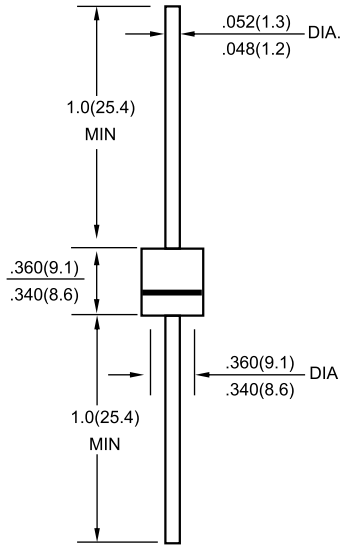
5KP Series

TVS Transient Voltage Suppressor

REVERSE VOLTAGE - **5.0** to **180**Volts
POWER DISSIPATION - **5000** Watts



R-6



Dimensions in inches and (millimeters)

Features

- ✧ Glass passivated chip
- ✧ low leakage
- ✧ Uni and bidirectional unit
- ✧ Excellent clamping capability
- ✧ Plastic material has UL recognition 94V-0
- ✧ Fast response time

Mechanical Data

- ✧ Case : Molded Plastic
- ✧ Marking : Unidirectional -type number and cathode band
  Bidirectional-type number only
- ✧ Weight : 0.07ounces, 2.1 grams

Maximum Ratings and Electrical Characteristics

Rating at 25℃ ambient temperature unless otherwise specified.

Single phase, half wave ,60Hz, resistive or inductive load.

For capacitive load, derate current by 20%

CHARACTERISTICS	SYMBOL	VALUE	UNIT
Peak Power Dissipation at T_A=25℃ TP=1ms (NOTE1)	P_{PK}	Minimum 5000	WATTS
Peak Forward Surge Current 8.3ms Single Half Sine-Wave Super Imposed on Rated Load (JEDEC Method)	I_{FSM}	400	AMPS
Steady State Power Dissipation at T_L=75℃ Lead Lengths 0.375"(9.5mm),See Fig. 4	$P_{M(AV)}$	8.0	WATTS
Maximum Instantaneous Forward Voltage at 100A for Unidirectional Devices Only (NOTE2)	V_F	See NOTE 3	VOLTS
Operating Temperature Range	T_J	-55 to + 150	℃
Storage Temperature Range	T_{STG}	-55 to + 175	℃

NOTES:1. Non-repetitive current pulse ,per Fig. 5 and derated above T_A=25℃ per Fig. 1 .

2. 8.3ms single half-wave duty cycle=4 pulses per minutes maximum (uni-directional units only).

