.7	126
5KP80	5KP80C	89.0	109	1	5.0	80	34.9	143
5KP80A	5KP80CA	88.8	97.6	1	5.0	80	38.6	130
5KP85	5KP85C	94.4	115	1	5.0	85	33.1	151
5KP85A	5KP85CA	94.4	104	1	5.0	85	36.5	137
5KP90	5KP90C	100	122	1	5.0	90	31.3	160
5KP90A	5KP90CA	100	111	1	5.0	90	34.2	146
5KP100	5KP100C	111	136	1	5.0	100	27.9	179
5KP100A	5KP100CA	111	123	1	5.0	100	30.9	162
5KP110	5KP110C	122	149	1	5.0	110	25.5	196
5KP110A	5KP110CA	122	135	1	5.0	110	28.2	177
5KP120	5KP120C	133	163	1	5.0	120	23.4	214
5KP120A	5KP120CA	133	147	1	5.0	120	25.9	193
5KP130	5KP130C	144	176	1	5.0	130	21.6	231
5KP130A	5KP130CA	144	159	1	5.0	130	23.9	209
5KP140	5KP140C	156	190	1	5.0	140	20.0	251
5KP140A	5KP140CA	155	171	1	5.0	140	22.0	227
5KP150	5KP150C	167	204	1	5.0	150	18.7	268
5KP150A	5KP150CA	167	185	1	5.0	150	20.6	243
5KP160	5KP160C	178	218	1	5.0	160	17.4	287
5KP160A	5KP160CA	178	197	1	5.0	160	19.3	259
5KP170	5KP170C	189	231	1	5.0	170	16.4	304
5KP170A	5KP170CA	189	209	1	5.0	170	18.2	275
5KP180	5KP180C	200	245	1	5.0	180	15.5	322
5KP180A	5KP180CA	200	220	1	5.0	180	17.1	292
5KP190	5KP190C	211	258	1	5.0	190	14.7	340
5KP190A	5KP190CA	211	232	1	5.0	190	16.2	308

Note:

1. Suffix 'A ' denotes 5% tolerance device. Without 'A' denotes 10% tolerance device.
2. Add suffix 'C 'or ' CA ' after part number to specify Bi-directional devices.
3. For Bi-Directional devices having VR of 10 volts and under, the IR limit is double .