



# 5KP5.0A ~ 5.0KP220CA Series

## GLASS PASSIVATED JUNCTION TRANSIENT VOLTAGE SUPPRESSOR PEAK PULSE POWER 5000 Watt

**STAND-OFF VOLTAGE**

**5 to 220 Volt**

**P-600**

Unit : inch(mm)

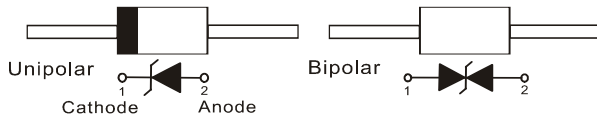
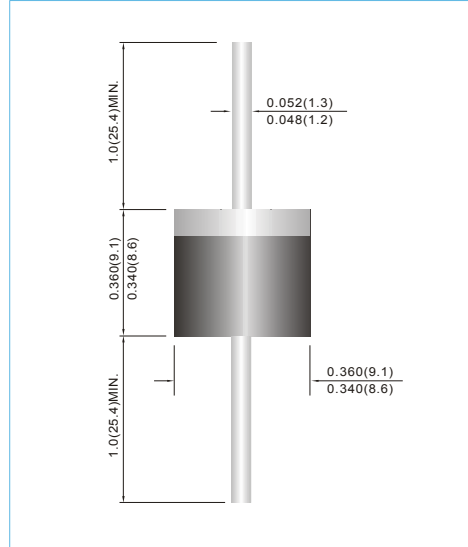
**Recongized File # E210467**

### FEATURES

- Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- 5000W Peak Pulse Power capability at on tp=10/1000µs waveform
- Excellent clamping capability
- Low zener impedance
- Repetition rate(Duty Cycle):.05%
- Fast response time : typically less than 1 ps from 0 volts to BV min
- ESD IEC-61000-4-2 Air ± 30kV, Contact ± 30kV
- Lead free in compliance with EU RoHS 2.0
- Green molding compound as per IEC 61249 standard

### MECHANICAL DATA

- Case : JEDEC P-600 molded plastic
- Terminals : Axial leads, solderable per MIL-STD-750, Method 2026
- Polarity : Color band denotes cathode end
- Approx. Weight : 2.04 grams



### DEVICES FOR BIPOLARAPPLICATIONS

For Bidirectional use CA Suffix for types 5KP5.0CA thru types 5KP220CA  
Electrical characteristics apply in both directions.

### MAXIMUM RATINGS AND CHARACTERISTICS

Rating at 25°Cambient temperature unless otherwise specified.

Rating	Symbol	Value	Units
Peak Power Dissipation at $T_A=25^\circ\text{C}$ , $t_p=1\text{ms}$ (Notes 1)	$P_{PP}$	5000	Watts
Typical Thermal Resistance Junction to Air Lead Lengths 0.375", (9.5mm) (Notes 2)	$R_{\theta JA}$	10	$^\circ\text{C} / \text{W}$
Peak Pulse Current on $t_p=10/1000\mu\text{s}$ waveform (Notes 1)	$I_{PPM}$	see Table	Amps
Peak Forward Surge Current, 8.3ms Single Half Sine-Wave Superimposed on Rated Load (Notes 3)	$I_{FSM}$	400	Amps
ESD IEC-61000-4-2 (Air) ESD IEC-61000-4-2 (Contact)	$V_{ESD}$	$\pm 30$ $\pm 30$	kV
Operating Junction and Storage Temperature Range	$T_J, T_{STG}$	-55 to +175	$^\circ\text{C}$

#### NOTES :

- 1.Non-repetitive current pulse, per Fig. 3 and derated above  $T_A=25^\circ\text{C}$  per Fig. 2.
- 2.Mounted on Copper Leaf area of  $0.79\text{in}^2(20\text{mm}^2)$ .
- 3.8.3ms single half sine-wave, duty cycle= 4 pulses per minutes maximum.
- 4.A transient suppressor is selected according to the working peak reverse voltage ( $V_{RWM}$ ), which should be equal to or greater than the DC or continuous peak operating voltage level.



