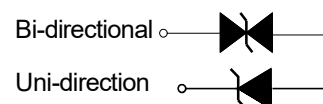


R-6

Marking:

5KP XXA/CA

XX : 5.0 To 188

Features

- P_{PP} 5000W
- V_{RWM} 5V- 188V
- 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	5000
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 $T_L=75^{\circ}\text{C}$	8.0
Peak forward surge current(2)	I_{FSM}	A	8.3 ms single half sine-wave unidirectional only	500
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)	V_F	V	at 100A for unidirectional only	3.5

Notes:

 (1) $V_F < 3.5\text{V}$ for $V_{BR} < 200\text{V}$ and $V_F < 6.5\text{V}$ for $V_{BR} > 201\text{V}$

Electrical Characteristics (T_A=25°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 IPP (A)	Clamping Voltage Vc @ IPP (V)	Temperature Coefficient of V _{BR} (%/°C)
		Min(V)	Max (V)	IT(mA)					
5KP5.0A	5KP5.0CA	6.40	7.00	50	2000	5.0	543	9.2	0.057
5KP6.0A	5KP6.0CA	6.67	7.37	50	5000	6.0	485	10.3	0.061
5KP6.5A	5KP6.5CA	7.22	7.98	50	2000	6.5	446	11.2	0.065
5KP7.0A	5KP7.0CA	7.78	8.60	50	1000	7.0	417	12.0	0.068
5KP7.5A	5KP7.5CA	8.33	9.21	5.0	250	7.5	388	12.9	0.073
5KP8.0A	5KP8.0CA	8.89	9.83	5.0	150	8.0	368	13.6	0.075
5KP8.5A	5KP8.5CA	9.44	10.4	5.0	50	8.5	347	14.4	0.078
5KP9.0A	5KP9.0CA	10.0	11.1	5.0	20	9.0	325	15.4	0.081
5KP10A	5KP10CA	11.1	12.3	5.0	15	10.0	294	17.0	0.084
5KP11A	5KP11CA	12.2	13.5	5.0	10	11.0	275	18.2	0.086
5KP12A	5KP12CA	13.3	14.7	5.0	5.0	12.0	251	19.9	0.088
5KP13A	5KP13CA	14.4	15.9	5.0	2.0	13.0	233	21.5	0.090
5KP14A	5KP14CA	15.6	17.2	5.0	2.0	14.0	216	23.2	0.092
5KP15A	5KP15CA	16.7	18.5	5.0	2.0	15.0	205	24.4	0.094
5KP16A	5KP16CA	17.8	19.7	5.0	2.0	16.0	192	26.0	0.096
5KP17A	5KP17CA	18.9	20.9	5.0	2.0	17.0	181	27.6	0.097
5KP18A	5KP18CA	20.0	22.1	5.0	2.0	18.0	171	29.2	0.098
5KP20A	5KP20CA	22.2	24.5	5.0	2.0	20.0	154	32.4	0.099
5KP22A	5KP22CA	24.4	26.9	5.0	2.0	22.0	141	35.5	0.100
5KP24A	5KP24CA	26.7	29.5	5.0	2.0	24.0	129	38.9	0.101
5KP26A	5KP26CA	28.9	31.9	5.0	2.0	26.0	119	42.1	0.101
5KP28A	5KP28CA	31.1	34.4	5.0	2.0	28.0	110	45.4	0.102
5KP30A	5KP30CA	33.3	36.8	5.0	2.0	30.0	103	48.4	0.103
5KP33A	5KP33CA	36.7	40.6	5.0	2.0	33.0	93.8	53.3	0.104
5KP36A	5KP36CA	40.0	44.2	5.0	2.0	36.0	86.1	58.1	0.104
5KP40A	5KP40CA	44.4	49.1	5.0	2.0	40.0	77.5	64.5	0.105
5KP43A	5KP43CA	47.8	52.8	5.0	2.0	43.0	72.0	69.4	0.105
5KP45A	5KP45CA	50.0	55.3	5.0	2.0	45.0	68.8	72.7	0.106
5KP48A	5KP48CA	53.3	58.9	5.0	2.0	48.0	64.6	77.4	0.106
5KP51A	5KP51CA	56.7	62.7	5.0	2.0	51.0	60.7	82.4	0.107
5KP54A	5KP54CA	60.0	66.3	5.0	2.0	54.0	57.4	87.1	0.107
5KP58A	5KP58CA	64.4	71.2	5.0	2.0	58.0	53.4	94	0.107
5KP60A	5KP60CA	66.7	73.7	5.0	2.0	60.0	51.7	97	0.108
5KP64A	5KP64CA	71.1	78.6	5.0	2.0	64.0	48.5	103	0.108
5KP70A	5KP70CA	77.8	86.0	5.0	2.0	70.0	44.2	113	0.108
5KP75A	5KP75CA	83.3	92.1	5.0	2.0	75.0	41.3	121	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 IPP (A)	Clamping Voltage V_C @ I_{CP} (V)	Temperature Coefficient of V_{BR} ($\%/^{\circ}\text{C}$)
		Min(V)	Max (V)	IT(mA)					
5KP78A	5KP78CA	86.7	95.8	5.0	2.0	78.0	39.7	126	0.108
5KP85A	5KP85CA	94.4	104	5.0	2.0	85.0	36.5	137	0.110
5KP90A	5KP90CA	100	111	5.0	2.0	90.0	34.2	146	0.110
5KP100A	5KP100CA	111	123	5.0	2.0	100	30.9	162	0.110
5KP110A	5KP110CA	122	135	5.0	2.0	110	28.2	177	0.112
5KP120A	5KP120CA	133	147	5.0	2.0	120	25.9	193	0.112
5KP130A	5KP130CA	144	159	5.0	2.0	130	23.9	209	0.112
5KP150A	5KP150CA	167	185	5.0	2.0	150	20.6	243	0.112
5KP160A	5KP160CA	178	197	5.0	2.0	160	19.3	259	0.112
5KP170A	5KP170CA	189	209	5.0	2.0	170	18.2	275	0.112
5KP188A	5KP188CA	209	231	5.0	2.0	188	15.2	328	0.112

