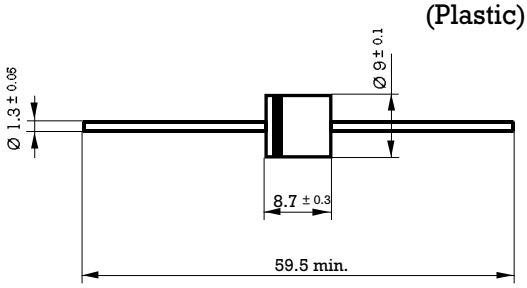
5000W Unidirectional and Bidirectional Load Dump Glass Passivated Automotive T.V.S.

Dimensions in mm. P-6 (Plastic)



Mounting instructions

1. Min. distance from body to soldering point, 4 mm.
2. Max. solder temperature, 350 °C.
3. Max. soldering time, 3.5 sec.
4. Do not bend lead at a point closer than 4 mm. to the body.

- **Developped to suppress transient in the automotive system, protecting mobile transceivers, radios and tape decks from overvoltages (width pulses).**

HYPERECTIFIER®

- **Glass passivated junction**
- Low Capacitance AC signal protection
- Response time typically < 1 ns.
- Molded case
- The plastic material carries U/L recognition 94 V-0
- Terminal: Axial leads

Maximum Ratings, According to IEC Publication No. 134

P_{pp}	Peak pulse power with 10/1000 µs exponential pulse	5000 W
$P_{M(AV)}$	Steady State Power Dissipation at T_L = 75 °C Mounted in copper leaf area of 20 mm²	5 W
I_{FSM}	Non repetitive surge peak forward current (t = 10 msec.) (Note 1)	500 A
T_j	Operating temperature range	– 65 to + 175 °C
T_{stg}	Storage temperature range	– 65 to + 175 °C

Electrical Characteristics at Tamb = 25 °C

V_F	Max. forward voltage drop at I_F = 100 A (Note 1)	3.5 V
$R_{thj\text{-}l}$	Max. thermal resistance (l = 10 mm.)	10 °C/W

Note 1: Valid only for Unidirectional.

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

Type	Breakdown Voltage V_{BR} Volts (Note 1)		@ I_R	Maximum Reverse Leakage Current		Maximum Clamping Voltage		Maximum Temperature Coefficient of V_{BR}
	Min.	Max.	(mA)	I_{RM} (µA)	V_{RM} (V)	V_{CL} (V) (Note 2)	I_{PP} (A)	(%C)
5KP7.5	8.33	10.20	5.0	250	7.5	14.3	350	0.073
5KP7.5A	8.33	9.21	5.0	250	7.5	12.9	388	0.073
5KP8.0	8.89	10.90	5.0	150	8.0	15.0	333	0.075
5KP8.0A	8.89	9.83	5.0	150	8.0	13.6	367	0.075
5KP8.5	9.44	11.50	5.0	50	8.5	15.9	314	0.078
5KP8.5A	9.44	10.40	5.0	50	8.5	14.4	347	0.078
5KP9.0	10.00	12.20	5.0	20	9.0	16.9	295	0.081
5KP9.0A	10.00	11.10	5.0	20	9.0	15.4	325	0.081
5KP10	11.10	13.60	5.0	15	10.0	18.8	266	0.084
5KP10A	11.10	12.30	5.0	15	10.0	17.0	294	0.084
5KP11	12.20	14.90	5.0	10	11.0	20.1	249	0.086
5KP11A	12.20	13.50	5.0	10	11.0	18.2	274	0.086
5KP12	13.30	16.30	5.0	10	12.0	22.0	227	0.088
5KP12A	13.30	14.70	5.0	10	12.0	19.9	251	0.088
5KP13	14.40	17.60	5.0	10	13.0	23.8	210	0.090
5KP13A	14.40	15.90	5.0	10	13.0	21.5	232	0.090
5KP14	15.60	19.10	5.0	10	14.0	25.8	194	0.092
5KP14A	15.60	17.20	5.0	10	14.0	23.2	215	0.092
5KP15	16.70	20.40	5.0	10	15.0	26.9	188	0.094
5KP15A	16.70	18.50	5.0	10	15.0	24.4	206	0.094
5KP16	17.80	21.80	5.0	10	16.0	28.8	176	0.096
5KP16A	17.80	19.70	5.0	10	16.0	26.1	191	0.096
5KP17	18.90	23.10	5.0	10	17.0	30.5	164	0.097
5KP17A	18.90	20.90	5.0	10	17.0	27.6	161	0.097
5KP18	20.00	24.40	5.0	10	18.0	32.2	155	0.098
5KP18A	20.00	22.10	5.0	10	18.0	29.2	172	0.098
5KP20	22.20	27.10	5.0	10	20.0	35.8	139	0.099
5KP20A	22.20	24.50	5.0	10	20.0	32.4	154	0.099
5KP22	24.40	29.80	5.0	10	22.0	39.4	127	0.100
5KP22A	24.40	26.90	5.0	10	22.0	35.5	141	0.100
5KP24	26.70	32.60	5.0	10	24.0	43.0	116	0.101
5KP24A	26.70	29.50	5.0	10	24.0	38.9	128	0.101
5KP26	28.90	35.30	5.0	10	26.0	46.6	107	0.101
5KP26A	28.90	31.90	5.0	10	26.0	42.1	119	0.101
5KP28	31.10	38.00	5.0	10	28.0	50.1	99	0.102
5KP28A	31.10	34.40	5.0	10	28.0	45.4	110	0.102
5KP30	33.30	40.70	5.0	10	30.0	53.5	93	0.103
5KP30A	33.30	36.80	5.0	10	30.0	48.4	103	0.103