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Part Number		Reverse Stand-off Voltage	Breakdown Voltage		Test Current	Reverse Leakage		Max. Clamp Voltage 10/1000us	Peak Pulse Current 10/1000us	Marking Code	
		V <sub>RWM</sub> (Notes 4)	V <sub>BR</sub> @ I <sub>T</sub>		I <sub>T</sub>	I <sub>R</sub> @ V <sub>RWM</sub>		V <sub>C</sub> @ I <sub>PP</sub>	I <sub>PP</sub>		
UNI	BI		V	Min. V		Max. V	mA			UNI uA	BI uA
5000W Transient Voltage Suppressor											
5KP5.0A	5KP5.0CA	5	6.4	7.25	50	5000	10000	9.2	543	5KP5.0A	5KP5.0CA
5KP6.0A	5KP6.0CA	6	6.67	7.67	50	5000	10000	10.3	485	5KP6.0A	5KP6.0CA
5KP6.5A	5KP6.5CA	6.5	7.22	8.3	50	2000	4000	11.2	447	5KP6.5A	5KP6.5CA
5KP7.0A	5KP7.0CA	7	7.78	8.95	50	1000	2000	12	417	5KP7.0A	5KP7.0CA
5KP7.5A	5KP7.5CA	7.5	8.33	9.58	5	250	500	12.9	388	5KP7.5A	5KP7.5CA
5KP8.0A	5KP8.0CA	8	8.89	10.23	5	150	300	13.6	367	5KP8.0A	5KP8.0CA
5KP8.5A	5KP8.5CA	8.5	9.44	10.82	5	50	100	14.4	347	5KP8.5A	5KP8.5CA
5KP9.0A	5KP9.0CA	9	10	11.5	5	20	40	15.4	325	5KP9.0A	5KP9.0CA
5KP10A	5KP10CA	10	11.1	12.8	5	6	6	17	294	5KP10A	5KP10CA
5KP11A	5KP11CA	11	12.2	14	5	6	6	18.2	274	5KP11A	5KP11CA
5KP12A	5KP12CA	12	13.3	15.3	5	6	6	19.9	251	5KP12A	5KP12CA
5KP13A	5KP13CA	13	14.4	16.5	5	6	6	21.5	232	5KP13A	5KP13CA
5KP14A	5KP14CA	14	15.6	17.9	5	6	6	23.2	215	5KP14A	5KP14CA
5KP15A	5KP15CA	15	16.7	19.2	5	6	6	24.4	206	5KP15A	5KP15CA
5KP16A	5KP16CA	16	17.8	20.5	5	6	6	26	192	5KP16A	5KP16CA
5KP17A	5KP17CA	17	18.9	21.7	5	6	6	27.6	181	5KP17A	5KP17CA
5KP18A	5KP18CA	18	20	23.3	5	6	6	29.2	172	5KP18A	5KP18CA
5KP20A	5KP20CA	20	22.2	25.5	5	6	6	32.4	154	5KP20A	5KP20CA
5KP22A	5KP22CA	22	24.4	28	5	6	6	35.5	141	5KP22A	5KP22CA
5KP24A	5KP24CA	24	26.7	30.7	5	6	6	38.9	128	5KP24A	5KP24CA
5KP26A	5KP26CA	26	28.9	33.2	5	6	6	42.1	119	5KP26A	5KP26CA
5KP28A	5KP28CA	28	31.1	35.8	5	6	6	45.4	110	5KP28A	5KP28CA
5KP30A	5KP30CA	30	33.3	38.3	5	6	6	48.4	103	5KP30A	5KP30CA
5KP33A	5KP33CA	33	36.7	42.2	5	6	6	53.3	94	5KP33A	5KP33CA
5KP36A	5KP36CA	36	40	46	5	6	6	58.1	85	5KP36A	5KP36CA
5KP40A	5KP40CA	40	44.4	51.1	5	6	6	64.5	78	5KP40A	5KP40CA
5KP43A	5KP43CA	43	47.8	54.9	5	6	6	69.4	72	5KP43A	5KP43CA
5KP45A	5KP45CA	45	50	57.5	5	6	6	72.7	69	5KP45A	5KP45CA
5KP48A	5KP48CA	48	53.3	61.3	5	6	6	77.4	65	5KP48A	5KP48CA
5KP51A	5KP51CA	51	56.7	65.2	5	6	6	82.4	61	5KP51A	5KP51CA
5KP54A	5KP54CA	54	60	69	5	6	6	87.1	57	5KP54A	5KP54CA
5KP58A	5KP58CA	58	64.4	74.1	5	6	6	93.6	53	5KP58A	5KP58CA
5KP60A	5KP60CA	60	66.7	76.7	5	6	6	96.8	52	5KP60A	5KP60CA
5KP64A	5KP64CA	64	71.1	81.8	5	6	6	103	49	5KP64A	5KP64CA
5KP70A	5KP70CA	70	77.8	89.5	5	6	6	113	44	5KP70A	5KP70CA
5KP75A	5KP75CA	75	83.3	95.8	5	6	6	121	41	5KP75A	5KP75CA
5KP78A	5KP78CA	78	86.7	99.7	5	6	6	126	40	5KP78A	5KP78CA
5KP85A	5KP85CA	85	94.4	108.2	5	6	6	137	36	5KP85A	5KP85CA
5KP90A	5KP90CA	90	100	115.5	5	6	6	146	34	5KP90A	5KP90CA
5KP100A	5KP100CA	100	111	128	5	6	6	162	31	5KP100A	5KP100CA
5KP110A	5KP110CA	110	122	140.5	5	6	6	177	28	5KP110A	5KP110CA
5KP120A	5KP120CA	120	133	153	5	6	6	193	20	5KP120A	5KP120CA
5KP130A	5KP130CA	130	144	165.5	5	6	6	209	24	5KP130A	5KP130CA
5KP150A	5KP150CA	150	167	192.5	5	6	6	243	21	5KP150A	5KP150CA
5KP160A	5KP160CA	160	178	205	5	6	6	259	19	5KP160A	5KP160CA
5KP170A	5KP170CA	170	189	217.5	5	6	6	275	18	5KP170A	5KP170CA
5KP180A	5KP180CA	180	198	230.4	1	3	3	292	17	5KP180A	5KP180CA
5KP190A	5KP190CA	190	209	243.2	1	3	3	308	16	5KP190A	5KP190CA
5KP200A	5KP200CA	200	220	256	1	3	3	324	15	5KP200A	5KP200CA