Typical Characteristics

FIG1: Peak Pulse Power Rating Curve

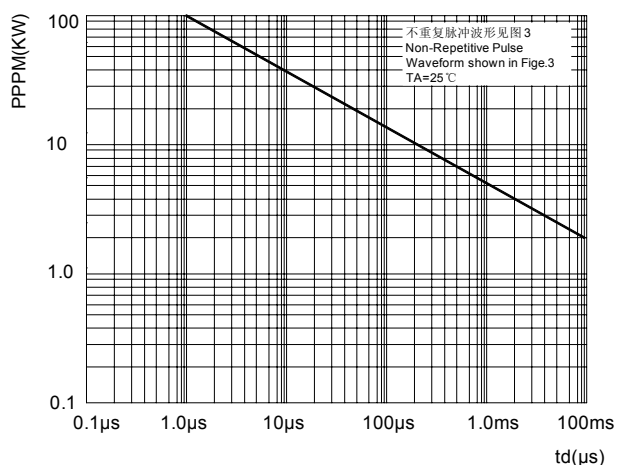


FIG2: Pulse Power or Current vs. Initial Junction Temperature

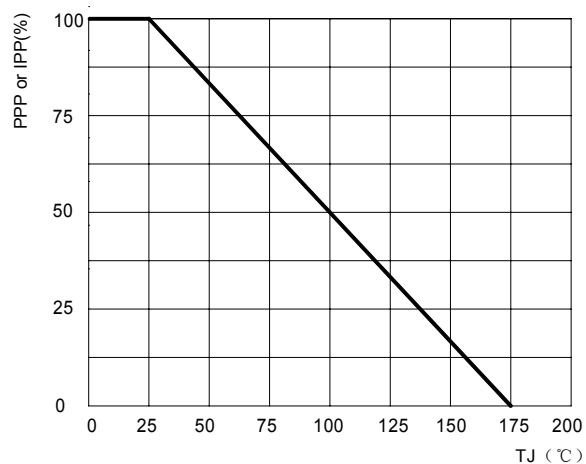


FIG3: Pulse Waveform

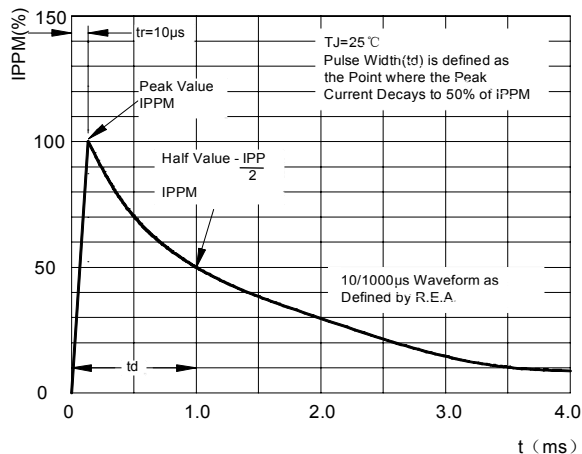


