

400W Transient Voltage Suppressor



SMD Diodes Specialist

P4KE-G Series

Stand-off Voltage: 6.8 ~ 600V

Power Dissipation: 400 Watts

RoHS Device

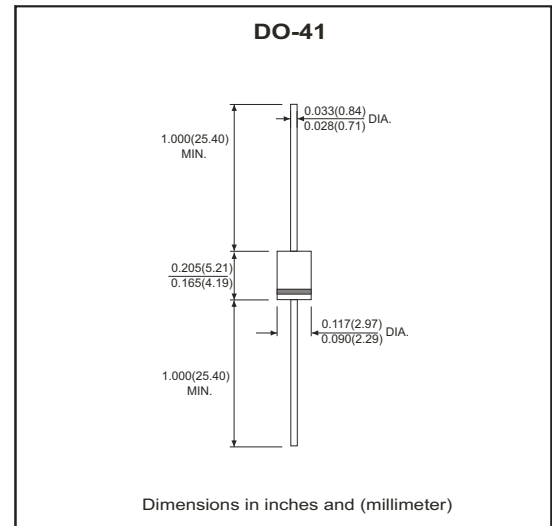


Features

- Glass passivated chip
- Low leakage
- Uni and Bidirection unit
- Excellent clamping capability
- The plastic material has UL recognition 94V-0
- Fast response time: typically less than 1.0pS from 0 volts to BV min

Mechanical Data

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



Maximum Ratings and Electrical Characteristics

Rating at 25 °C ambient unless otherwise specified.

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

For capacitive load, derate current by 20%.

Parameter	Symbol	Value	Unit
Peak power dissipation a 10/1000µs waveform (Note 1)	PPP	400	W
Peak pulse current with a 10/1000µs waveform (Note 1)	IPP	See Next Table	A
Power dissipation on infinite heatsink at $T_L=75^{\circ}\text{C}$	PD	1.0	W
Peak forward surge current, 8.3ms single half sine-wave unidirectional only(Note 2)	IFSM	40	A
Maximum instantaneous forward voltage at 25A for unidirectional only (Note 3)	V _F	3.5/5.0	V
Operating junction and storage temperature range	T _J , T _{STG}	-55 to +150	°C

NTOES:

(1) Non-repetitive current pulse, per fig.5 and derated above $T_A=25^{\circ}\text{C}$ per fig. 1.

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

(3) $V_F<3.5\text{V}$ for devices of $V_{BR}<200\text{V}$ and $V_F<5.0\text{V}$ for devices of $V_{BR}>201\text{V}$.

