

400W, 6.8 - 550V Transient Voltage Suppressors

Features

- Very fast response time
- Glass passivated junction
- Excellent clamping capability
- Available in unidirectional and bidirectional
- Plastic package has underwriters Laboratory Flammability Classification 94V-0
- 400 W peak pulse power capability with a 10/1000 μ s waveform



DO-41(DO-204AL)

Applications

- SMPS
- Adapters
- Monitor

Absolute Maximum Ratings (TA=25°C unless otherwise noted)

Parameter	Symbol	Ratings	Unit
Peak power dissipation with a 10/1000us waveform	P _{PPM}	400	W
Peak pulse current with a 10/1000us waveform	I _{PPM}	See Next Table	A
Power dissipation, on infinite heat sink at T _L =75°C	P _D	1.0	W
Peak forward surge current, 8.3ms single half-sine wave	I _{FSM}	40	A
Typical Thermal Resistance , Junction to Ambient	R _{θJA}	52	°C/W
Typical Thermal Resistance , Junction to Case	R _{θJC}	15	°C/W
Typical Thermal Resistance , Junction to Lead	R _{θJL}	13	°C/W
Operating junction and storage temperature range	T _J , T _{STG}	-55 to +175	°C



P4KE6.8 thru P4KE550CA

GOOD-ARK Electronics

Electrical Characteristics (TA = 25 °C unless otherwise noted)

Part Number (Uni)	Part Number (Bi)	Breakdown Voltage VBR (Volts)		Test Current I _T (mA)	Stand off Voltage V _{WM} (Volts)	Maximum reverse leakage at V _{WM} I _D (μA)	Maximum Peak Pulse Current I _{ppM} (A)	Maximum Clamping Voltage at I _{ppM} V _C (Volts)
		Min	Max					
P4KE6.8	P4KE6.8C	6.12	7.48	10.0	5.50	1000	37.0	10.8
P4KE6.8A	P4KE6.8CA	6.45	7.14	10.0	5.80	1000	38.1	10.5
P4KE7.5	P4KE7.5C	6.75	8.25	10.0	6.05	500	34.2	11.7
P4KE7.5A	P4KE7.5CA	7.13	7.88	10.0	6.40	500	35.4	11.3
P4KE8.2	P4KE8.2C	7.38	9.02	10.0	6.63	200	32.0	12.5
P4KE8.2A	P4KE8.2CA	7.79	8.61	10.0	7.02	200	33.1	12.1
P4KE9.1	P4KE9.1C	8.19	10.00	1.0	7.37	50	29.0	13.8
P4KE9.1A	P4KE9.1CA	8.65	9.55	1.0	7.78	50	29.9	13.4
P4KE10	P4KE10C	9.0	11.0	1.0	8.10	10	26.7	15.0
P4KE10A	P4KE10CA	9.5	10.5	1.0	8.55	10	27.6	14.5
P4KE11	P4KE11C	9.9	12.1	1.0	8.92	5.0	24.7	16.2
P4KE11A	P4KE11CA	10.5	11.6	1.0	9.40	5.0	25.6	15.6
P4KE12	P4KE12C	10.8	13.2	1.0	9.72	1.0	23.1	17.3
P4KE12A	P4KE12CA	11.4	12.6	1.0	10.2	1.0	24.0	16.7
P4KE13	P4KE13C	11.7	14.3	1.0	10.5	1.0	21.1	19.0
P4KE13A	P4KE13CA	12.4	13.7	1.0	11.1	1.0	22.0	18.2
P4KE15	P4KE15C	13.5	16.5	1.0	12.1	1.0	18.2	22.0
P4KE15A	P4KE15CA	14.3	15.8	1.0	12.8	1.0	18.9	21.2
P4KE16	P4KE16C	14.4	17.6	1.0	12.9	1.0	17.0	23.5
P4KE16A	P4KE16CA	15.2	16.8	1.0	13.6	1.0	17.8	22.5
P4KE18	P4KE18C	16.2	19.8	1.0	14.5	1.0	15.1	26.5
P4KE18A	P4KE18CA	17.1	18.9	1.0	15.3	1.0	15.9	25.2
P4KE20	P4KE20C	18.0	22.0	1.0	16.2	1.0	13.7	29.1
P4KE20A	P4KE20CA	19.0	21.0	1.0	17.1	1.0	14.4	27.7
P4KE22	P4KE22C	19.8	24.2	1.0	17.8	1.0	12.5	31.9
P4KE22A	P4KE22CA	20.9	23.1	1.0	18.8	1.0	13.1	30.6
P4KE24	P4KE24C	21.6	26.4	1.0	19.4	1.0	11.5	34.7
P4KE24A	P4KE24CA	22.8	25.2	1.0	20.5	1.0	12.0	33.2
P4KE27	P4KE27C	24.3	29.7	1.0	21.8	1.0	10.2	39.1
P4KE27A	P4KE27CA	25.7	28.4	1.0	23.1	1.0	10.7	37.5
P4KE30	P4KE30C	27.0	33.0	1.0	24.3	1.0	9.2	43.5
P4KE30A	P4KE30CA	28.5	31.5	1.0	25.6	1.0	9.7	41.4
P4KE33	P4KE33C	29.7	36.3	1.0	26.8	1.0	8.4	47.7
P4KE33A	P4KE33CA	31.4	34.7	1.0	28.2	1.0	8.8	45.7