3. V_F=3.5V on 5KP5.0 thru 5KP100A devices and V_F=5.0V on 5KP110 thru 5KP180 devices.

5KP Series

TVS Transient Voltage Suppressor

FIG.1-PULSE DERATING CURVE

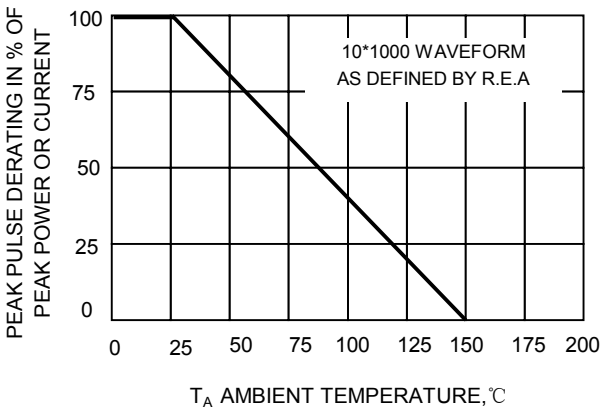


FIG.2-TYPICAL JUNCTION CAPACITANCE

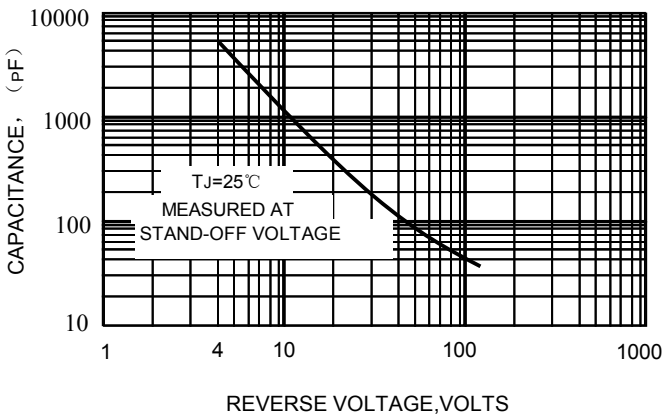


FIG.3-PULSE RATING CURVE

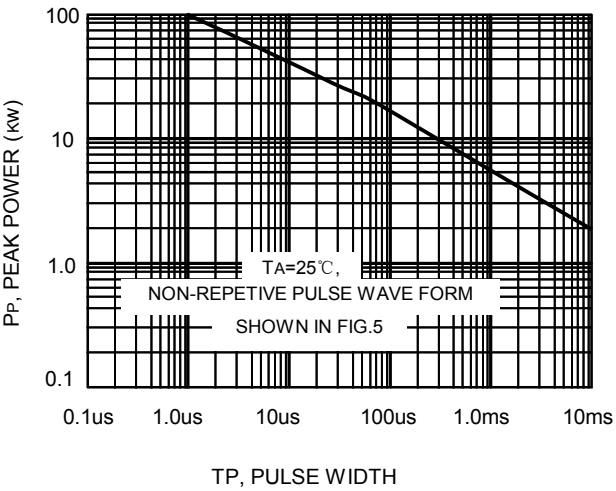


FIG.4-STEADY STATE POWER DERATING CURVE

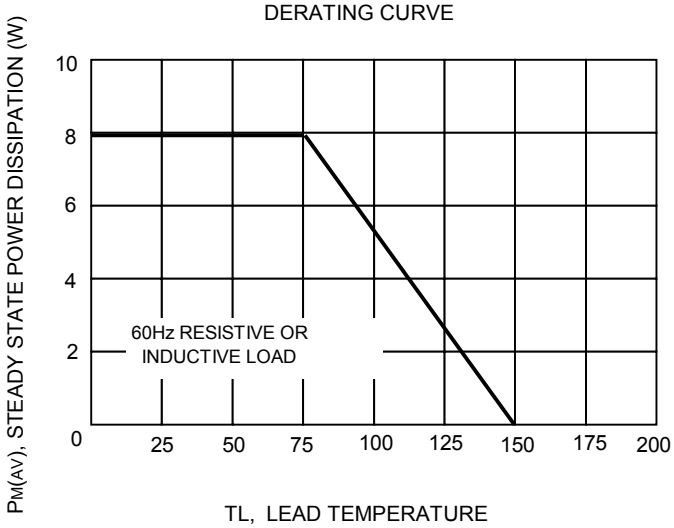
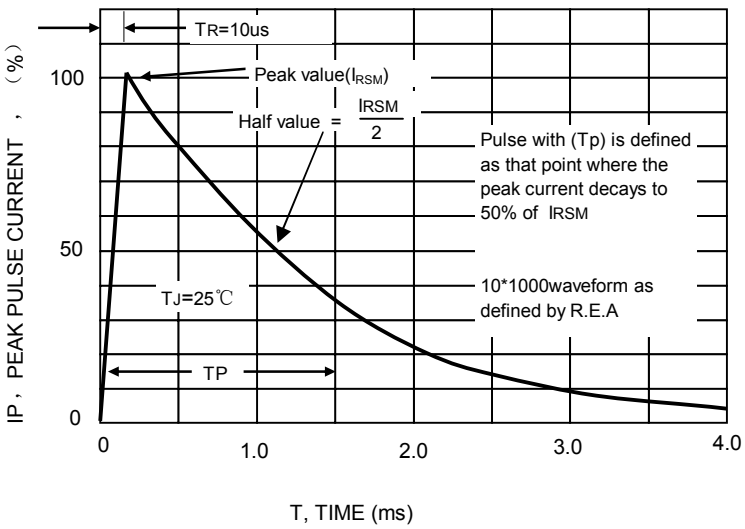