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Uni	Bi	V _{RWM}	V _{BR} Min.	V _{BR} Max.	I _T	I _{FSM}	Max. Vc @I _{PPM}		Max. I _R @V _{RWM}	Uni	Bi
		(V)	(V)	(V)	(mA)	(A)@8.3ms	(V)	I _{PPM} (A)	uA		
P4KE6.8-G	P4KE6.8C-G	5.5	6.12	7.48	10	40	10.8	37.04	1000	P4KE6.8	P4KE6.8C
P4KE6.8A-G	P4KE6.8CA-G	5.8	6.46	7.14	10	40	10.5	38.10	1000	P4KE6.8A	P4KE6.8CA
P4KE7.5-G	P4KE7.5C-G	6.1	6.75	8.25	10	40	11.7	34.19	500	P4KE7.5	P4KE7.5C
P4KE7.5A-G	P4KE7.5CA-G	6.4	7.13	7.88	10	40	11.3	35.40	500	P4KE7.5A	P4KE7.5CA
P4KE8.2-G	P4KE8.2C-G	6.6	7.38	9.02	10	40	12.5	32.00	200	P4KE8.2	P4KE8.2C
P4KE8.2A-G	P4KE8.2CA-G	7.0	7.79	8.61	10	40	12.1	33.06	200	P4KE8.2A	P4KE8.2CA
P4KE9.1-G	P4KE9.1C-G	7.4	8.19	10.0	1	40	13.8	28.99	50	P4KE9.1	P4KE9.1C
P4KE9.1A-G	P4KE9.1CA-G	7.8	8.65	9.56	1	40	13.4	29.85	50	P4KE9.1	P4KE9.1CA
P4KE10-G	P4KE10C-G	8.1	9.00	11.00	1	40	15.0	26.67	10	P4KE10	P4KE10C
P4KE10A-G	P4KE10CA-G	8.6	9.50	10.50	1	40	14.5	27.59	10	P4KE10A	P4KE10CA
P4KE11-G	P4KE11C-G	8.9	9.90	12.10	1	40	16.2	24.69	5	P4KE11	P4KE11C
P4KE11A-G	P4KE11CA-G	9.4	10.45	11.55	1	40	15.6	25.64	5	P4KE11A	P4KE11CA
P4KE12-G	P4KE12C-G	9.7	10.80	13.20	1	40	17.3	23.12	5	P4KE12	P4KE12C
P4KE12A-G	P4KE12CA-G	10.2	11.40	12.60	1	40	16.7	23.95	5	P4KE12A	P4KE12CA
P4KE13-G	P4KE13C-G	10.5	11.70	14.30	1	40	19.0	21.05	5	P4KE13	P4KE13C
P4KE13A-G	P4KE13CA-G	11.1	12.35	13.65	1	40	18.2	21.98	5	P4KE13A	P4KE13CA
P4KE15-G	P4KE15C-G	12.1	13.50	16.50	1	40	22.0	18.18	5	P4KE15	P4KE15C
P4KE15A-G	P4KE15CA-G	12.8	14.25	15.75	1	40	21.2	18.87	5	P4KE15A	P4KE15CA
P4KE16-G	P4KE16C-G	12.9	14.40	17.60	1	40	23.5	17.02	5	P4KE16	P4KE16C
P4KE16A-G	P4KE16CA-G	13.6	15.20	16.90	1	40	22.5	17.78	5	P4KE16A	P4KE16CA
P4KE18-G	P4KE18C-G	14.5	16.20	19.80	1	40	26.5	15.09	5	P4KE18	P4KE18C
P4KE18A-G	P4KE18CA-G	15.3	17.10	18.90	1	40	25.2	15.87	5	P4KE18A	P4KE18CA
P4KE20-G	P4KE20C-G	16.2	18.00	22.00	1	40	29.1	13.75	5	P4KE20	P4KE20C
P4KE20A-G	P4KE20CA-G	17.1	19.00	21.00	1	40	27.7	14.44	5	P4KE20A	P4KE20CA
P4KE22-G	P4KE22C-G	17.8	19.80	24.20	1	40	31.9	12.54	5	P4KE22	P4KE22C
P4KE22A-G	P4KE22CA-G	18.8	20.90	23.10	1	40	30.6	13.07	5	P4KE22A	P4KE22CA
P4KE24-G	P4KE24C-G	19.4	21.60	26.40	1	40	34.7	11.53	5	P4KE24	P4KE24C
P4KE24A-G	P4KE24CA-G	20.5	22.80	25.20	1	40	33.2	12.05	5	P4KE24A	P4KE24CA
P4KE27-G	P4KE27C-G	21.8	24.30	29.70	1	40	39.1	10.23	5	P4KE27	P4KE27C
P4KE27A-G	P4KE27CA-G	23.1	25.65	28.35	1	40	37.5	10.67	5	P4KE27A	P4KE27CA
P4KE30-G	P4KE30C-G	24.3	27.00	33.00	1	40	43.5	9.20	5	P4KE30	P4KE30C
P4KE30A-G	P4KE30CA-G	25.6	28.50	31.50	1	40	41.4	9.66	5	P4KE30A	P4KE30CA
P4KE33-G	P4KE33C-G	26.8	29.70	36.30	1	40	47.7	8.39	5	P4KE33	P4KE33C
P4KE33A-G	P4KE33CA-G	28.2	31.35	34.65	1	40	45.7	8.75	5	P4KE33A	P4KE33CA
P4KE36-G	P4KE36C-G	29.1	32.40	39.60	1	40	52.0	7.69	5	P4KE36	P4KE36C
P4KE36A-G	P4KE36CA-G	30.8	34.20	37.80	1	40	49.9	8.02	5	P4KE36A	P4KE36CA
P4KE39-G	P4KE39C-G	31.6	35.10	42.90	1	40	56.4	7.09	5	P4KE39	P4KE39C
P4KE39A-G	P4KE39CA-G	33.3	37.05	40.95	1	40	53.9	7.42	5	P4KE39A	P4KE39CA
P4KE43-G	P4KE43C-G	34.8	38.70	47.30	1	40	61.9	6.46	5	P4KE43	P4KE43C
P4KE43A-G	P4KE43CA-G	36.8	40.85	45.15	1	40	59.3	6.75	5	P4KE43A	P4KE43CA
P4KE47-G	P4KE47C-G	38.1	42.30	51.70	1	40	67.8	5.90	5	P4KE47	P4KE47C
P4KE47A-G	P4KE47CA-G	40.2	44.65	49.35	1	40	64.8	6.17	5	P4KE47A	P4KE47CA
P4KE51-G	P4KE51C-G	41.3	45.90	56.10	1	40	73.5	5.44	5	P4KE51	P4KE51C
P4KE51A-G	P4KE51CA-G	43.6	48.45	53.55	1	40	70.1	5.71	5	P4KE51A	P4KE51CA

