R-6 Plastic-Encapsulate Diodes

6KP SERIES Transient Voltage Suppressor Diodes

Features

- P_{PP} 6000W
- V_{RWM} 5V- 440V
- Glass passivated chip

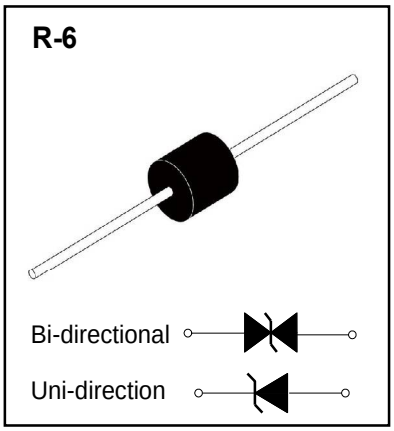
Applications

- Clamping Voltage

Marking

- 6KP XXA/CA

XX：From 5.0 To 440



Limiting Values (Absolute Maximum Rating)

Item	Symbol	Unit	Conditions	Max
Peak pulse power dissipation	P_{PPM}	W	with a 10/1000us waveform	6000
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℃	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}	℃		-55 ~ +150

Electrical Characteristics（T_a=25℃ Unless otherwise specified）

Item	Symbol	Unit	Conditions	Max
Maximum instantaneous forward Voltage (3)	V_F	V	at 25A for unidirectional only	3.5/5.0

Notes:

(1) VF<3.5V for VBR<200V and VF<6.5V for VBR>201V

Electrical Characteristics (T_A=25℃ unless otherwise noted)

Part Number		Reverse Stand-Off Voltage	Breakdown Voltage @IT		Test Current	Maximum Clamping Voltage @IPP (V)	Maximum Peak Pulse Current	Maximum Reverse Leakage @VRWM
Uni	Bi	VRWM (V)	VBR MIN(V)	VBR MAX(V)	IT (mA)	VC(V)	IPP (A)	IR(μA)
6KP5.0A	6KP5.0CA	5	6.4	7	10	9.2	652.2	1000
6KP6.0A	6KP6.0CA	6	6.67	7.37	10	10.3	582.5	1000
6KP6.5A	6KP6.5CA	6.5	7.22	7.98	10	11.2	535.7	500
6KP7.0A	6KP7.0CA	7	7.78	8.6	10	12	500	500
6KP7.5A	6KP7.5CA	7.5	8.33	9.21	1	12.9	465.1	300
6KP8.0A	6KP8.0CA	8	8.89	9.83	1	13.6	441.2	300
6KP8.5A	6KP8.5CA	8.5	9.44	10.4	1	14.4	416.7	150
6KP9.0A	6KP9.0CA	9	10	11.1	1	15.4	389.6	50
6KP10A	6KP10CA	10	11.1	12.3	1	17	352.9	5
6KP11A	6KP11CA	11	12.2	13.5	1	18.2	329.7	5
6KP12A	6KP12CA	12	13.3	14.7	1	19.9	301.5	5
6KP13A	6KP13CA	13	14.4	15.9	1	21.5	279.1	5
6KP14A	6KP14CA	14	15.6	17.2	1	23.2	258.6	5
6KP15A	6KP15CA	15	16.7	18.5	1	24.4	245.9	5
6KP16A	6KP16CA	16	17.8	19.7	1	26	230.8	5
6KP17A	6KP17CA	17	18.9	20.9	1	27.6	217.4	5
6KP18A	6KP18CA	18	20	22.1	1	29.2	205.5	5
6KP19A	6KP19CA	19	21.1	23.3	1	30.8	194.8	5
6KP20A	6KP20CA	20	22.2	24.5	1	32.4	185.2	5
6KP22A	6KP22CA	22	24.4	26.9	1	35.5	169.0	5
6KP24A	6KP24CA	24	26.7	29.5	1	38.9	154.2	5
6KP26A	6KP26CA	26	28.9	31.9	1	42.1	142.5	5
6KP28A	6KP28CA	28	31.1	34.4	1	45.4	132.2	5
6KP30A	6KP30CA	30	33.3	36.8	1	48.4	124.0	5
6KP33A	6KP33CA	33	36.7	40.6	1	53.3	112.6	5
6KP36A	6KP36CA	36	40	44.2	1	58.1	103.3	5
6KP40A	6KP40CA	40	44.4	49.1	1	64.5	93.0	5
6KP43A	6KP43CA	43	47.8	52.8	1	69.4	86.5	5
6KP45A	6KP45CA	45	50	55.3	1	72.7	82.5	5
6KP48A	6KP48CA	48	53.3	58.9	1	77.4	77.5	5
6KP51A	6KP51CA	51	56.7	62.7	1	82.4	72.8	5
6KP54A	6KP54CA	54	60	66.3	1	87.1	68.9	5
6KP58A	6KP58CA	58	64.4	71.2	1	93.6	64.1	5
6KP60A	6KP60CA	60	66.7	73.7	1	96.8	62.0	5
6KP64A	6KP64CA	64	71.1	78.6	1	103	58.3	5
6KP70A	6KP70CA	70	77.8	86	1	113	53.1	5
6KP75A	6KP75CA	75	83.3	92.1	1	121	49.6	5
6KP78A	6KP78CA	78	86.7	95.8	1	126	47.6	5
6KP80A	6KP80CA	80	88.8	97.6	1	129.6	46.3	5
6KP85A	6KP85CA	85	94.4	104	1	137	43.8	5
6KP90A	6KP90CA	90	100	111	1	146	41.1	5
6KP100A	6KP100CA	100	111	123	1	162	37.0	5
6KP110A	6KP110CA	110	122	135	1	177	33.9	5
6KP120A	6KP120CA	120	133	147	1	193	31.1	5
6KP130A	6KP130CA	130	144	159	1	209	28.7	5
6KP140A	6KP140CA	140	155	171	1	226.8	26.5	5
6KP150A	6KP150CA	150	167	185	1	243	24.7	5
6KP160A	6KP160CA	160	178	197	1	259	23.2	5
6KP170A	6KP170CA	170	189	209	1	275	21.8	5
6KP180A	6KP180CA	180	201	220	1	291.6	20.6	5