FIG.5 -PULSE WAVEFORM



5KP Series

TVS Transient Voltage Suppressor

Type Number	Type Number	Reverse Standoff Voltage	Breakdown Voltage BV Lolts@It			Max. Reverse Leakage	Max. Clamping Voltage	Max. Peak Pulse	Max. Voltage Temp.
(UNI)	(BI)	VR(V)	Min(V)	Max(V)	It(mA)	IR(uA)	Vc(V)	Ipp(A)	%/℃
5KP5.0	5KP5.0C	5.0	6.40	7.30	50	5000	9.6	520.0	4.0
5KP5.0A	5KP5.0CA	5.0	6.40	7.00	50	5000	9.2	543.0	4.0
5KP6.0	5KP6.0C	6.0	6.67	8.15	50	5000	11.4	439.0	4.0
5KP6.0A	5KP6.0CA	6.0	6.67	7.37	50	5000	10.3	485.0	4.0
5KP6.5	5KP6.5C	6.5	7.22	8.82	50	2000	12.3	407.0	4.0
5KP6.5A	5KP6.5CA	6.5	7.22	7.98	50	2000	11.2	447.0	4.0
5KP7.0	5KP7.0C	7.0	7.78	9.51	50	1000	13.3	378.0	5.0
5KP7.0A	5KP7.0CA	7.0	7.78	8.60	50	1000	12.0	417.0	5.0
5KP7.5	5KP7.5C	7.5	8.33	10.20	5.0	250	14.3	350.0	6.0
5KP7.5A	5KP7.5CA	7.5	8.33	9.21	5.0	250	12.9	388.0	6.0
5KP8.0	5KP8.0C	8.0	8.89	10.90	5.0	150	15.0	333.0	6.0
5KP8.0A	5KP8.0CA	8.0	8.89	9.83	5.0	150	13.6	367.0	6.0
5KP8.5	5KP8.5C	8.5	9.44	11.50	5.0	50	15.9	314.0	7.0
5KP8.5A	5KP8.5CA	8.5	9.44	10.40	5.0	50	14.4	347.0	7.0
5KP9.0	5KP9.0C	9.0	10.00	12.20	5.0	20	16.9	295.0	8.0
5KP9.0A	5KP9.0CA	9.0	10.00	11.10	5.0	20	15.4	325.0	8.0
5KP10	5KP10C	10.0	11.10	13.60	5.0	15	18.8	266.0	9.0
5KP10A	5KP10CA	10.0	11.10	12.30	5.0	15	17.0	294.0	9.0
5KP11	5KP11C	10.7	12.20	14.90	5.0	10	20.1	249.0	10.0
5KP11A	5KP11CA	11.2	12.20	13.50	5.0	10	18.2	274.0	10.0
5KP12	5KP12C	11.7	13.30	16.30	5.0	10	22.0	227.0	11.0
5KP12A	5KP12CA	12.2	13.30	14.70	5.0	10	19.9	251.0	11.0
5KP13	5KP13C	12.7	14.40	17.60	5.0	10	23.8	210.0	12.0
5KP13A	5KP13CA	13.2	14.40	15.90	5.0	10	21.5	232.0	12.0
5KP14	5KP14C	13.7	15.60	19.10	5.0	10	25.8	194.0	13.0
5KP14A	5KP14CA	14.2	15.60	17.20	5.0	10	23.2	215.0	13.0
5KP15	5KP15C	14.7	16.70	20.40	5.0	10	26.9	188.0	15.0
5KP15A	5KP15CA	15.2	16.70	18.50	5.0	10	24.4	206.0	15.0
5KP16	5KP16C	15.7	17.80	21.80	5.0	10	28.8	176.0	18.0
5KP16A	5KP16CA	16.2	17.80	19.70	5.0	10	26.0	192.0	16.0
5KP17	5KP17C	16.7	18.90	23.10	5.0	10	30.5	164.0	19.0
5KP17A	5KP17CA	17.2	18.90	20.90	5.0	10	27.6	181.0	18.0
5KP18	5KP18C	17.7	20.00	24.40	5.0	10	32.2	155.0	20.0
5KP18A	5KP18CA	18.2	20.00	22.10	5.0	10	29.2	172.0	19.0
5KP20	5KP20C	20.0	22.20	27.10	5.0	10	35.8	139.0	24.0
5KP20A	5KP20CA	20.0	22.20	24.50	5.0	10	32.4	154.0	22.0
5KP22	5KP22C	22.0	24.40	29.80	5.0	10	39.4	127.0	27.0
5KP22A	5KP22CA	22.0	24.40	26.90	5.0	10	35.5	141.0	24.0
5KP24	5KP24C	24.0	26.70	32.60	5.0	10	43.0	116.0	30.0
5KP24A	5KP24CA	24.0	26.70	29.50	5.0	10	38.9	128.0	27.0
5KP26	5KP26C	26.0	28.90	35.30	5.0	10	46.6	107.0	33.0
5KP26A	5KP26CA	26.0	28.90	31.90	5.0	10	42.1	119.0	29.0
5KP28	5KP28C	28.0	31.10	38.00	5.0	10	50.1	99.0	34.0
5KP28A	5KP28CA	28.0	31.10	34.40	5.0	10	45.5	110.0	30.0
5KP30	5KP30C	30.0	33.30	40.70	5.0	10	53.5	93.0	38.0
5KP30A	5KP30CA	30.0	33.30	36.80	5.0	10	48.4	103.0	35.0

