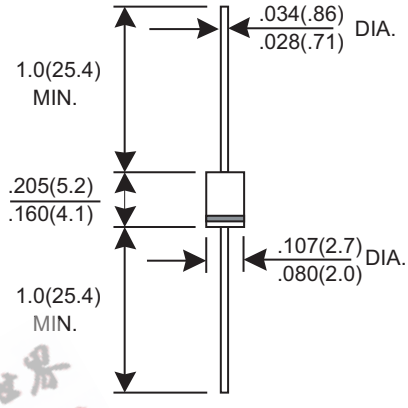
400W Transient Voltage Suppressor

COMCHIP
SMD DIODE SPECIALIST

P4KE Series

Stand-off Voltage: 6.8 ~ 440V
Power Dissipation: 440 Walts



Dimensions in inches and (millimeters)

Features:

- Glass passivated chip
- Low leakage
- Uni and Bidirection unit
- Excellent clamping capability
- The plastic material has UL recognition 94V-0
- Fast response time

Mechanical Data:

- Case: Molded plastic DO-41
- Polarity: by cathode band denotes uni-directional device none cathode band denoted bi-directional device
- Weight: 0.34 gram

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Rating at 25°C ambient temperature unless otherwise specified.
Single phase, half wave, 60Hz, resistive or inductive load.
For capacitive load, derate current by 20%.

	SYMBOL	VALUE	UNIT
Peak Power Dissipation at T_L=25°C T_P=1ms (Note 1,2)	P_{PK}	Minimum 400	Watts
Peak Forward Surge Current, 8.3ms single Half sine-wave super imposed on rated load (Note 3) (JEDEC method)	I_{FSM}	40	A
Steady State Power Dissipation at T_L=75°C	$P_{M(AV)}$	1.0	Watts
Maximum Instantaneous forward voltage at 35A for unidirectional devices only (Note 3)	V_F	3.5	V
Operating Junction and Storage Temperature Range	T_J, T_{STG}	-55 to +150	°C

NOTES : (1) Non-repetitive current pulse, per fig. 3 and derated above TA=25 °C per fig. 1.
(2) Thermal Resistance junction to ambient.
(3) 8.3ms single half-sine wave duty cycle= 4pulses maximum per minute(unidirectional units only).