Electrical Characteristics (T_A=25℃ unless otherwise noted)

Part Number		Reverse Stand-Off Voltage	Breakdown Voltage @IT		Test Current	Maximum Clamping Voltage @IPP (V)	Maximum Peak Pulse Current	Maximum Reverse Leakage @VRWM
Uni	Bi	VRWM (V)	VBR MIN(V)	VBR MAX(V)	IT (mA)	VC(V)	IPP (A)	IR(μA)
6KP190A	6KP190CA	190	211	232	1	307.8	19.5	5
6KP200A	6KP200CA	200	224	247	5	324	15.43	5
6KP210A	6KP210CA	210	233	258	5	349.5	14.31	5
6KP220A	6KP220CA	220	246	272	5	356	14.04	5
6KP250A	6KP250CA	250	279	309	5	405	12.35	5
6KP300A	6KP300CA	300	335	371	5	486	10.29	5
6KP350A	6KP350CA	350	391	432	5	567	8.82	5
6KP400A	6KP400CA	400	447	494	5	648	7.72	5
6KP440A	6KP440CA	440	492	543	5	713	7.01	5

Typical Characteristics

FIG1:Peak Pulse Power Rating Curve

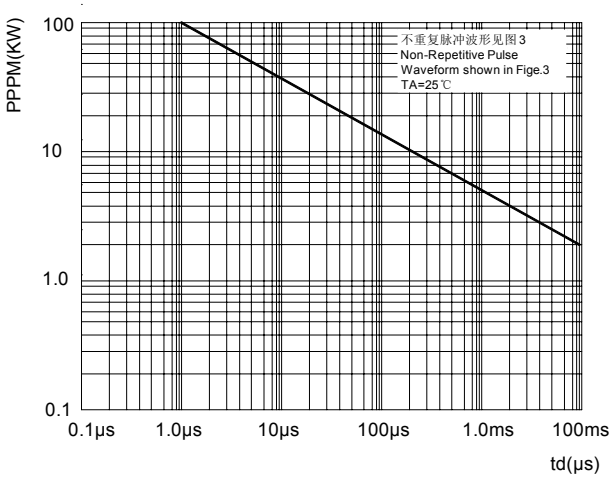


FIG2: Pulse Power or Current vs. Initial Junction Temperature

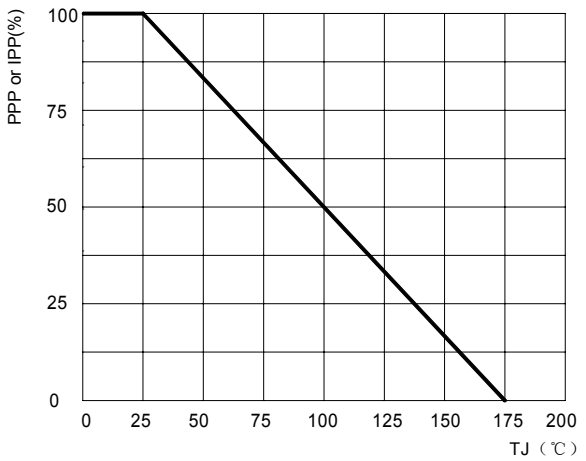


FIG3: Pulse Waveform

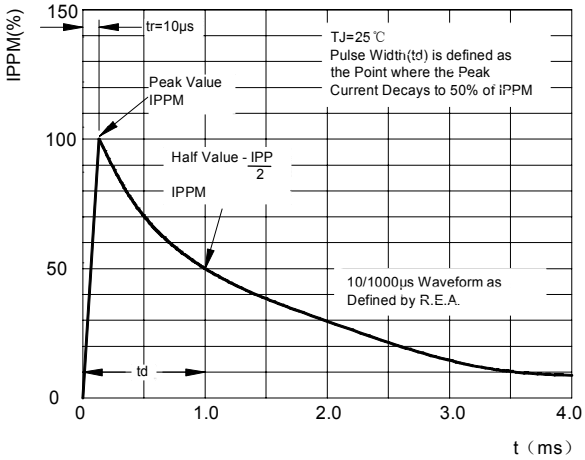


FIG4: Power Derating Curve

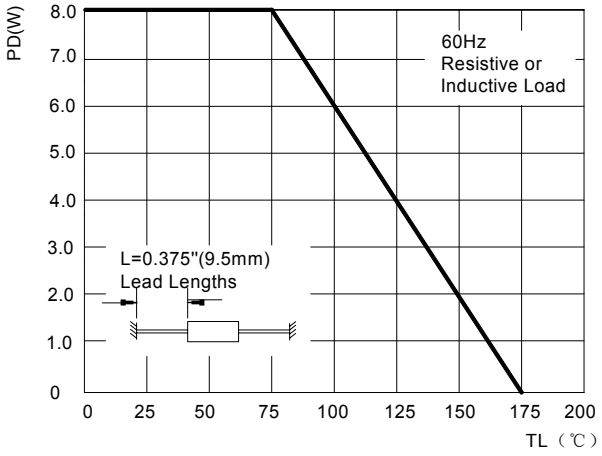
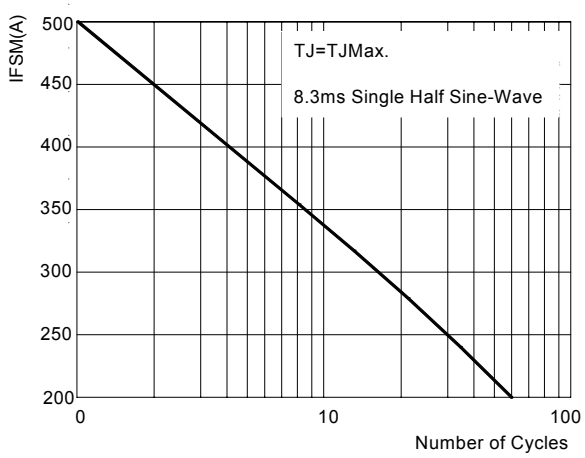
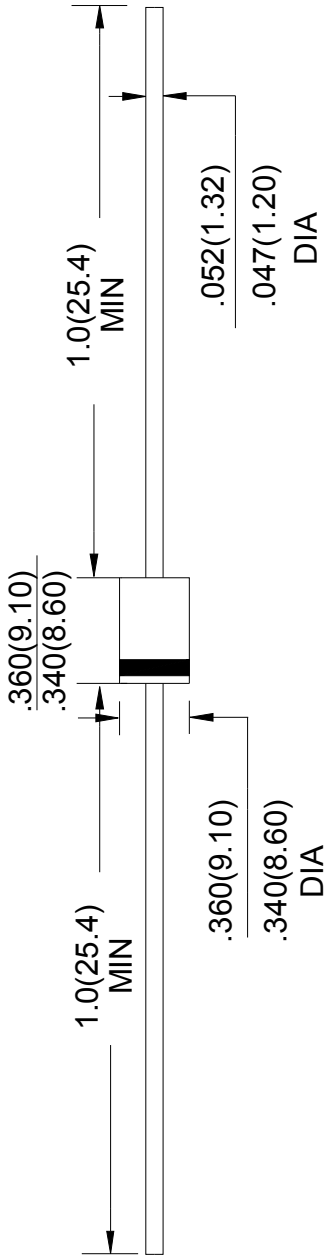