P4KE6.8 thru P4KE550CA

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Electrical Characteristics (TA = 25 °C unless otherwise noted)

Part Number (Uni)	Part Number (Bi)	Breakdown Voltage VBR (Volts)		Test Current I _T (mA)	Stand off Voltage V _{WM} (Volts)	Maximum reverse leakage at V _{WM} I _D (μA)	Maximum Peak Pulse Current I _{ppM} (A)	Maximum Clamping Voltage at I _{ppM} V _C (Volts)
		Min	Max					
P4KE36	P4KE36C	32.4	39.6	1.0	29.1	1.0	7.7	52.0
P4KE36A	P4KE36CA	34.2	37.8	1.0	30.8	1.0	8.0	49.9
P4KE39	P4KE39C	35.1	42.9	1.0	31.6	1.0	7.1	56.4
P4KE39A	P4KE39CA	37.1	41.0	1.0	33.3	1.0	7.4	53.9
P4KE43	P4KE43C	38.7	47.3	1.0	34.8	1.0	6.5	61.9
P4KE43A	P4KE43CA	40.9	45.2	1.0	36.8	1.0	6.7	59.3
P4KE47	P4KE47C	42.3	51.7	1.0	38.1	1.0	5.9	67.8
P4KE47A	P4KE47CA	44.7	49.4	1.0	40.2	1.0	6.2	64.8
P4KE51	P4KE51C	45.9	56.1	1.0	41.3	1.0	5.4	73.5
P4KE51A	P4KE51CA	48.5	53.6	1.0	43.6	1.0	5.7	70.1
P4KE56	P4KE56C	50.4	61.6	1.0	45.4	1.0	5.0	80.5
P4KE56A	P4KE56CA	53.2	58.8	1.0	47.8	1.0	5.2	77.0
P4KE62	P4KE62C	55.8	68.2	1.0	50.2	1.0	4.5	89.0
P4KE62A	P4KE62CA	58.9	65.1	1.0	53.0	1.0	4.7	85.0
P4KE68	P4KE68C	61.2	74.8	1.0	55.1	1.0	4.1	98.0
P4KE68A	P4KE68CA	64.6	71.4	1.0	58.1	1.0	4.3	92.0
P4KE75	P4KE75C	67.5	82.5	1.0	60.7	1.0	3.7	108
P4KE75A	P4KE75CA	71.3	78.8	1.0	64.1	1.0	3.9	103
P4KE82	P4KE82C	73.8	90.2	1.0	66.4	1.0	3.4	118
P4KE82A	P4KE82CA	77.9	86.1	1.0	70.1	1.0	3.5	113
P4KE91	P4KE91C	81.9	100	1.0	73.7	1.0	3.1	131
P4KE91A	P4KE91CA	86.5	95.5	1.0	77.8	1.0	3.2	125
P4KE100	P4KE100C	90	110	1.0	81.0	1.0	2.8	144
P4KE100A	P4KE100CA	95	105	1.0	85.5	1.0	2.9	137
P4KE110	P4KE110C	99	121	1.0	89.2	1.0	2.5	158
P4KE110A	P4KE110CA	105	116	1.0	94.0	1.0	2.6	152
P4KE120	P4KE120C	108	132	1.0	97.2	1.0	2.3	173
P4KE120A	P4KE120CA	114	126	1.0	102	1.0	2.4	165
P4KE130	P4KE130C	117	143	1.0	105	1.0	2.1	187
P4KE130A	P4KE130CA	124	137	1.0	111	1.0	2.2	179
P4KE150	P4KE150C	135	165	1.0	121	1.0	1.9	215
P4KE150A	P4KE150CA	143	158	1.0	128	1.0	1.9	207
P4KE160	P4KE160C	144	176	1.0	130	1.0	1.7	230
P4KE160A	P4KE160CA	152	168	1.0	136	1.0	1.8	219