"**-G**" suffix designates RoHS compliant Version

Part No.	Absolute Maximum Rating (Ta=25°C)					Electrical Characteristics (Ta=25°C)			
	V_{WM}	V_{BR} Min.	V_{BR} Max.	I_T	I_{FSM}	Max. Vc @I_{PPM}		Max. I_D(uA) @V_{WM}	
	(V)	(V)	(V)	(mA)	(A)@8.3mS	(V)	I_{PPM}(A)	UNI	BI
P4KE6.8(c)	5.50	6.12	7.48	10	40	10.8	38.0	1000	2000
P4KE6.8(c)A	5.80	6.45	7.14	10	40	10.5	40.0	1000	2000
P4KE7.5(c)	6.05	6.75	8.25	10	40	11.7	36.0	500	1000
P4KE7.5(c)A	6.40	7.13	7.88	10	40	11.3	37.0	500	1000
P4KE8.2(c)	6.63	7.38	9.02	10	40	12.5	33.0	200	400
P4KE8.2(c)A	7.02	7.79	8.61	10	40	12.1	35.0	200	400
P4KE9.1(c)	7.37	8.19	10.00	1	40	13.8	30.0	50	100
P4KE9.1(c)A	7.78	8.65	9.55	1	40	13.4	31.0	50	100
P4KE10(c)	8.10	9.00	11.0	1	40	15.0	28.0	10	20
P4KE10(c)A	8.55	9.50	10.5	1	40	14.5	29.0	10	20
P4KE11(c)	8.92	9.90	12.1	1	40	16.2	26.0	5	10
P4KE11(c)A	9.40	10.5	11.6	1	40	15.6	27.0	5	10
P4KE12(c)	9.72	10.8	13.2	1	40	17.3	24.0	5	5
P4KE12(c)A	10.2	11.4	12.6	1	40	16.7	25.0	5	5
P4KE13(c)	10.5	11.7	14.3	1	40	19.0	22.0	5	5
P4KE13(c)A	11.1	12.4	13.7	1	40	18.2	23.0	5	5
P4KE15(c)	12.1	13.5	16.5	1	40	22.0	19.0	5	5
P4KE15(c)A	12.8	14.3	15.8	1	40	21.2	20.0	5	5
P4KE16(c)	12.9	14.4	17.6	1	40	23.5	18.0	5	5
P4KE16(c)A	13.6	15.2	16.8	1	40	22.5	19.0	5	5
P4KE18(c)	14.5	16.2	19.8	1	40	26.5	16.0	5	5
P4KE18(c)A	15.3	17.1	18.9	1	40	25.5	17.0	5	5
P4KE20(c)	16.2	18.0	22.0	1	40	29.1	14.0	5	5
P4KE20(c)A	17.1	19.0	21.0	1	40	27.7	15.0	5	5
P4KE22(c)	17.8	19.8	24.2	1	40	31.9	13.0	5	5
P4KE22(c)A	18.8	20.9	23.1	1	40	30.6	14.0	5	5
P4KE24(c)	19.4	21.6	26.4	1	40	34.7	12.0	5	5
P4KE24(c)A	20.5	22.8	25.2	1	40	33.2	13.0	5	5
P4KE27(c)	21.8	24.3	29.7	1	40	39.1	11.0	5	5
P4KE27(c)A	23.1	25.7	28.4	1	40	37.5	11.2	5	5
P4KE30(c)	24.3	27.0	33.0	1	40	43.5	10.0	5	5
P4KE30(c)A	25.6	28.5	31.5	1	40	41.4	10.0	5	5
P4KE33(c)	26.8	29.7	36.3	1	40	17.7	9.0	5	5
P4KE33(c)A	28.2	31.4	34.7	1	40	45.7	9.0	5	5
P4KE36(c)	29.1	32.4	39.6	1	40	52.0	8.0	5	5
P4KE36(c)A	30.8	34.2	37.8	1	40	49.9	8.4	5	5
P4KE39(c)	31.6	35.1	42.9	1	40	56.4	7.4	5	5
P4KE39(c)A	33.3	37.1	41.0	1	40	53.9	7.8	5	5
P4KE43(c)	34.8	38.7	47.3	1	40	61.9	6.8	5	5
P4KE43(c)A	36.8	40.9	45.2	1	40	59.3	7.1	5	5
P4KE47(c)	38.1	42.3	51.7	1	40	67.8	6.2	5	5
P4KE47(c)A	40.2	44.7	49.4	1	40	64.8	6.5	5	5
P4KE51(c)	41.3	45.9	56.1	1	40	73.5	5.7	5	5
P4KE51(c)A	43.6	48.5	53.6	1	40	70.1	6.0	5	5
P4KE56(c)	45.4	50.4	61.6	1	40	80.5	5.2	5	5