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Uni	Bi	V _{RWM}	V _{BR} Min.	V _{BR} Max.	I _T	I _{FSM}	Max. V _c @I _{PPM}		Max. I _R @V _{RWM}	Uni	Bi
		(V)	(V)	(V)	(mA)	(A)@8.3mS	(V)	I _{PPM} (A)	uA		
P4KE56-G	P4KE56C-G	45.4	50.40	61.60	1	40	10.8	80.5	1000	P4KE56	P4KE56C
P4KE56A-G	P4KE56CA-G	47.8	53.20	58.80	1	40	10.5	77.0	1000	P4KE56A	P4KE56CA
P4KE62-G	P4KE62C-G	50.2	55.80	68.20	1	40	11.7	89.0	500	P4KE62	P4KE62C
P4KE62A-G	P4KE62CA-G	53.0	58.90	65.10	1	40	11.3	85.0	500	P4KE62A	P4KE62CA
P4KE68-G	P4KE68C-G	55.1	61.20	74.80	1	40	12.5	98.0	200	P4KE68	P4KE68C
P4KE68A-G	P4KE68CA-G	58.1	64.60	74.40	1	40	12.1	92.0	200	P4KE68A	P4KE68CA
P4KE75-G	P4KE75C-G	60.7	67.50	82.50	1	40	13.8	108.0	50	P4KE75	P4KE75C
P4KE75A-G	P4KE75CA-G	64.1	71.25	78.75	1	40	13.4	103.0	50	P4KE75A	P4KE75CA
P4KE82-G	P4KE82C-G	66.4	73.80	90.20	1	40	15.0	118.0	10	P4KE82	P4KE82C
P4KE82A-G	P4KE82CA-G	70.1	77.90	86.10	1	40	14.5	113.0	10	P4KE82A	P4KE82CA
P4KE91-G	P4KE91C-G	73.7	81.90	100.10	1	40	16.2	131.0	5	P4KE91	P4KE91C
P4KE91A-G	P4KE91CA-G	77.8	86.45	95.55	1	40	15.6	125.0	5	P4KE91A	P4KE91CA
P4KE100-G	P4KE100C-G	81.0	90.00	110.00	1	40	17.3	144.0	5	P4KE100	P4KE100C
P4KE100A-G	P4KE100CA-G	85.5	95.00	105.00	1	40	16.7	137.0	5	P4KE100A	P4KE100CA
P4KE110-G	P4KE110C-G	89.2	99.00	121.00	1	40	19.0	158.0	5	P4KE110	P4KE110C
P4KE110A-G	P4KE110CA-G	94.0	104.5	115.50	1	40	18.2	152.0	5	P4KE110A	P4KE110CA
P4KE120-G	P4KE120C-G	97.2	108.00	132.00	1	40	22.0	173.0	5	P4KE120	P4KE120C
P4KE120A-G	P4KE120CA-G	102.0	114.00	126.00	1	40	21.2	165.0	5	P4KE120A	P4KE120CA
P4KE130-G	P4KE130C-G	105.0	117.00	143.00	1	40	23.5	187.0	5	P4KE130	P4KE130C
P4KE130A-G	P4KE130CA-G	111.0	123.50	136.50	1	40	22.5	179.0	5	P4KE130A	P4KE130CA
P4KE150-G	P4KE150C-G	121.0	135.00	165.00	1	40	26.5	215.0	5	P4KE150	P4KE150C
P4KE150A-G	P4KE150CA-G	128.0	142.50	157.50	1	40	25.5	207.0	5	P4KE150A	P4KE150CA
P4KE160-G	P4KE160C-G	130.0	144.00	176.00	1	40	29.1	230.0	5	P4KE160	P4KE160C
P4KE160A-G	P4KE160CA-G	136.0	152.00	168.00	1	40	27.7	219.0	5	P4KE160A	P4KE160CA
P4KE170-G	P4KE170C-G	138.0	153.00	187.00	1	40	31.9	244.0	5	P4KE170	P4KE170C
P4KE170A-G	P4KE170CA-G	145.0	161.50	178.50	1	40	30.6	234.0	5	P4KE170A	P4KE170CA
P4KE180-G	P4KE180C-G	146.0	162.00	198.00	1	40	34.7	258.0	5	P4KE180	P4KE180C
P4KE180A-G	P4KE180CA-G	154.0	171.00	189.00	1	40	33.2	246.0	5	P4KE180A	P4KE180CA
P4KE200-G	P4KE200C-G	162.0	180.00	220.00	1	40	39.1	287.0	5	P4KE200	P4KE200C
P4KE200A-G	P4KE200CA-G	171.0	190.00	210.00	1	40	37.5	274.0	5	P4KE200A	P4KE200CA
P4KE220-G	P4KE220C-G	175.0	198.00	242.00	1	40	43.5	344.0	5	P4KE220	P4KE220C
P4KE220A-G	P4KE220CA-G	185.0	209.00	231.00	1	40	41.4	328.0	5	P4KE220A	P4KE220CA
P4KE250-G	P4KE250C-G	202.0	225.00	275.00	1	40	47.4	360.0	5	P4KE250	P4KE250C
P4KE250A-G	P4KE250CA-G	214.0	237.50	262.50	1	40	45.7	344.0	5	P4KE250A	P4KE250CA
P4KE300-G	P4KE300C-G	243.0	270.00	330.00	1	40	52.0	430.0	5	P4KE300	P4KE300C
P4KE300A-G	P4KE300CA-G	256.0	285.00	315.00	1	40	49.9	414.0	5	P4KE300A	P4KE300CA
P4KE350-G	P4KE350C-G	284.2	315.00	385.00	1	40	56.4	504.0	5	P4KE350	P4KE350C
P4KE350A-G	P4KE350CA-G	299.3	332.50	367.50	1	40	53.9	482.0	5	P4KE350A	P4KE350CA
P4KE380-G	P4KE380C-G	308.6	342.00	418.00	1	40	61.9	547.2	5	P4KE380	P4KE380C
P4KE380A-G	P4KE380CA-G	324.9	361.00	399.00	1	40	59.3	524.4	5	P4KE380A	P4KE380CA
P4KE400-G	P4KE400C-G	324.8	360.00	440.00	1	40	67.8	576.0	5	P4KE400	P4KE400C
P4KE400A-G	P4KE400CA-G	342.0	380.00	420.00	1	40	64.8	552.0	5	P4KE400A	P4KE400CA
P4KE440-G	P4KE440C-G	357.3	396.00	484.00	1	40	73.5	633.6	5	P4KE440	P4KE440C
P4KE440A-G	P4KE440CA-G	376.2	418.00	462.00	1	40	70.1	607.2	5	P4KE440A	P4KE440CA