Electrical Characteristics (TA = 25 °C unless otherwise noted)

Part Number (Uni)	Part Number (Bi)	Breakdown Voltage VBR (Volts)		Test Current I _T (mA)	Stand off Voltage V _{WM} (Volts)	Maximum reverse leakage at V _{WM} I _D (μA)	Maximum Peak Pulse Current I _{ppM} (A)	Maximum Clamping Voltage at I _{ppM} V _C (Volts)
		Min	Max					
P4KE170	P4KE170C	153	187	1.0	138	1.0	1.6	244
P4KE170A	P4KE170CA	162	179	1.0	145	1.0	1.7	234
P4KE180	P4KE180C	162	198	1.0	146	1.0	1.6	258
P4KE180A	P4KE180CA	171	189	1.0	154	1.0	1.6	246
P4KE200	P4KE200C	180	220	1.0	162	1.0	1.4	287
P4KE200A	P4KE200CA	190	210	1.0	171	1.0	1.5	274
P4KE220	P4KE220C	198	242	1.0	175	1.0	1.2	344
P4KE220A	P4KE220CA	209	231	1.0	185	1.0	1.2	328
P4KE250	P4KE250C	225	275	1.0	202	1.0	1.1	360
P4KE250A	P4KE250CA	237	263	1.0	214	1.0	1.2	344
P4KE300	P4KE300C	270	330	1.0	243	1.0	0.93	430
P4KE300A	P4KE300CA	285	315	1.0	256	1.0	1.0	414
P4KE350	P4KE350C	315	385	1.0	284	1.0	0.79	504
P4KE350A	P4KE350CA	332	368	1.0	300	1.0	0.83	482
P4KE400	P4KE400C	360	440	1.0	324	1.0	0.70	574
P4KE400A	P4KE400CA	380	420	1.0	342	1.0	0.73	548
P4KE440	P4KE440C	396	484	1.0	356	1.0	0.63	631
P4KE440A	P4KE440CA	418	462	1.0	376	1.0	0.66	602
P4KE480A	P4KE480CA	456	504	1.0	408	1.0	0.61	658
P4KE510A	P4KE510CA	485	535	1.0	434	1.0	0.57	698
P4KE530A	P4KE530CA	503.5	557	1.0	450	1.0	0.55	725
P4KE540A	P4KE540CA	513	567	1.0	459	1.0	0.54	740
P4KE550A	P4KE550CA	522.5	577.5	1.0	467	1.0	0.52	760

Note:

1. Valid provided that leads at a distance of 9.5 mm from case are kept at ambient temperature.

Ratings and Characteristics Curves

($T_A = 25^\circ\text{C}$ unless otherwise noted)