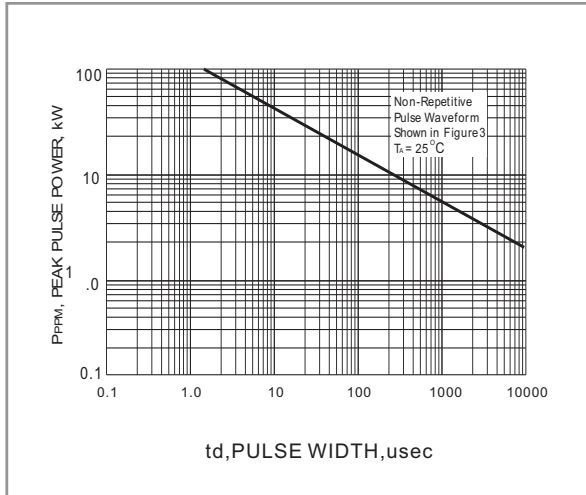


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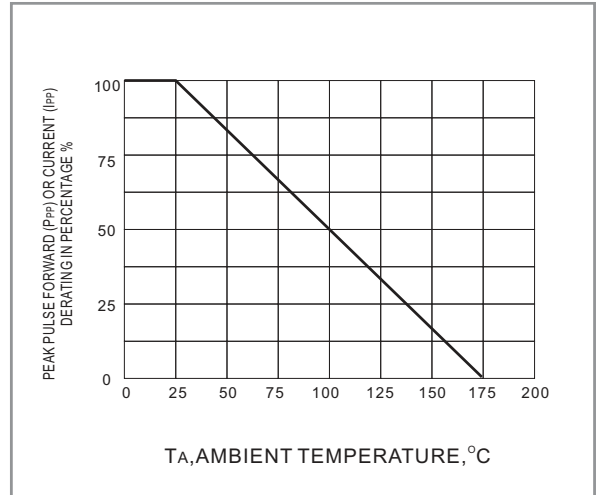
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			V <sub>BR</sub> @ I <sub>T</sub>			I <sub>R</sub> @ V <sub>RWM</sub>					
UNI	BI	V	Min.	Max.	mA	UNI	BI	V	A	UNI	BI
			V	V		uA	uA				
5000W Transient Voltage Suppressor											
5KP210A	5KP210CA	210	231	268.8	1	3	3	340	15	5KP210A	5KP210CA
5KP220A	5KP220CA	220	242	282	1	3	3	356	14	5KP220A	5KP220CA