NOTES:
1 V_{BR} measured after I_T= Square Wave Pulse or equivalent.
2. Surge Current waveform per Figure (Pulse Waveform) and Derate per Figure (Pulse Derating Curve).

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

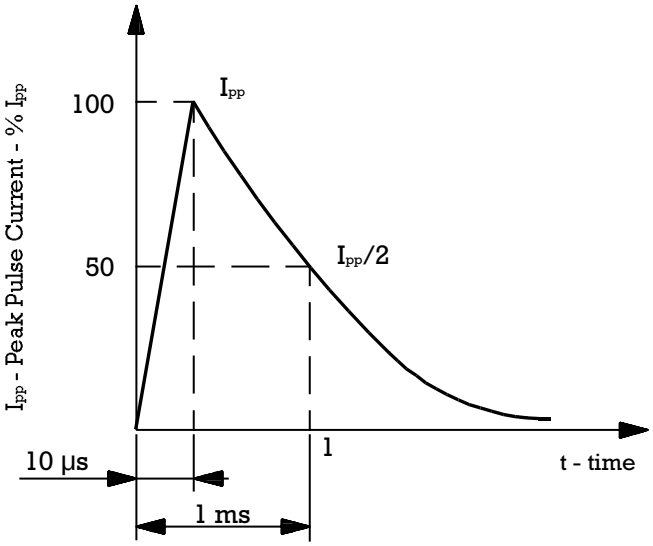
Type	Breakdown Voltage V_{BR} Volts (Note 1)		@ I_R	Maximum Reverse Leakage Current		Maximum Clamping Voltage		Maximum Temperature Coefficient of V_{BR}
	Min.	Max.	(mA)	I_{RM} (µA)	V_{RM} (V)	V_{CL} (V) (Note 2)	I_{PP} (A)	(%C)
5KP33	36.70	44.90	5.0	10	33.0	59.0	85	0.104
5KP33A	36.70	40.60	5.0	10	33.0	53.3	94	0.104
5KP36	40.00	48.90	5.0	10	36.0	64.3	78	0.104
5KP36A	40.00	44.20	5.0	10	36.0	58.1	85	0.104
5KP40	44.40	54.30	5.0	10	40.0	71.4	70	0.105
5KP40A	44.40	49.10	5.0	10	40.0	64.5	78	0.105
5KP43	47.80	58.40	5.0	10	43.0	76.7	65	0.105
5KP43A	47.80	52.80	5.0	10	43.0	69.4	72	0.105
5KP45	50.00	61.10	5.0	10	45.0	80.3	62	0.106
5KP45A	50.00	55.30	5.0	10	45.0	72.7	69	0.106
5KP48	53.30	65.20	5.0	10	48.0	85.5	58	0.106
5KP48A	53.30	58.90	5.0	10	48.0	77.4	65	0.106
5KP51	56.70	69.30	5.0	10	51.0	91.1	55	0.107
5KP51A	56.70	62.70	5.0	10	51.0	82.4	61	0.107
5KP54	60.00	73.30	5.0	10	54.0	96.3	52	0.107
