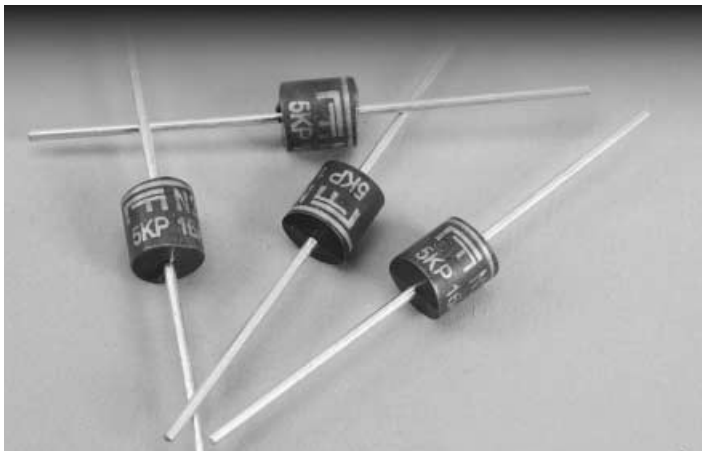
5KP Series

Designed specifically for the protection of sensitive electronics used inautomotive, heavy industrial environments, and against voltage transients induced by lightning in other applications. Ideal for the protection of I/Ointerfaces, Vcc bus, and other integrated circuits.



FEATURES

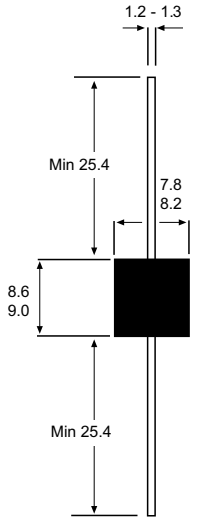
- Stand-off voltage range 5.0 to 180 Volts
- Uni-directional and Bi-directional
- Glass passivated junction
- Low clamping factor
- 100% surge tested
- UL recognised

MAXIMUM RATING

- Peak Pulse Power (Ppk): 5000 Watts (10 x 1000µs)@25°C (see diagram on page 6 for wave form)
- 8 watt steady state
- Response time: 1 x 10^{-12} seconds (theoretical)
- Forward surge rating: 400 Amps, 8.3ms half sine wave, (uni-directional devices only)
- Operating & storage temperature: -55°C to +150°C

MECHANICAL CHARACTERISTICS

- Case: JEDEC R6; Molded plastic over glass passivated junction
- Terminals: Axial leads, solderable per MIL-STD-202 Method 208
- Solderable leads = 230°C for 10 seconds (1.59mm from case)
- Marking: cathode band, (positive terminal, uni-directional devices only), device code, logo
- Weight: 2.0 grammes (approx)

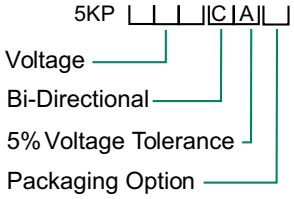


All dimensions in mm

Agency Approvals: Recognized under the Components Program of Underwriters Laboratories.

Agency File Number: E128662

ORDERING INFORMATION



B = Bulk (500 pcs)

T = Tape and reeled (1000 pcs)

5KP SERIES

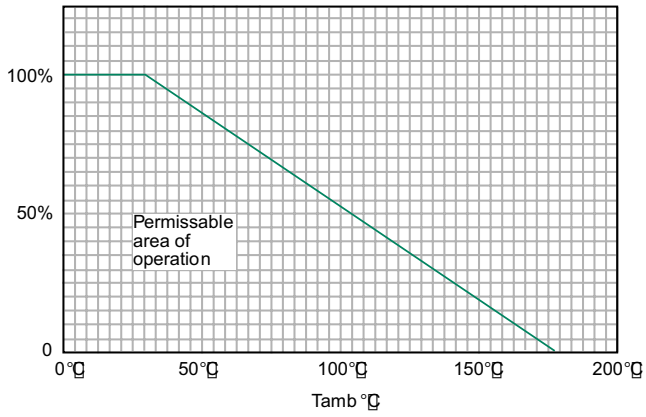


Figure 1 - Peak Power Derating Curve
Peak pulse power in percent of 25ºC rating

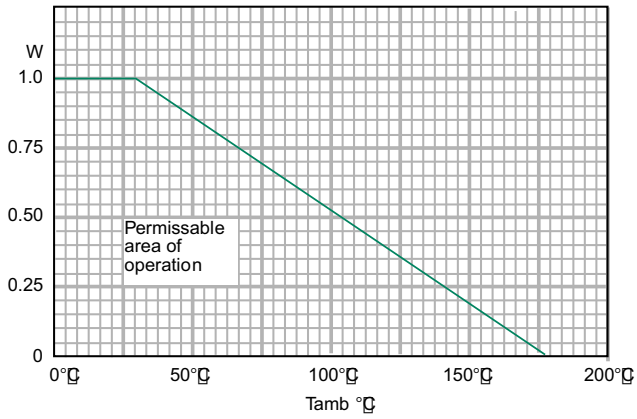


Figure 2 - Continuous D.C. Power Derating Curve
Continuous d.c. power dissipation

