THE DATASHEET OF

5KP90CA-TP

Micro Commercial Components
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5KP5.0(C) THRU 5KP250(C)A

5000 Watt Transient Voltage Suppressors 5.0 to 250 Volts

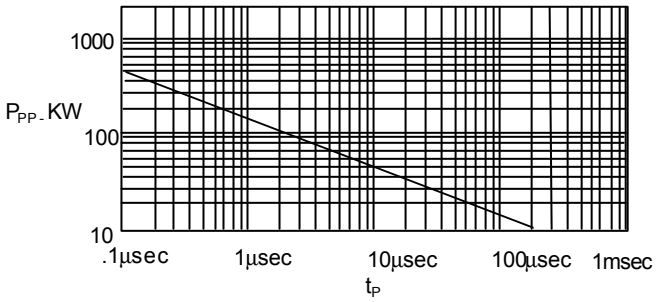
Features

- Unidirectional And Bidirectional
- UL Recognized File # E331408
- High Temp Soldering: 260°C for 10 Seconds At Terminals
- For Bidirectional Devices Add “C” To The Suffix Of The Part Number: i.e. 5KP6.5C or 5KP6.5CA for 5% Tolerance Devices
- Epoxy meets UL 94 V-0 flammability rating
- Moisture Sensitivity Level 1
- Marking : Cathode band and type number
- Lead Free Finish/RoHS Compliant(Note 1) ("P" Suffix designates RoHS Compliant. See ordering information)

Maximum Ratings

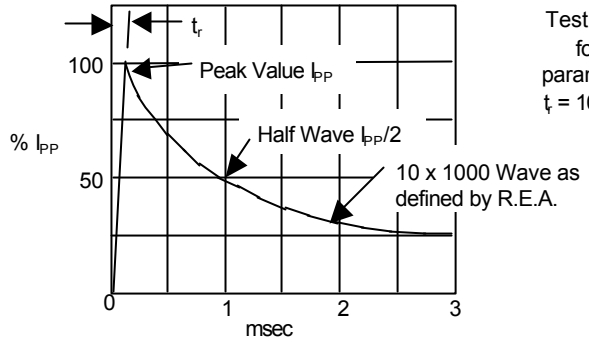
- Operating Temperature: -55°C to +175°C
- Storage Temperature: -55°C to +175°C
- 5000 Watt Peak Power
- Response Time 1 x 10^{-12} Seconds For Unidirectional and 5 x 10^{-9} For Bidirectional
- Halogen free available upon request by adding suffix "-HF"
- Typical Thermal Resistance,Junction to Lead: 8.0°C/W
- Typical Thermal Resistance,Junction to Ambient: 40°C/W

Figure 1



Peak Pulse Power (P_{PP}) – *versus* – Pulse Time (t_P)

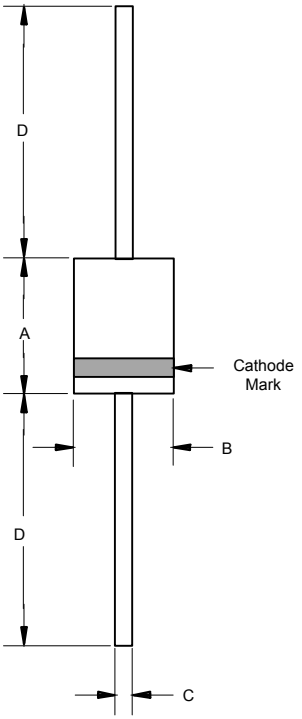
Figure 2 - Pulse Waveform



Test wave form parameters: t_r = 10 µsec

Peak Pulse Current (% I_{PP}) - *Versus* - Time (t)

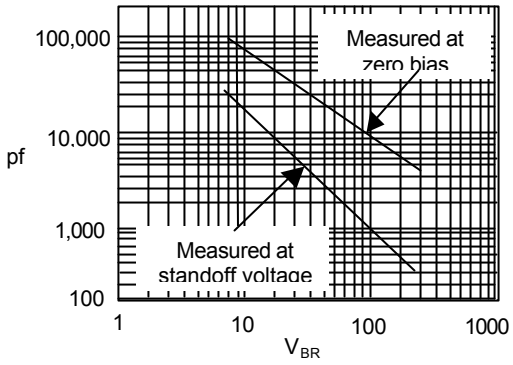
R-6



DIMENSIONS					
	INCHES		MM		
DIM	MIN	MAX	MIN	MAX	NOTE
A	.340	.360	8.60	9.10	
B	.340	.360	8.60	9.10	
C	.048	.052	1.20	1.30	
D	1.000	---	25.40	---	

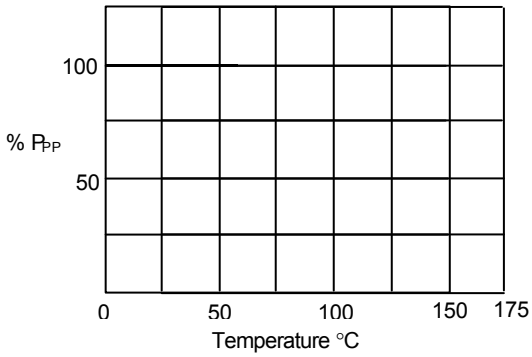
Notes:1.High Temperature Solder Exemption Applied, see EU Directive Annex 7.