FIG4: Power Derating Curve

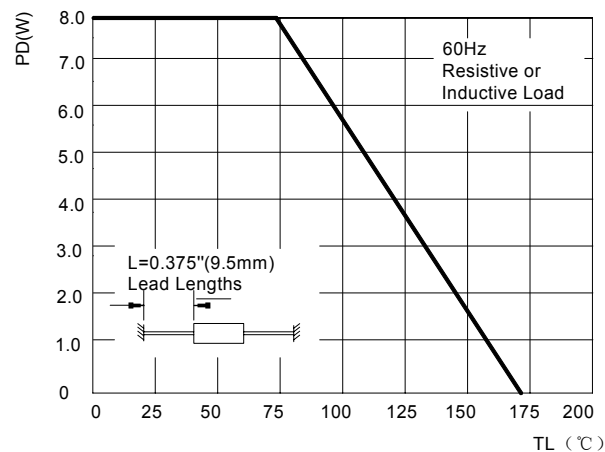
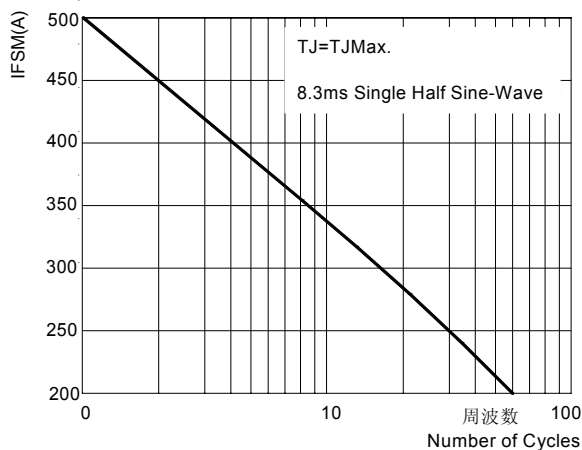
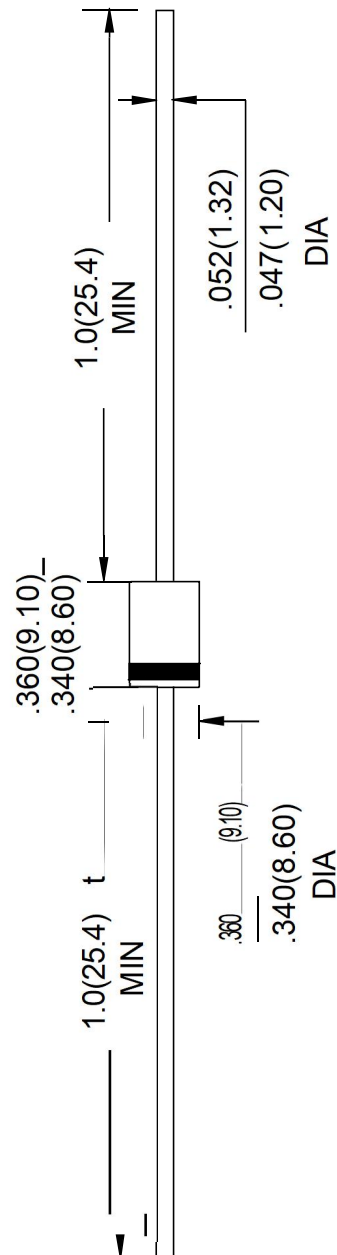


FIG5: Maximum Non-Repetitive Surge Current



R-6 package outline Dimensions



Unit: in inches (millimeters)