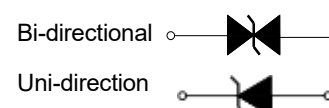


DO-41



Marking:

P4KE XXA/CA

XX : 6.8 To 550

Features

- P_{PP} 400W
- V_{RWM} 6.8V- 550V
- Glass passivated chip

Applications

- Clamping Voltage

Limiting values (Absolute Maximum Rating)

Item	Symbol	Unit	Conditions	Max
Peak pulse power dissipation	P_{PPM}	W	with a 10/1000us waveform	400
Peak pulse current (1)	I_{PPM}	A	with a 10/1000us waveform	See Next Table
Power dissipation	P_D	W	On infinite heat sink at $T_L=75^{\circ}\text{C}$	1.5
Peak forward surge current(2)	I_{FSM}	A	8.3 ms single half sine-wave unidirectional only	40
Operation Junction and Storage Temperature Range	T_J, T_{STG}	$^{\circ}\text{C}$		-55 ~ +150

Electrical Characteristics (Ta=25°C Unless otherwise specified)

Item	Symbol	Unit	Conditions	Max
Maximum instantaneous forward Voltage (3)	VF	V	at 25A for unidirectional only	3.5/5.0
Thermal resistance	$R_{\theta JL}$	$^{\circ}\text{C/W}$	junction to lead	66
	$R_{\theta JA}$	$^{\circ}\text{C/W}$	junction to ambient , $L_{Lead} = 10 \text{ mm}$	100

Notes:

VF = 3.5 V for P4KE220(A) and below; VF = 5.0 V for P4KE250(A) and above

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

Number	Number	Breakdown Voltage V _{BR} @I _T			Maximum Reverse Leakage I _R @ V _{WM} (μA)	Working Peak Reverse Voltage V _{RWM} (V)	Reverse Surge Current I _{PP} (A)	Clamping Voltage V _c @ I _{PP} (V)	Temperature Coefficient of V _{BR} (%/°C)
		Min(V)	Max (V)	IT(mA)					
P4KE6.8A	P4KE6.8CA	6.45	7.14	10	1000	5.8	38.1	10.5	0.057
P4KE7.5A	P4KE7.5CA	7.13	7.88	10	500	6.4	35.4	11.3	0.061
P4KE8.2A	P4KE8.2CA	7.79	8.61	10	200	7.02	33.1	12.1	0.060
P4KE9.1A	P4KE9.1CA	8.65	9.55	1	50	7.78	29.9	13.4	0.068
P4KE10A	P4KE10CA	9.5	10.5	1	10	8.55	27.6	14.5	0.073
P4KE11A	P4KE11CA	10.5	11.6	1	5	9.4	25.6	15.6	0.075
P4KE12A	P4KE12CA	11.4	12.6	1	1	10.2	24	16.7	0.078
P4KE13A	P4KE13CA	12.4	13.7	1	1	11.1	22	18.2	0.081
P4KE15A	P4KE15CA	14.3	15.8	1	1	12.8	18.9	21.2	0.084
P4KE16A	P4KE16CA	15.2	16.8	1	1	13.6	17.8	22.5	0.086
P4KE18A	P4KE18CA	17.1	18.9	1	1	15.3	15.9	25.2	0.088
P4KE20A	P4KE20CA	19	21	1	1	17.1	14.4	27.7	0.090
P4KE22A	P4KE22CA	20.9	23.1	1	1	18.8	13.1	30.6	0.092
P4KE24A	P4KE24CA	22.8	25.2	1	1	20.5	12	33.2	0.094
P4KE27A	P4KE27CA	25.7	28.4	1	1	23.1	10.7	37.5	0.096
P4KE30A	P4KE30CA	28.5	31.5	1	1	25.6	9.7	41.4	0.097
P4KE33A	P4KE33CA	31.4	34.7	1	1	28.2	8.8	45.7	0.098
P4KE36A	P4KE36CA	34.2	37.8	1	1	30.8	8	49.9	0.099
P4KE39A	P4KE39CA	37.1	41	1	1	33.3	7.4	53.9	0.100
P4KE43A	P4KE43CA	40.9	45.2	1	1	36.8	6.7	59.3	0.101
P4KE47A	P4KE47CA	44.7	49.4	1	1	40.2	6.2	64.8	0.101
P4KE51A	P4KE51CA	48.5	53.6	1	1	43.6	5.7	70.1	0.102
P4KE56A	P4KE56CA	53.2	58.8	1	1	47.8	5.2	77	0.103
P4KE62A	P4KE62CA	58.9	65.1	1	1	53	4.7	85	0.104
P4KE68A	P4KE68CA	64.6	71.4	1	1	58.1	4.3	92	0.104
P4KE75A	P4KE75CA	71.3	78.8	1	1	64.1	3.9	103	0.105
P4KE82A	P4KE82CA	77.9	86.1	1	1	70.1	3.5	113	0.105
P4KE91A	P4KE91CA	86.5	95.5	1	1	77.8	3.2	125	0.106
P4KE100A	P4KE100CA	95	105	1	1	85.5	2.9	137	0.106
P4KE110A	P4KE110CA	105	116	1	1	94	2.6	152	0.107
P4KE120A	P4KE120CA	114	126	1	1	102	2.4	165	0.107
P4KE130A	P4KE130CA	124	137	1	1	111	2.2	179	0.107
P4KE150A	P4KE150CA	143	158	1	1	128	1.9	207	0.108
P4KE160A	P4KE160CA	152	168	1	1	136	1.8	219	0.108
P4KE170A	P4KE170CA	162	179	1	1	145	1.7	234	0.108
P4KE180A	P4KE180CA	171	189	1	1	154	1.6	246	0.108