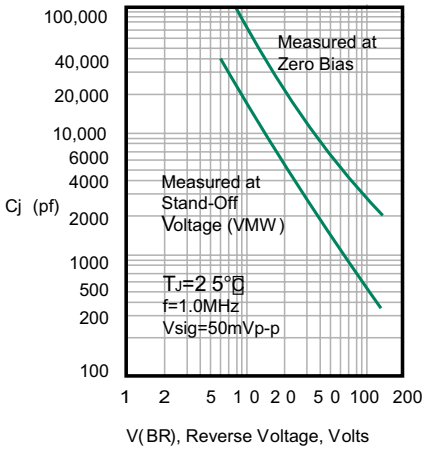


Figure 3 - Capacitance vs. Stand-off Voltage

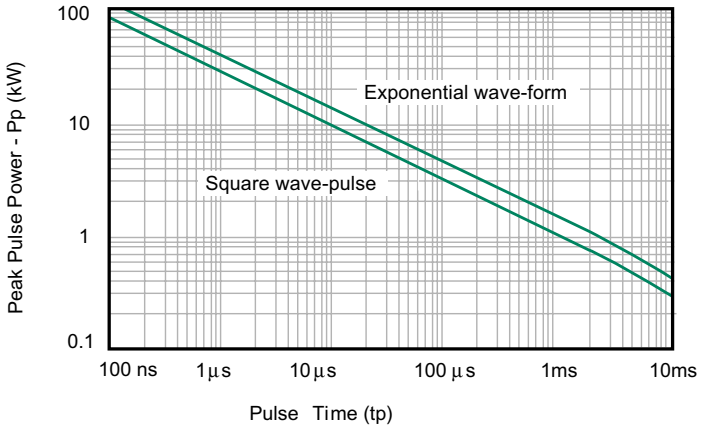


Figure 4 - Non-repetative Peak Pulse Power Rating Curve

5KP Series

ELECTRICAL SPECIFICATION @ Tamb 25°C

Part Number (Uni)	Part Number (Bi)	Reverse Stand off Voltage V_R (Volts)	Breakdown Voltage V_{BR} (Volts) @ I_T			Maximum Reverse Leakage I_R @ V_R (µA)	Maximum Clamping Voltage V_C @ I_{PP} (Volts)	Maximum Peak Pulse Current I_{PP} (A)	Max Voltage Temperature Variation of V_{BR} (mV/°C)
			MIN	MAX	(mA)				
5KP5.0	5KP5.0C*	5.0	6.40	7.30	50.0	5000.0	9.6	520.0	4.0
5KP5.0A	N/A	5.0	6.40	7.00	50.0	5000.0	9.2	543.0	4.0
5KP6.0	5KP6.0C	6.0	6.67	8.15	50.0	5000.0	11.4	439.0	4.0
5KP6.0A	5KP6.0CA	6.0	6.67	7.37	50.0	5000.0	10.3	485.0	4.0
5KP6.5	5KP6.5C	6.5	7.22	8.82	50.0	2000.0	12.3	407.0	4.0
5KP6.5A	5KP6.5CA	6.5	7.22	7.98	50.0	2000.0	11.2	447.0	4.0
5KP7.0	5KP7.0C	7.0	7.78	9.51	50.0	1000.0	13.3	378.0	5.0
5KP7.0A	5KP7.0CA	7.0	7.78	8.60	50.0	1000.0	12.0	417.0	5.0
5KP7.5	5KP7.5C	7.5	8.33	10.20	5.0	250.0	14.3	350.0	6.0
5KP7.5A	5KP7.5CA	7.5	8.33	9.21	5.0	250.0	12.9	388.0	6.0
5KP8.0	5KP8.0C	8.0	8.89	10.90	5.0	150.0	15.0	333.0	6.0
5KP8.0A	5KP8.0CA	8.0	8.89	9.83	5.0	150.0	13.6	367.0	6.0
5KP8.5	5KP8.5C	8.5	9.44	11.50	5.0	50.0	15.9	314.0	7.0
5KP8.5A	5KP8.5CA	8.5	9.44	10.40	5.0	50.0	14.4	347.0	7.0
5KP9.0	5KP9.0C	9.0	10.00	12.20	5.0	20.0	16.9	295.0	8.0
5KP9.0A	5KP9.0CA	9.0	10.00	11.10	5.0	20.0	15.4	325.0	8.0
5KP10*	5KP10C	10.0	11.10	13.60	5.0	15.0	18.8	266.0	9.0
5KP10A*	5KP10CA	10.0	11.10	12.30	5.0	15.0	17.0	294.0	9.0
5KP11	5KP11C	11.0	12.20	14.90	5.0	10.0	20.1	249.0	10.0
5KP11A	5KP11CA	11.0	12.20	13.50	5.0	10.0	18.2	274.0	10.0
5KP12*	5KP12C	12.0	13.30	16.30	5.0	10.0	22.0	227.0	11.0
5KP12A*	5KP12CA	12.0	13.30	14.70	5.0	10.0	19.9	251.0	11.0
5KP13	5KP13C	13.0	14.40	17.60	5.0	10.0	23.8	210.0	12.0
5KP13A	5KP13CA	13.0	14.40	15.90	5.0	10.0	21.5	232.0	12.0
5KP14	5KP14C	14.0	15.60	19.10	5.0	10.0	25.8	194.0	13.0
5KP14A	5KP14CA	14.0	15.60	17.20	5.0	10.0	23.2	215.0	13.0
5KP15	5KP15C	15.0	16.70	20.40	5.0	10.0	26.9	188.0	15.0
5KP15A	5KP15CA	15.0	16.70	18.50	5.0	10.0	24.4	206.0	15.0