Part No.	Absolute Maximum Rating (Ta=25°C)					Electrical Characteristics (Ta=25°C)			
	V_{WM}	V_{BR} Min.	V_{BR} Max.	I_T	I_{FSM}	Max. Vc @I_{PPM}		Max. I_D(uA) @V_{WM}	
	(V)	(V)	(V)	(mA)	(A)@8.3mS	(V)	I_{PPM}(A)	UNI	BI
P4KE56(c)A	47.8	53.2	58.8	1	40	77.0	5.5	5	5
P4KE62(c)	50.2	55.8	68.2	1	40	89.0	4.7	5	5
P4KE62(c)A	53.0	58.9	65.1	1	40	85.0	5.0	5	5
P4KE68(c)	55.1	61.2	74.8	1	40	98.0	4.3	5	5
P4KE68(c)A	58.1	61.6	71.4	1	40	92.0	4.6	5	5
P4KE75(c)	60.7	67.5	82.5	1	40	108.0	3.9	5	5
P4KE75(c)A	64.1	71.3	78.8	1	40	103.0	4.1	5	5
P4KE82(c)	66.4	73.8	90.2	1	40	118.0	3.6	5	5
P4KE82(c)A	70.1	77.9	86.1	1	40	113.0	3.7	5	5
P4KE91(c)	73.7	81.9	100.0	1	40	131.8	3.2	5	5
P4KE91(c)A	77.8	86.5	95.5	1	40	125.0	3.4	5	5
P4KE100(c)	81.0	90.0	110.0	1	40	144.0	2.9	5	5
P4KE100(c)A	85.5	95.0	105.0	1	40	137.0	3.1	5	5
P4KE110(c)	89.2	99.0	121.0	1	40	158.0	2.7	5	5
P4KE110(c)A	94.0	105.0	116.0	1	40	152.0	2.8	5	5
P4KE120(c)	97.2	108.0	132.0	1	40	173.0	2.4	5	5
P4KE120(c)A	102.0	114.0	126.0	1	40	165.0	2.5	5	5
P4KE130(c)	105.0	117.0	143.0	1	40	187.0	2.2	5	5
P4KE130(c)A	111.0	124.0	137.0	1	40	179.0	2.3	5	5
P4KE150(c)	121.0	135.0	165.0	1	40	215.0	2.0	5	5
P4KE150(c)A	128.0	143.0	158.0	1	40	207.0	2.0	5	5
P4KE160(c)	130.0	144.0	176.0	1	40	230.0	1.8	5	5
P4KE160(c)A	136.0	152.0	168.0	1	40	219.0	1.9	5	5
P4KE170(c)	138.0	153.0	187.0	1	40	244.0	1.7	5	5
P4KE170(c)A	145.0	162.0	179.0	1	40	234.0	1.8	5	5
P4KE180(c)	146.0	162.0	198.0	1	40	258.0	1.6	5	5
P4KE180(c)A	154.0	171.0	189.0	1	40	246.0	1.7	5	5
P4KE200(c)	162.0	180.0	220.0	1	40	287.0	1.50	5	5
P4KE200(c)A	171.0	190.0	210.0	1	40	274.0	1.53	5	5
P4KE220(c)	175.0	198.0	242.0	1	40	344.0	1.16	5	5
P4KE220(c)A	185.0	209.0	231.0	1	40	328.0	1.22	5	5
P4KE250(c)	202.0	225.0	275.0	1	40	360.0	1.11	5	5
P4KE250(c)A	214.0	237.0	263.0	1	40	344.0	1.16	5	5
P4KE300(c)	243.0	270.0	330.0	1	40	430.0	0.93	5	5
P4KE300(c)A	256.0	285.0	315.0	1	40	414.0	0.97	5	5
P4KE350(c)	284.0	315.0	385.0	1	40	504.0	0.79	5	5
P4KE350(c)A	300.0	332.0	368.0	1	40	482.0	0.83	5	5
P4KE400(c)	324.0	360.0	440.0	1	40	574.0	0.70	5	5
P4KE400(c)A	342.0	380.0	420.0	1	40	548.0	0.73	5	5
P4KE440(c)	356.0	396.0	484.0	1	40	630.0	0.64	5	5
P4KE440(c)A	378.0	418.0	462.0	1	40	600.0	0.67	5	5

1. VF<3.5V @ IF=25A for P4KE6.8 thru P4KE200A, VF<6.5V @IF=25A for P4KE220 thru P4KE440A
2. "C" Suffix for Bi-Directional Devices
3. For the bidirection typ having Vrwm of 10 volts and less, the I_R limit is doubled.