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

Number	Number	Breakdown Voltage $V_{BR}@I_T$			Reverse Leakage I_R @ V_{WM} (μA)	Working Peak Reverse Voltage V_{RWM} (V)	Reverse Surge Current I_{PP} (A)	Clamping Voltage V_C @ I_{PP} (V)	Temperature Coefficient of V_{BR} ($\%/^{\circ}\text{C}$)
		Min(V)	Max (V)	$I_T(\text{mA})$					
P4KE200A	P4KE200CA	190	210	1	1	171	1.5	274	0.108
P4KE220A	P4KE220CA	209	231	1	1	185	1.2	328	0.108
P4KE250A	P4KE250CA	237	263	1	1	214	1.2	344	0.110
P4KE300A	P4KE300CA	285	315	1	1	256	1	414	0.110
P4KE350A	P4KE350CA	333	368	1	1	300	0.83	482	0.110
P4KE400A	P4KE400CA	380	420	1	1	342	0.73	548	0.110
P4KE440A	P4KE440CA	418	462	1	1	376	0.66	602	0.110
P4KE480A	P4KE480CA	456	504	1	1	408	0.61	658	0.110
P4KE510A	P4KE510CA	485	535	1	1	434	0.57	698	0.110
P4KE540A	P4KE540CA	513	567	1	1	459	0.54	740	0.110
P4KE550A	P4KE550CA	522	577	1	1	467	0.53	760	0.110