5KP Series

TVS Transient Voltage Suppressor

Type Number	Type Number	Reverse Standoff Voltage	Breakdown Voltage BV Lolts@It			Max. Reverse Leakage	Max. Clamping Voltage	Max. Peak Pulse	Max. Voltage Temp.
(UNI)	(BI)	VR(V)	Min(V)	Max(V)	It(mA)	IR(uA)	Vc(V)	Ipp(A)	%/℃
5KP33	5KP33C	33.00	36.70	44.90	5.0	10	59.0	86.00	41
5KP33A	5KP33CA	33.00	36.70	40.60	5.0	10	53.3	94.00	38
5KP36	5KP36C	36.00	40.00	48.90	5.0	10	64.3	78.00	45
5KP36A	5KP36CA	36.00	40.00	44.20	5.0	10	58.1	86.00	40
5KP40	5KP40C	40.00	44.40	54.30	5.0	10	71.4	70.00	50
5KP40A	5KP40CA	40.00	44.40	49.10	5.0	10	64.5	78.00	45
5KP43	5KP43C	43.00	47.80	58.40	5.0	10	76.7	65.00	54
5KP43A	5KP43CA	43.00	47.80	52.80	5.0	10	69.4	72.00	49
5KP45	5KP45C	45.00	50.00	61.10	5.0	10	80.3	62.00	57
5KP45A	5KP45CA	45.00	50.00	55.30	5.0	10	72.7	69.00	51
5KP48	5KP48C	48.00	53.30	65.10	5.0	10	85.5	58.00	62
5KP48A	5KP48CA	48.00	53.30	58.90	5.0	10	77.4	65.00	55
5KP51	5KP51C	51.00	56.70	69.30	5.0	10	91.1	55.00	65
5KP51A	5KP51CA	51.00	56.70	62.70	5.0	10	82.4	61.00	60
5KP54	5KP54C	54.00	60.00	73.30	5.0	10	96.3	52.00	70
5KP54A	5KP54CA	54.00	60.00	66.30	5.0	10	87.1	57.00	64
5KP58	5KP58C	58.00	64.40	78.70	5.0	10	103.0	49.00	77
5KP58A	5KP58CA	58.00	64.40	71.20	5.0	10	93.6	53.00	69
5KP60	5KP60C	60.00	66.70	81.50	5.0	10	107.0	47.00	79
5KP60A	5KP60CA	60.00	66.70	73.70	5.0	10	96.8	52.00	70
5KP64	5KP64C	64.00	71.10	86.90	5.0	10	114.0	44.00	85
5KP64A	5KP64CA	64.00	71.10	78.60	5.0	10	103.0	49.00	75
5KP70	5KP70C	70.00	77.80	95.10	5.0	10	125.0	40.00	93
5KP70A	5KP70CA	70.00	77.80	86.00	5.0	10	113.0	44.00	84
5KP75	5KP75C	75.00	83.30	102.00	5.0	10	134.0	37.00	100
5KP75A	5KP75CA	75.00	83.30	92.10	5.0	10	121.0	41.00	90
5KP78	5KP78C	78.00	86.70	106.00	5.0	10	139.0	36.00	104
5KP78A	5KP78CA	78.00	86.70	95.80	5.0	10	126.0	40.00	94
5KP85	5KP85C	85.00	94.40	115.00	5.0	10	151.0	33.00	113
5KP85A	5KP85CA	85.00	94.40	104.00	5.0	10	137.0	36.00	102
5KP90	5KP90C	90.00	100.00	122.00	5.0	10	160.0	31.00	120
5KP90A	5KP90CA	90.00	100.00	111.00	5.0	10	146.0	34.00	109
5KP100	5KP100C	100.00	111.00	136.00	5.0	10	179.0	28.00	134
5KP110	5KP110C	110.00	122.00	149.00	5.0	10	196.0	26.00	147
5KP120	5KP120C	120.00	133.00	163.00	5.0	10	215.0	23.00	158
5KP150	5KP150C	150.00	166.00	204.00	5.0	10	268.0	18.50	200
5KP180	5KP180C	180.00	200.00	244.00	5.0	10	320.0	15.00	240

NOTES: Suffix'C' denotes bidirectional device . Suffix'A' denotes 5% tolerance device .no suffix denotes 10% tolerance devive .

1. For bidirectional devices having VR of 10volts and under ,the IR limit is doubled .

http://www.luguang.cn **mail:lge@luguang.cn**