Suffix 'C' denotes Bi-directional device. Suffix 'A' denotes 5% tolerance device, no suffix denotes a 10% tolerance device.

1. For Bi-directional devices having V_R of 10 volts and below, the I_R limit is doubled.
2. V_F = 3.5 Volts max. for devices of V_R <100v, and V_F = 5.0 Volts max for devices of V_R >100V. I_F = 100A, 300 µS square wave.

* Preferred voltages.

5KP Series

ELECTRICAL SPECIFICATION @ Tamb 25°C

Part Number (Uni)	Part Number (Bi)	Reverse Stand off Voltage V_R (Volts)	Breakdown Voltage V_{BR} (Volts) @ I_T			Maximum Reverse Leakage I_R @ V_R (µA)	Maximum Clamping Voltage V_C @ I_{PP} (Volts)	Maximum Peak Pulse Current I_{PP} (A)	Max Voltage Temperature Variation of V_{BR} (mV/°C)
			MIN	MAX	(mA)				
5KP16	5KP16C	16.0	17.80	21.80	5.0	10.0	28.8	176.0	18.0
5KP16A	5KP16CA	16.0	17.80	19.70	5.0	10.0	26.0	192.0	16.0
5KP17	5KP17C	17.0	18.90	23.10	5.0	10.0	30.5	164.0	19.0
5KP17A	5KP17CA	17.0	18.90	20.90	5.0	10.0	27.6	181.0	18.0
5KP18	5KP18C	18.0	20.00	24.40	5.0	10.0	32.2	155.0	20.0
5KP18A	5KP18CA	18.0	20.00	22.10	5.0	10.0	29.2	172.0	19.0
5KP20	5KP20C	20.0	22.20	27.10	5.0	10.0	35.8	139.0	24.0
5KP20A	5KP20CA	20.0	22.20	24.50	5.0	10.0	32.4	154.0	22.0
5KP22	5KP22C*	22.0	24.40	29.80	5.0	10.0	39.4	127.0	27.0
5KP22A	5KP22CA*	22.0	24.40	26.90	5.0	10.0	35.5	141.0	24.0
5KP24*	5KP24C	24.0	26.70	32.60	5.0	10.0	43.0	116.0	30.0
5KP24A*	5KP24CA	24.0	26.70	29.50	5.0	10.0	38.9	128.0	27.0
5KP26*	5KP26C	26.0	28.90	35.30	5.0	10.0	46.6	107.0	33.0
5KP26A*	5KP26CA	26.0	28.90	31.90	5.0	10.0	42.1	119.0	29.0
5KP28	5KP28C	28.0	31.10	39.00	5.0	10.0	50.1	99.0	34.0
5KP28A	5KP28CA	28.0	31.10	34.40	5.0	10.0	45.5	110.0	30.0
5KP30	5KP30C	30.0	33.30	40.70	5.0	10.0	53.5	93.0	38.0
5KP30A	5KP30CA	30.0	33.30	36.80	5.0	10.0	48.4	103.0	35.0
5KP33	5KP33C*	33.0	36.70	44.90	5.0	10.0	59.0	85.0	41.0
5KP33A	5KP33CA*	33.0	36.70	40.60	5.0	10.0	53.3	94.0	38.0
5KP36	5KP36C	36.0	40.00	48.90	5.0	10.0	64.3	78.0	45.0
5KP36A	5KP36CA	36.0	40.00	44.20	5.0	10.0	58.1	86.0	40.0
5KP40	5KP40C	40.0	44.40	54.30	5.0	10.0	71.4	70.0	50.0
5KP40A	5KP40CA	40.0	44.40	49.10	5.0	10.0	64.5	78.0	45.0
5KP43	5KP43C	43.0	47.80	58.40	5.0	10.0	76.7	65.0	54.0
5KP43A	5KP43CA	43.0	47.80	52.80	5.0	10.0	69.4	72.0	49.0