Typical Characteristics

FIG1: Peak Pulse Power Rating Curve

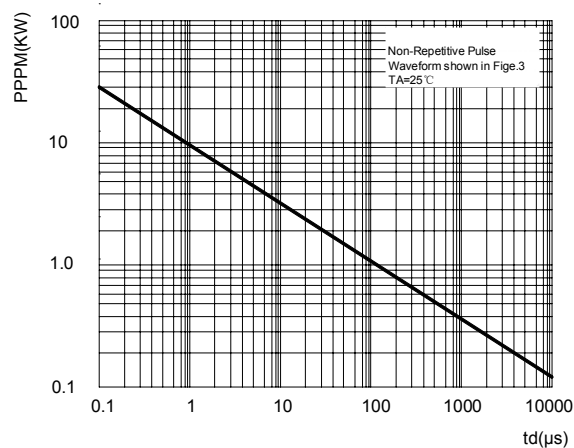


FIG2: Pulse Power or Current vs. Initial Junction Temperature

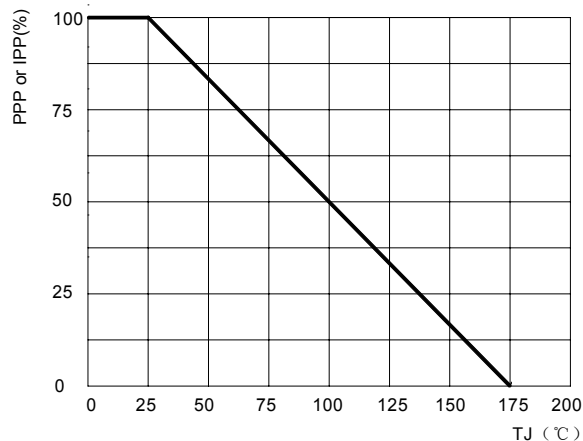


FIG3: Pulse Waveform

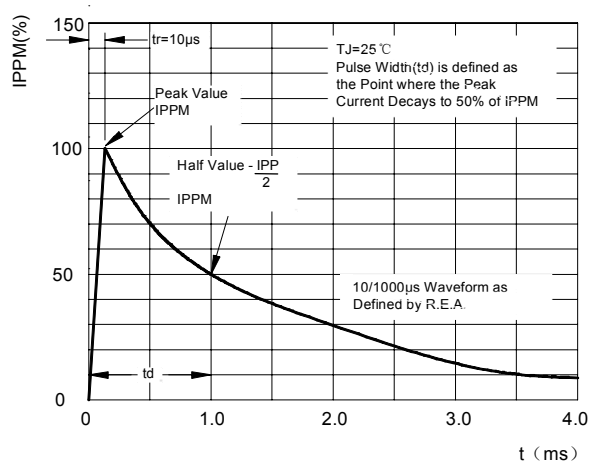


FIG4: Power Derating Curve

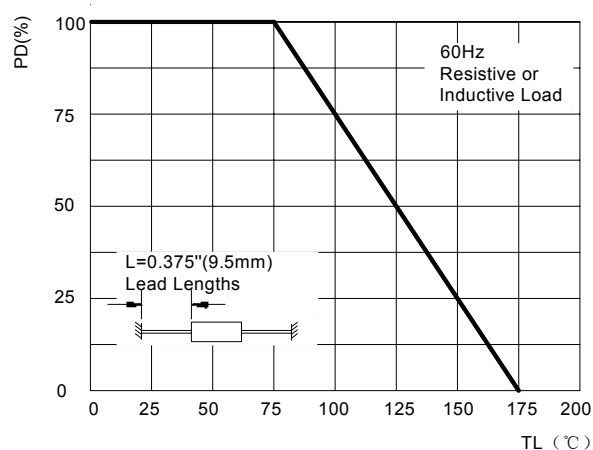


FIG5: Maximum Non-Repetitive Surge Current

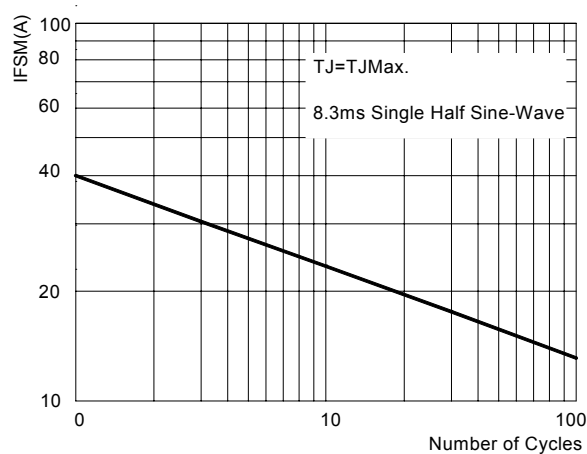
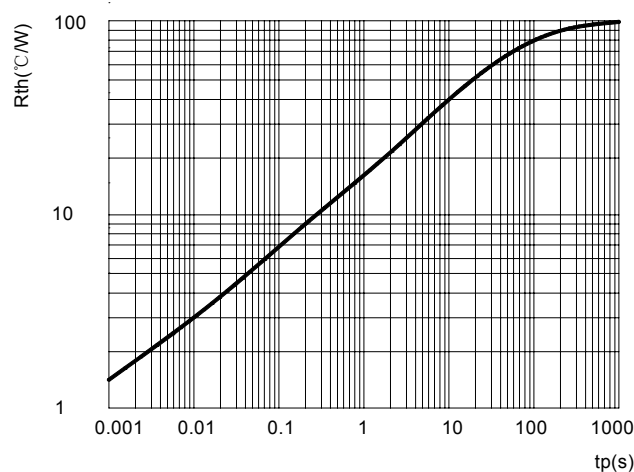
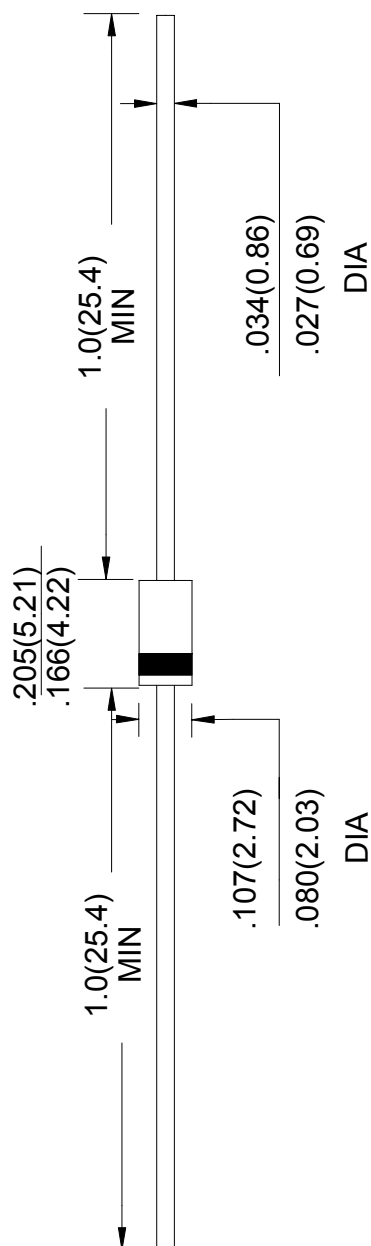


FIG6: Typical Transient Thermal Impedance



DO-4 1 package outline Dimensions



Unit: in inches (millimeters)