FIG5: Maximum Non-Repetitive Surge Current



R-6 Package Outline Dimensions



Unit: in inches (millimeters)

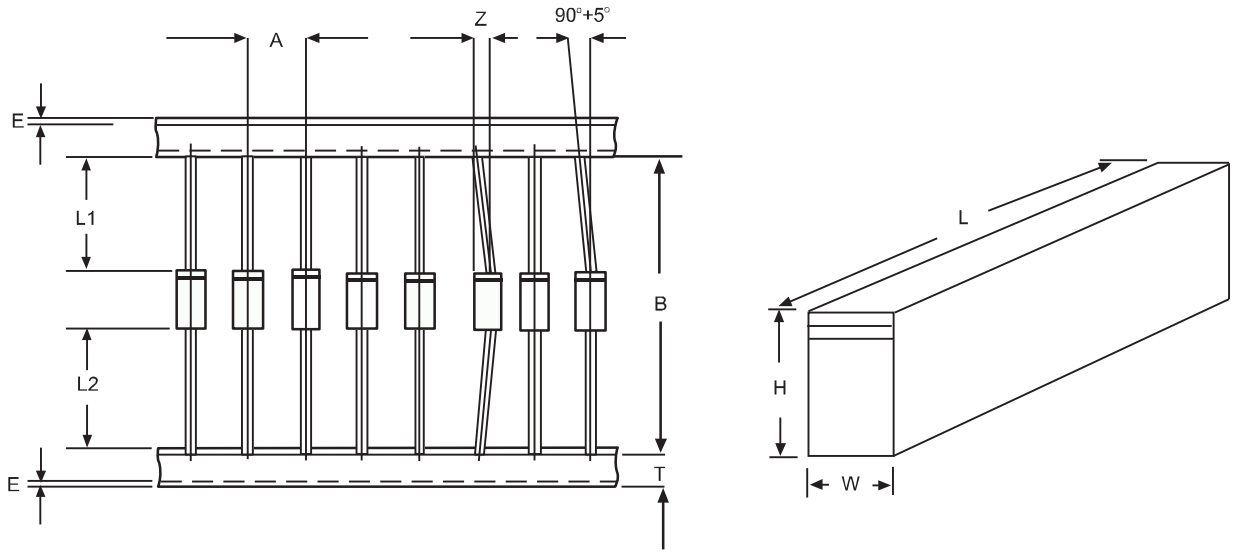
NOTICE

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Ammo Box Packaging Specifications For Axial Lead Rectifiers

Axial lead devices are packed in accordance with EIA standard RS-296-D and specifications given below

COMPONENT OUTLINE	COMPONENT PITCH A	INNER TAPE PITCH B	CUMULATIVE PITCH TOLERANCE
	±0.5mm(.020``)	+0.5mm(.020``)	
R-1	5.0mm	26.0mm	2.0mm/20pitch
R-1	5.0mm	52.4mm	2.0mm/10pitch
A-405	5.0mm	26.0mm	2.0mm/20pitch
A-405	5.0mm	52.4mm	2.0mm/10pitch
DO-34/DO-35	5.0mm	26.0mm	2.0mm/20pitch
DO-34/DO-35	5.0mm	52.4mm	2.0mm/10pitch
DO-41	5.0mm	26.0mm	2.0mm/20pitch
DO-41	5.0mm	52.4mm	2.0mm/10pitch
DO-15	5.0mm	52.4mm	2.0mm/10pitch
DO-27	10.0mm	52.4mm	2.0mm/10pitch
R-6	10.0mm	52.4mm	2.0mm/10pitch



ITEM	SYMBOL	SPECIFICATIONS(mm)	SPECIFICATIONS(inch)
Component alignment	Z	1.2max	0.048max
Tape width	T	6.0±0.4	0.236±0.016
Exposed adhesive	E	0.8max	0.032max
Body eccentricity	|L1-L2|	1.0max	0.040max
Box length	L	255.0±5.0	10.04±0.197
Box width	W	78.0±5.0	3.07±0.197
Box height	H	150.0±5.0	5.91±0.197

NOTE:Each component lead shall be sandwiched between tapes for A minimum of 3.2mm(0.126``)