FIG.1-Peak Pulse Power Rating Curve

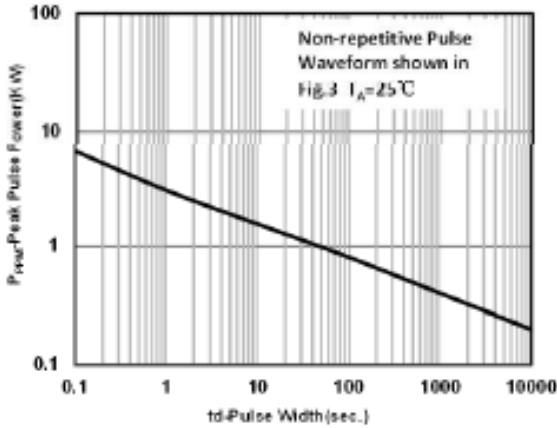


FIG.2-Pulse Derating Curve

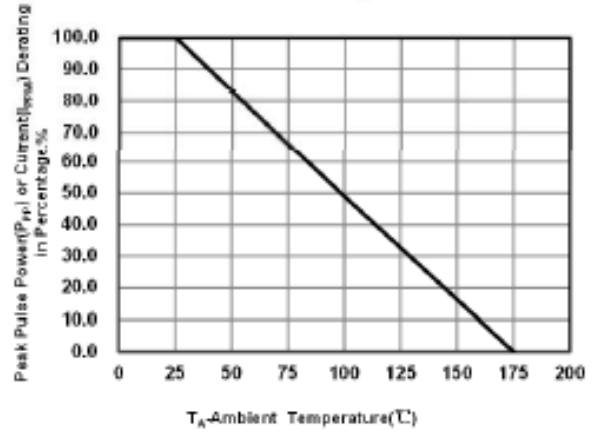


FIG.3-Pulse Waveform

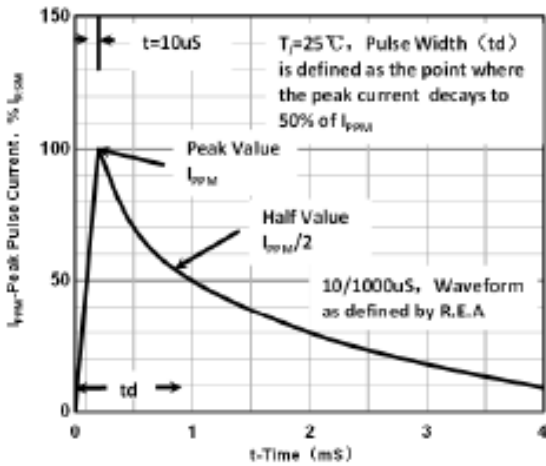


FIG.4-Typ Junction Capacitance Uni-Directional

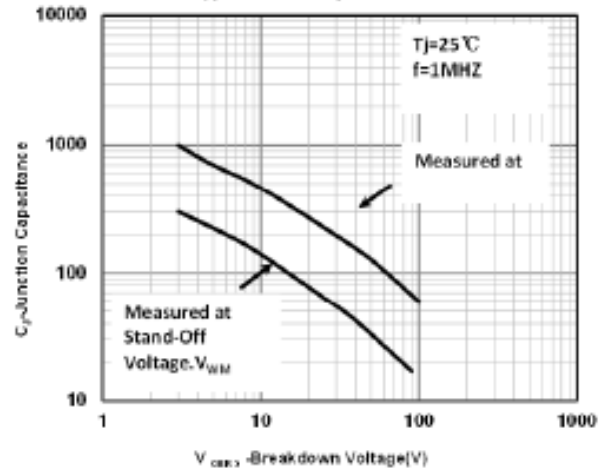


FIG5-Steady State Power Derating Curve

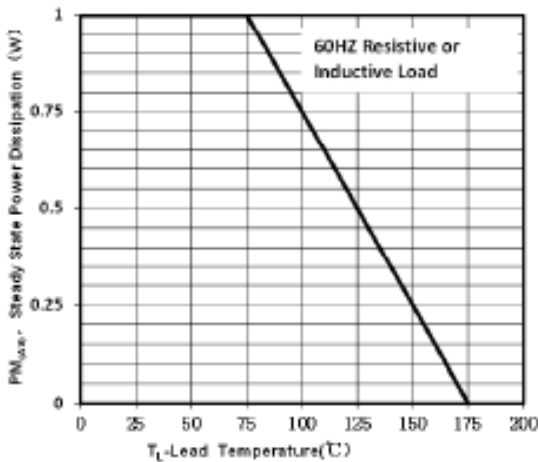
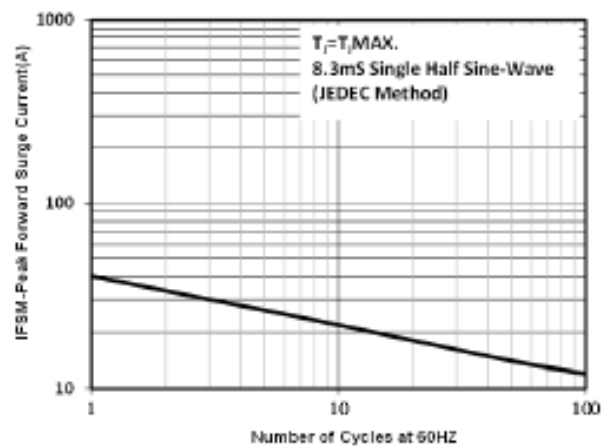


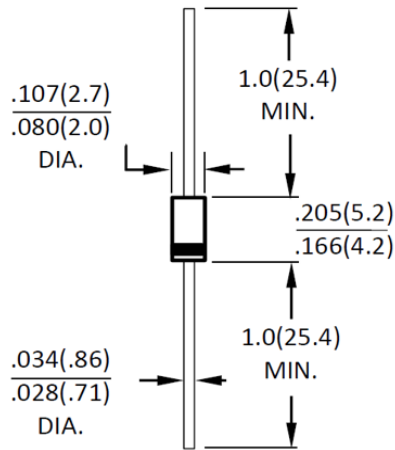
FIG6-Max.Non-Repetitive Forward Surge Current Uni-Directional Only



Package Outline Dimensions

in inches (millimeters)

DO-41(DO-204AL)



Dimensions in inches and (millimeters)

Revision History

Document Version	Date of release	Description of changes
Rev.A	2021.06.15	Released Datasheet
Rev.B	2023.11.28	Modify document format

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