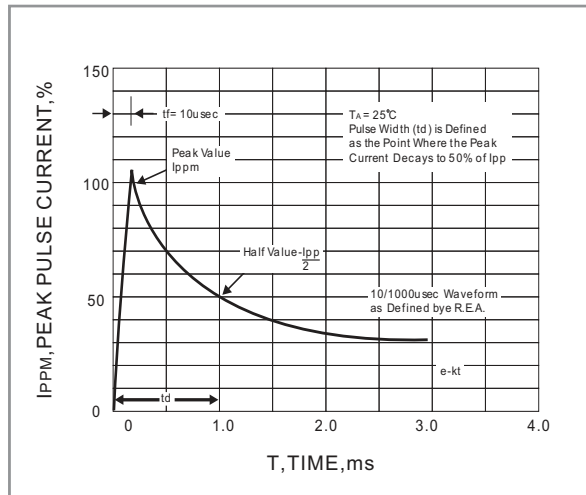
# 5KP5.0A ~ 5.0KP220CA Series



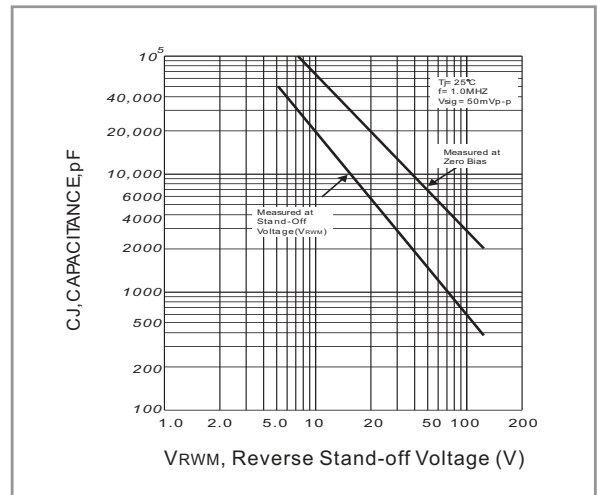
**Fig.1 PEAK PULSE POWER RATING VERSUS PULSE TIME CURVE**



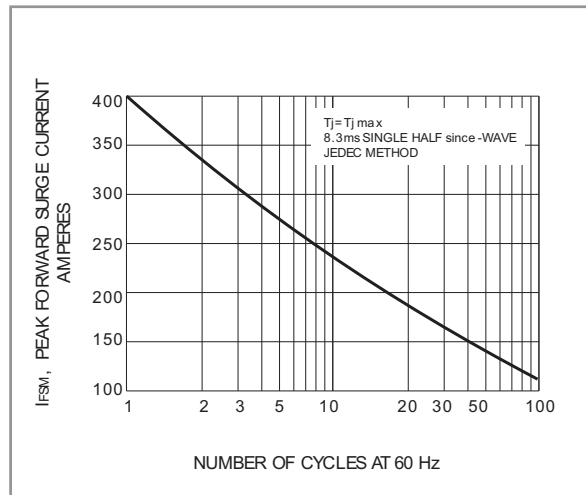
**Fig.2 PULSE DERATING CURVE**



**Fig.3 PULSE WAVEFORM**



**Fig.4 TYPICAL JUNCTION CAPACITANCE**



**Fig.5 MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT UNIDIRECTIONAL**



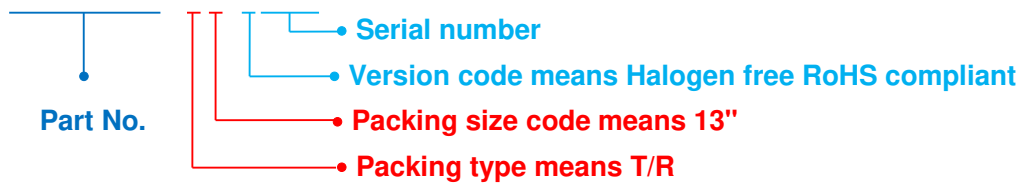
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## Part No.\_packing code\_Version

- 5KP5.0A\_AY\_00001
- 5KP5.0A\_AY\_10001
- 5KP5.0A\_B0\_00001
- 5KP5.0A\_B0\_10001
- 5KP5.0A\_R2\_00001
- 5KP5.0A\_R2\_10001

For example :

**RB500V-40\_R2\_00001**



Packing Code <b>XX</b>				Version Code <b>X</b>		Serial number <b>XXXX</b>
Packing type	1 <sup>st</sup> Code	Packing size code	2 <sup>nd</sup> Code	HSF Level	1 <sup>st</sup> Code	2 <sup>nd</sup> ~5 <sup>th</sup> Code
Tape and Ammunition Box (T/B)	<b>A</b>	N/A	<b>0</b>	Halogen free RoHS compliant	<b>0</b>	serial number
Tape and Reel (T/R)	<b>R</b>	7"	<b>1</b>	RoHS compliant	<b>1</b>	serial number
Bulk Packing (B/P)	<b>B</b>	13"	<b>2</b>			
Tube Packing (T/P)	<b>T</b>	26mm	<b>X</b>			
Tape and Reel (Right Oriented) (TRR)	<b>S</b>	52mm	<b>Y</b>			
Tape and Reel (Left Oriented) (TRL)	<b>L</b>	PANASERT T/B CATHODE UP (PBCU)	<b>U</b>			
FORMING	<b>F</b>	PANASERT T/B CATHODE DOWN (PBCD)	<b>D</b>			



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