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5KP13AS - 5KP180AS

UNI-DIRECTIONAL TRANSIENT VOLTAGE SUPPRESSOR

V_{BR} : 13 - 180 Volts
P_{PK} : 5000 Watts

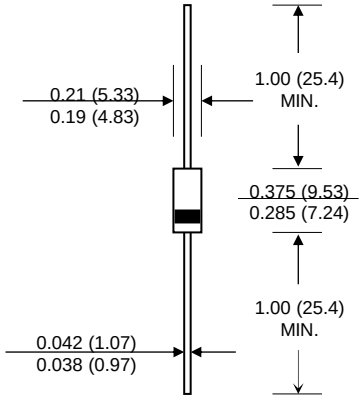
FEATURES :

* 5000W Peak Pulse Power
* Excellent clamping capability
* Low incremental surge resistance
* Fast response time : typically less then 1.0 ps from 0 volt to $V_{BR(min.)}$
* Typical I_R less then 1μA above 10V
* Pb / RoHS Free

MECHANICAL DATA

* Case : DO-201 Molded plastic
* Epoxy : UL94V-0 rate flame retardant
* Lead : Axial lead solderable per MIL-STD-202, method 208 guaranteed
* Mounting position : Any
* Weight : 0.93 grams

DO-201



Dimensions in inches and (millimeters)

MAXIMUM RATINGS

Rating at 25 °C ambient temperature unless otherwise specified.

Rating	Symbol	Value	Unit
Peak Pulse Power Dissipation at tp = 1ms (Note 1, Fig. 4)	P_{PK}	Minimum 5000	W
Steady State Power Dissipation at T_L = 75 °C Lead Lengths 0.375", (9.5mm) (Note 2)	P_D	8.0	W
Operating and Storage Temperature Range	T_J, T_{STG}	- 55 to + 150	°C

Notes :

(1) Non-repetitive Current pulse, per Fig. 2 and derated above Ta = 25 °C per Fig. 1

(2) Mounted on Copper Leaf area of 0.79 in^2 (20mm^2).

ELECTRICAL CHARACTERISTICS (Rating at 25 °C ambient temperature unless otherwise specified)

Type	Breakdown Voltage @ I_T (Note 1)			Reverse Stand off Voltage	Maximum Reverse Leakage @ V_{RM}	Maximum Peak Pulse Current (Note2)	Maximum Clamping Voltage @ I_{PPM}	Maximum Temperature Coefficient of V_{BR}
	V_{BR} (V)		I_T	V_{RM}	I_R	I_{PPM}	V_C	
	Min.	Max.	(mA)	(V)	(μA)	(A)	(V)	(%/°C)
5KP13AS	14.4	15.9	5.0	13	10	232	21.5	0.090
5KP14AS	15.6	17.2	5.0	14	10	215	23.2	0.092
5KP15AS	16.7	18.5	5.0	15	10	206	24.4	0.094
5KP16AS	17.8	19.7	5.0	16	10	192	26.0	0.096
5KP17AS	18.9	20.9	5.0	17	10	181	27.6	0.097
5KP18AS	20.0	22.1	5.0	18	10	172	29.2	0.098
5KP20AS	22.2	24.5	5.0	20	10	154	32.4	0.099
5KP22AS	24.4	26.9	5.0	22	10	141	35.5	0.100
5KP24AS	26.7	29.5	5.0	24	10	128	38.9	0.101
5KP26AS	28.9	31.9	5.0	26	10	119	42.1	0.101
5KP27AS	30.0	33.3	5.0	27	10	112	44.6	0.102
5KP28AS	31.1	34.4	5.0	28	10	110	45.4	0.102
5KP30AS	33.3	36.8	5.0	30	10	103	48.4	0.103
5KP33AS	36.7	40.6	5.0	33	10	94	53.3	0.104
5KP36AS	40.0	44.2	5.0	36	10	86	58.1	0.104
5KP40AS	44.4	49.1	5.0	40	10	78	64.5	0.105
5KP43AS	47.8	52.8	5.0	43	10	72	69.4	0.105
5KP45AS	50.0	55.3	5.0	45	10	69	72.7	0.106
5KP48AS	53.3	58.9	5.0	48	10	65	77.4	0.106
5KP51AS	56.7	62.7	5.0	51	10	61	82.4	0.107
5KP54AS	60.0	66.3	5.0	54	10	57	87.1	0.107
5KP58AS	64.4	71.2	5.0	58	10	53	94	0.107
5KP60AS	66.7	73.7	5.0	60	10	52	97	0.108
5KP64AS	71.1	78.6	5.0	64	10	49	103	0.108
5KP70AS	77.6	86.0	5.0	70	10	44	113	0.108
5KP75AS	83.3	92.1	5.0	75	10	41	121	0.108
5KP78AS	86.7	95.8	5.0	78	10	40	126	0.108
5KP85AS	94.4	104	5.0	85	10	36	137	0.110
5KP90AS	100	111	5.0	90	10	34	146	0.110
5KP100AS	111	123	5.0	100	10	31	162	0.110
5KP110AS	122	135	5.0	110	10	28	177	0.112
5KP120AS	133	147	5.0	120	10	26	194	0.112
5KP150AS	167	184	5.0	150	10	21	242	0.112
5KP160AS	178	196	5.0	160	10	19	258	0.114
5KP170AS	189	209	5.0	170	10	18	274	0.114
5KP180AS	200	221	5.0	180	10	17	290	0.114