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Uni	Bi	V _{RWM}	V _{BR} Min.	V _{BR} Max.	I _T	I _{FSM}	Max. V _C @I _{PPM}		Max. I _R @V _{RWM}	Uni	Bi
		(V)	(V)	(V)	(mA)	(A)@8.3mS	(V)	I _{PPM} (A)	uA		
P4KE500-G	P4KE500C-G	406.0	450.00	550.00	1	40	720.0	0.56	5	P4KE500	P4KE500C
P4KE500A-G	P4KE500CA-G	427.5	475.00	525.00	1	40	690.0	0.58	5	P4KE500A	P4KE500CA
P4KE520-G	P4KE520C-G	422.2	468.00	572.00	1	40	748.8	0.53	5	P4KE520	P4KE520C
P4KE520A-G	P4KE520CA-G	444.6	494.00	546.00	1	40	717.6	0.56	5	P4KE520A	P4KE520CA
P4KE550-G	P4KE550C-G	444.6	495.00	605.00	1	40	792.0	0.51	5	P4KE550	P4KE550C
P4KE550A-G	P4KE550CA-G	470.3	522.50	577.50	1	40	759.0	0.53	5	P4KE550A	P4KE550CA
P4KE600-G	P4KE600C-G	487.2	540.00	660.00	1	40	864.0	0.46	5	P4KE600	P4KE600C
P4KE600A-G	P4KE600CA-G	513.0	570.00	630.00	1	40	828.0	0.48	5	P4KE600A	P4KE600CA