Figure 3 - Typical Capacitance



Typical Capacitance (pf) – *versus* – Breakdown voltage

Figure 4 - Derating Curve



Peak Pulse Power (% P_{PP}) - *Versus* - Temperature °C

ELECTRICAL CHARACTERISTICS @25°C

MCC PART NUMBER		REVERSE STAND-OFF VOLTAGE V_{WM}	BREAKDOWN VOLTAGE $V_{(BR)}$ @ I_T (VOLTS)			MAXIMUM CLAMPING VOLTAGE @ I_{PP}	PEAK PULSE CURRENT I_{PP}	MAXIMUM REVERSE LEAKAGE @V_{WM} I_D
UNI-POLAR	BI-POLAR	(VOLTS)	MIN	MAX	I_T (mA)	(VOLTS)	(AMPS)	(µA)
5KP5.0	5KP5.0C	5.0	6.40	7.30	50	9.6	520	5000
5KP5.0A	5KP5.0CA	5.0	6.40	7.00	50	9.2	543	5000
5KP6.0	5KP6.0C	6.0	6.67	8.15	50	11.4	439	5000
5KP6.0A	5KP6.0CA	6.0	6.67	7.37	50	10.3	485	5000
5KP6.5	5KP6.5C	6.5	7.22	8.82	50	12.3	407	2000
5KP6.5A	5KP6.5CA	6.5	7.22	7.98	50	11.2	447	2000
5KP7.0	5KP7.0C	7.0	7.78	9.51	50	13.3	378	1000
5KP7.0A	5KP7.0CA	7.0	7.78	8.60	50	12.0	417	1000
5KP7.5	5KP7.5C	7.5	8.33	10.2	5	14.3	350	250
5KP7.5A	5KP7.5CA	7.5	8.33	9.21	5	12.9	388	250
5KP8.0	5KP8.0C	8.0	8.89	10.9	5	15.0	333	150
5KP8.0A	5KP8.0CA	8.0	8.89	9.83	5	13.6	367	150
5KP8.5	5KP8.5C	8.5	9.44	11.5	5	15.9	314	50
5KP8.5A	5KP8.5CA	8.5	9.44	10.4	5	14.4	347	50
5KP9.0	5KP9.0C	9.0	10.0	12.2	5	16.9	295	20
5KP9.0A	5KP9.0CA	9.0	10.0	11.1	5	15.4	325	20
5KP10	5KP10C	10	11.1	13.6	5	18.8	266	15
5KP10A	5KP10CA	10	11.1	12.3	5	17.0	294	15
5KP11	5KP11C	11	12.2	14.9	5	20.1	249	10
5KP11A	5KP11CA	11	12.2	13.5	5	18.2	274	10
5KP12	5KP12C	12	13.3	16.3	5	22.0	227	10
5KP12A	5KP12CA	12	13.3	14.7	5	19.9	251	10
5KP13	5KP13C	13	14.4	17.6	5	23.8	210	10
5KP13A	5KP13CA	13	14.4	15.9	5	21.5	232	10
5KP14	5KP14C	14	15.6	19.1	5	25.8	194	10
5KP14A	5KP14CA	14	15.6	17.2	5	23.2	215	10
5KP15	5KP15C	15	16.7	20.4	5	26.9	188	10
5KP15A	5KP15CA	15	16.7	18.5	5	24.4	206	10
5KP16	5KP16C	16	17.8	21.8	5	28.8	176	10
5KP16A	5KP16CA	16	17.8	19.7	5	26.0	192	10
5KP17	5KP17C	17	18.9	23.1	5	30.5	164	10
5KP17A	5KP17CA	17	18.9	20.9	5	27.6	181	10
5KP18	5KP18C	18	20.0	24.4	5	32.2	155	10
5KP18A	5KP18CA	18	20.0	22.1	5	29.2	172	10
5KP20	5KP20C	20	22.2	27.1	5	35.8	139	10
5KP20A	5KP20CA	20	22.2	24.5	5	32.4	154	10
5KP22	5KP22C	22	24.4	29.8	5	39.4	127	10
5KP22A	5KP22CA	22	24.4	26.9	5	35.5	141	10