Suffix 'C' denotes Bi-directional device. Suffix 'A' denotes 5% tolerance device, no suffix denotes a 10% tolerance device.

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* Preferred voltages.

5KP Series

ELECTRICAL SPECIFICATION @ Tamb 25°C

Part Number (Uni)	Part Number (Bi)	Reverse Stand off Voltage V_R (Volts)	Breakdown Voltage V_{BR} (Volts) @ I_T			Maximum Reverse Leakage I_R @ V_R (µA)	Maximum Clamping Voltage V_C @ I_{PP} (Volts)	Maximum Peak Pulse Current I_{PP} (A)	Max Voltage Temperature Variation of V_{BR} (mV/°C)
			MIN	MAX	(mA)				
5KP45	5KP45C	45.0	50.00	61.10	5.0	10.0	80.3	62.0	57.0
5KP45A	5KP45CA	45.0	50.00	55.30	5.0	10.0	72.7	69.0	51.0
5KP48	5KP48C	48.0	53.30	65.20	5.0	10.0	85.5	58.0	62.0
5KP48A	5KP48CA	48.0	53.30	58.90	5.0	10.0	77.4	65.0	55.0
5KP51	5KP51C	51.0	56.70	69.30	5.0	10.0	91.1	55.0	65.0
5KP51A	5KP51CA	51.0	56.70	62.70	5.0	10.0	82.4	61.0	60.0
5KP54*	5KP54C	54.0	60.00	73.30	5.0	10.0	96.3	52.0	70.0
5KP54A*	5KP54CA	54.0	60.00	66.30	5.0	10.0	87.1	57.0	64.0
5KP58	5KP58C	58.0	64.40	78.70	5.0	10.0	103.0	49.0	77.0
5KP58A	5KP58CA	58.0	64.40	71.20	5.0	10.0	93.6	53.0	69.0
5KP60*	5KP60C	60.0	66.70	81.50	5.0	10.0	107.0	47.0	79.0
5KP60A*	5KP60CA	60.0	66.70	73.70	5.0	10.0	96.8	52.0	70.0
5KP64	5KP64C	64.0	71.00	86.90	5.0	10.0	114.0	44.0	85.0
5KP64A5K	5KP64CA	64.0	71.00	78.60	5.0	10.0	103.0	49.0	75.0
P70	5KP70C	70.0	77.00	95.10	5.0	10.0	125.0	40.0	93.0
5KP70A	5KP70CA	70.0	77.00	86.00	5.0	10.0	113.0	44.0	84.0
5KP75	5KP75C	75.0	83.30	102.00	5.0	10.0	134.0	37.0	100.0
5KP75A	5KP75CA	75.0	83.30	92.10	5.0	10.0	121.0	41.0	90.0
5KP78	5KP78C	78.0	86.70	106.00	5.0	10.0	139.0	36.0	104.0
5KP78A	5KP78CA	78.0	86.70	95.80	5.0	10.0	126.0	40.0	94.0
5KP85	5KP85C	85.0	94.40	115.00	5.0	10.0	151.0	33.0	113.0
5KP85A	5KP85CA	85.0	94.40	104.00	5.0	10.0	137.0	36.0	102.0
5KP90	5KP90C*	90.0	100.00	122.00	5.0	10.0	160.0	31.0	120.0
5KP90A	5KP90CA*	90.0	100.00	111.00	5.0	10.0	146.0	34.0	109.0
5KP100	5KP100C	100.0	111.00	136.00	5.0	10.0	179.0	28.0	134.0
5KP110	5KP110C*	110.0	122.00	149.00	5.0	10.0	196.0	26.0	147.0
5KP120	5KP120C	120.0	133.00	1603.0	5.0	10.0	215.0	23.0	158.0
5KP150*	5KP150C	150.0	166.00	204.00	5.0	10.0	268.0	18.5	200.0
5KP180	5KP180C	180.0	200.00	244.00	5.0	10.0	320.0	15.0	240.0

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* Preferred voltages.