NOTES:

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 V_R of 10 Volts and under, the I_R Limit is double

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RATING AND CHARACTERISTIC CURVES (P4KE-G Series)

Fig.1 Pulse Derating Curve

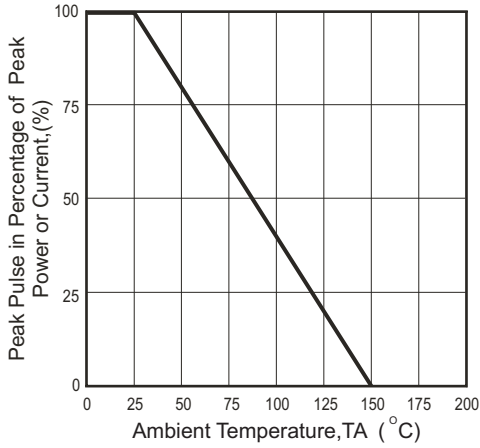


Fig.2 Typical Reverse Characteristics

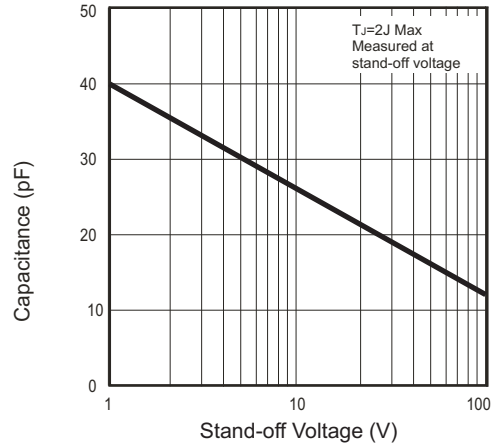


Fig.3 Steady State Power Derating Curve

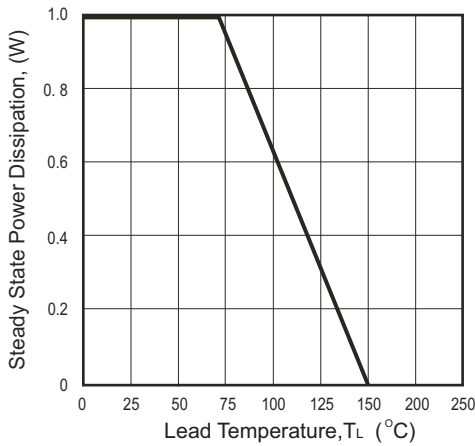


Fig.4 Peak Pulse Power Rating Curve

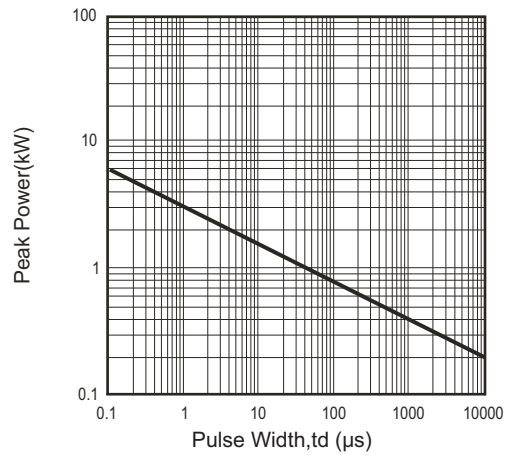


Fig.5 Pulse Waveform

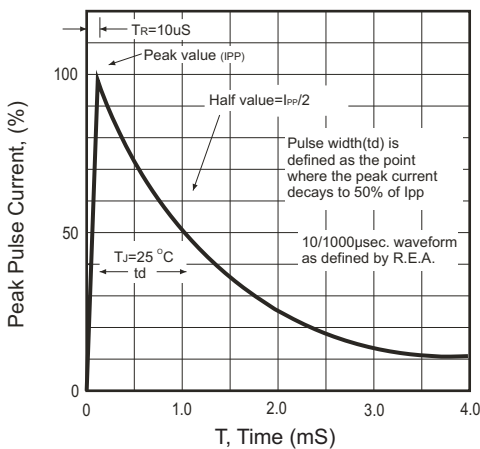


Fig.6 Typical Junction Capacitance