ELECTRICAL CHARACTERISTICS @25°C

MCC PART NUMBER		REVERSE STAND-OFF VOLTAGE V_{WM}	BREAKDOWN VOLTAGE $V_{(BR)}$ @ I_T (VOLTS)			MAXIMUM CLAMPING VOLTAGE @ I_{PP}	PEAK PULSE CURRENT I_{PP}	MAXIMUM REVERSE LEAKAGE @V_{WM} I_D
UNI-POLAR	BI-POLAR	(VOLTS)	MIN	MAX	I_T (mA)	(VOLTS)	(AMPS)	(µA)
5KP24	5KP24C	24	26.7	32.6	5	43.0	116	10
5KP24A	5KP24CA	24	26.7	29.5	5	38.9	128	10
5KP26	5KP26C	26	28.9	35.3	5	46.6	107	10
5KP26A	5KP26CA	26	28.9	31.9	5	42.1	119	10
5KP28	5KP28C	28	31.1	38.0	5	50.0	99	10
5KP28A	5KP28CA	28	31.1	34.4	5	45.4	110	10
5KP30	5KP30C	30	33.3	40.7	5	53.5	93	10
5KP30A	5KP30CA	30	33.3	36.8	5	48.4	103	10
5KP33	5KP33C	33	36.7	44.9	5	59.0	85	10
5KP33A	5KP33CA	33	36.7	40.6	5	53.3	94	10
5KP36	5KP36C	36	40.0	48.9	5	64.3	78	10
5KP36A	5KP36CA	36	40.0	44.2	5	58.1	86	10
5KP40	5KP40C	40	44.4	54.3	5	71.4	70	10
5KP40A	5KP40CA	40	44.4	49.1	5	64.5	78	10
5KP43	5KP43C	43	47.8	58.4	5	76.7	65	10
5KP43A	5KP43CA	43	47.8	52.8	5	69.4	72	10
5KP45	5KP45C	45	50.0	61.1	5	80.3	62	10
5KP45A	5KP45CA	45	50.0	55.3	5	72.7	69	10
5KP48	5KP48C	48	53.3	65.1	5	85.5	58	10
5KP48A	5KP48CA	48	53.3	58.9	5	77.4	65	10
5KP 51	5KP 51C	51	56.7	69.3	5	91.1	55	10
5KP51A	5KP51CA	51	56.7	62.7	5	82.4	61	10
5KP54	5KP54C	54	60.0	73.3	5	96.3	52	10
5KP54A	5KP54CA	54	60.0	66.3	5	87.1	57	10
5KP58	5KP58C	58	64.4	78.7	5	103	49	10
5KP58A	5KP58CA	58	64.4	71.2	5	93.6	53	10
5KP60	5KP60C	60	66.7	81.5	5	107	47	10
5KP60A	5KP60CA	60	66.7	73.7	5	96.8	52	10
5KP64	5KP64C	64	71.1	86.9	5	114	44	10
5KP64A	5KP64CA	64	71.1	78.6	5	103	49	10
5KP70	5KP70C	70	77.8	95.1	5	125	40	10
5KP70A	5KP70CA	70	77.8	86.0	5	113	44	10
5KP75	5KP75C	75	83.3	102	5	134	37	10
5KP75A	5KP75CA	75	83.3	92.1	5	121	41	10
5KP78	5KP78C	78	86.7	106	5	139	36	10
5KP78A	5KP78CA	78	86.7	95.8	5	126	40	10
5KP85	5KP85C	85	94.4	115	5	151	33	10
5KP85A	5KP85CA	85	94.4	104	5	137	36	10
5KP90	5KP90C	90	100	122	5	160	31	10
5KP90A	5KP90CA	90	100	111	5	146	34	10
5KP100	5KP100C	100	111	136	5	179	28	10
5KP100A	5KP100CA	100	111	123	5	162	31	10
5KP110	5KP110C	110	122	149	5	196	26	10
5KP110A	5KP110CA	110	122	135	5	177	28	10
5KP120A	5KP120CA	120	133	147	5	193	26.4	10
5KP130A	5KP130CA	130	144	159	5	209	24.4	10
5KP150A	5KP150CA	150	167	185	5	243	21.0	10
5KP160A	5KP160CA	160	178	197	5	259	19.7	10
5KP170A	5KP170CA	170	189	209	5	275	18.5	10
5KP180A	5KP180CA	180	200	221	5	292	17.5	10
5KP190A	5KP190CA	190	211	233	5	310	16.5	10
5KP200A	5KP200CA	200	222	246	5	329.2	15.5	10
5KP210A	5KP210CA	210	233	258	5	349.5	14.6	10
5KP220A	5KP220CA	220	244	270	5	371.1	13.7	10
5KP250A	5KP250CA	250	277	306	5	425	12.0	10

Micro Commercial Components

Ordering Information :

Device	Packing
Part Number-TP	Tape&Reel: 500pcs/Reel
Part Number-AP	Ammo Packing: 450pcs/Ammo Box
Part Number-BP	Bulk: 4.8Kpcs/Carton

Note : Adding "-HF" suffix for halogen free, eg. Part Number-TP-HF

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