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RATINGS AND CHARACTERISTIC CURVES P4KE SERIES

FIG.1 - PULSE DERATING CURVE

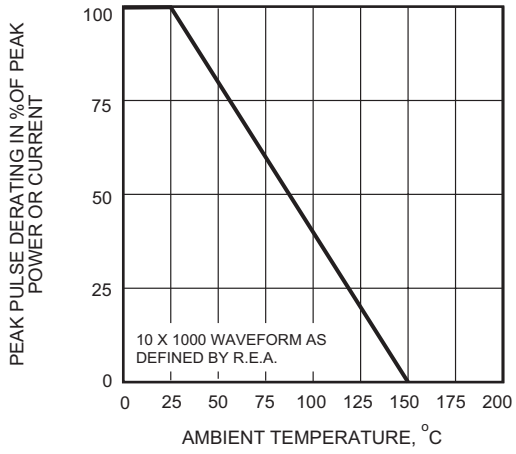


FIG.2 - TYPICAL REVERSE CHARACTERISTICS

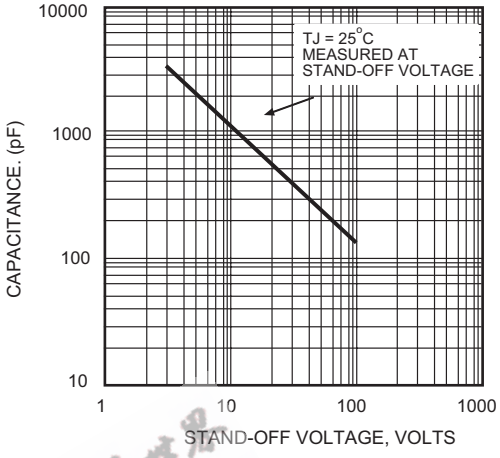


FIG.3 - PULSE RATING CURVE

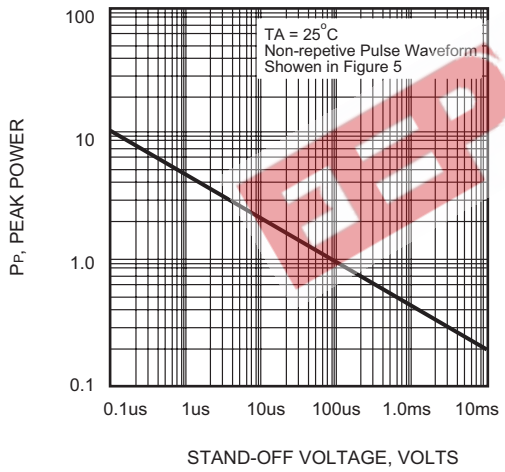


FIG.4 - STEADY STATE POWER DERATING CURVE

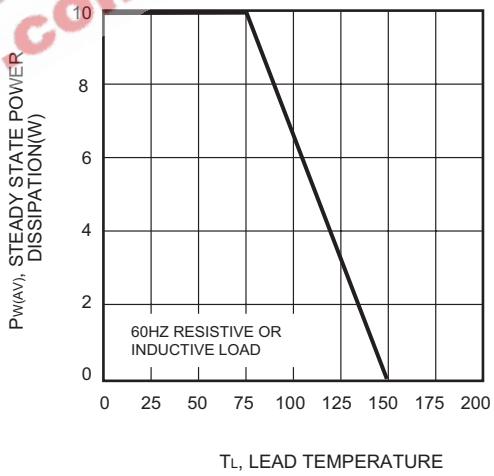
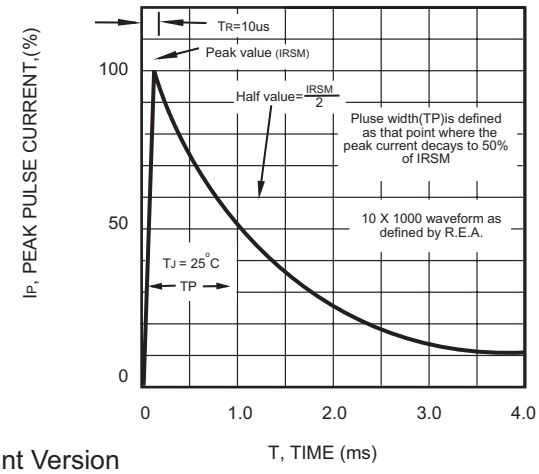


FIG.5 - PULSE WAVEFORM



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