Note:

(1) V_{BR} measured after I_T applied for 300 μs., I_T = square wave pulse or equivalent.

RATING AND CHARACTERISTIC CURVES (5KP13AS - 5KP180AS)

FIG.1 - PULSE DERATING CURVE

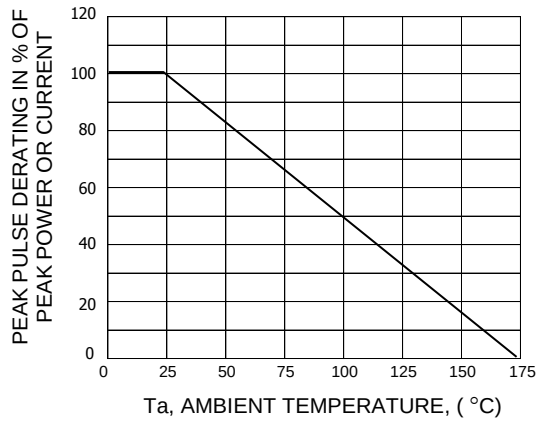


FIG.2 - PULSE WAVEFORM

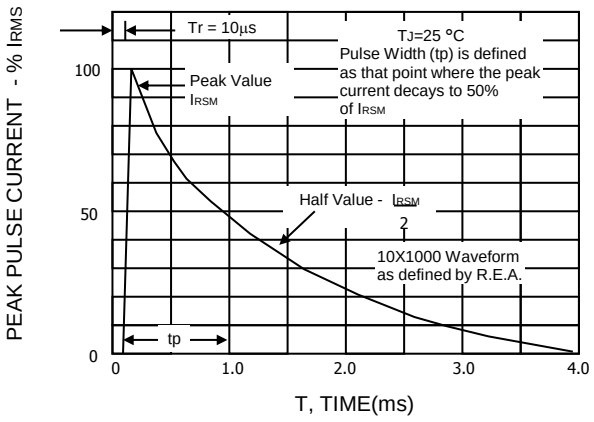


FIG.3 - STEADY STATE POWER DERATING

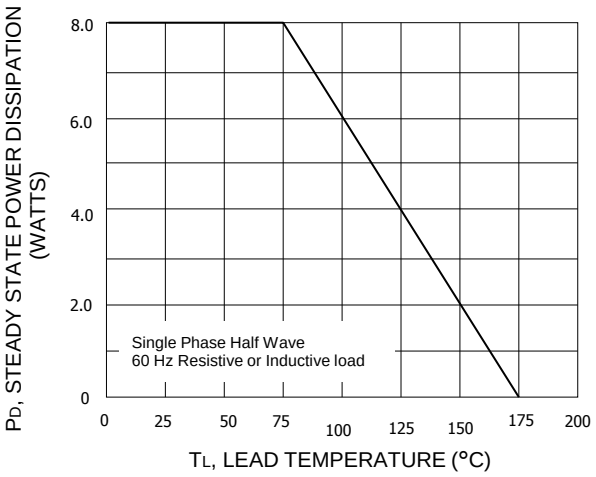


FIG.4 - PULSE RATING CURVE