5KP54A	60.00	66.30	5.0	10	54.0	87.1	57	0.107
5KP58	64.40	78.70	5.0	10	58.0	103	49	0.107
5KP58A	64.40	71.20	5.0	10	58.0	94	53	0.107
5KP60	66.70	81.50	5.0	10	60.0	107	47	0.108
5KP60A	66.70	73.70	5.0	10	60.0	97	52	0.108
5KP64	71.10	96.90	5.0	10	64.0	114	44	0.108
5KP64A	71.10	78.60	5.0	10	64.0	103	49	0.108
5KP70	77.80	95.10	5.0	10	70.0	125	40	0.108
5KP70A	77.80	86.00	5.0	10	70.0	113	44	0.108
5KP75	83.30	102	5.0	10	75.0	134	37	0.108
5KP75A	83.30	92.10	5.0	10	75.0	121	41	0.108
5KP78	86.70	106	5.0	10	78.0	126	36	0.108
5KP78A	86.70	95.80	5.0	10	78.0	126	40	0.108
5KP85	94.40	115	5.0	10	85.0	151	33	0.108
5KP85A	94.40	104	5.0	10	85.0	137	36	0.110
5KP90	100	122	5.0	10	90.0	160	31	0.110
5KP90A	100	111	5.0	10	90.0	146	34	0.110
5KP100	111	136	5.0	10	100	179	28	0.110
5KP100A	111	123	5.0	10	100	162	31	0.110
5KP110	122	149	5.0	10	110	196	26	0.112
5KP110A	122	135	5.0	10	110	177	28	0.112

NOTES:
1 V_{BR} measured after I_T= Square Wave Pulse or equivalent.
2. Surge Current waveform per Figure (Pulse Waveform) and Derate per Figure (Pulse Derating Curve).

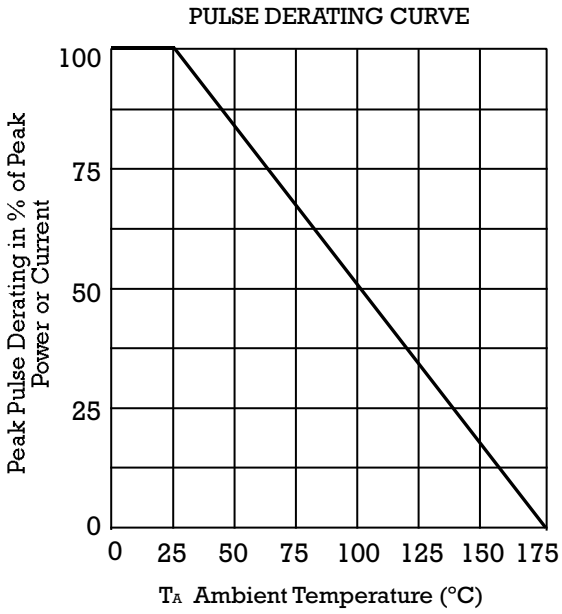
Electrical Characteristics (T_A = 25 °C unless otherwise noted)

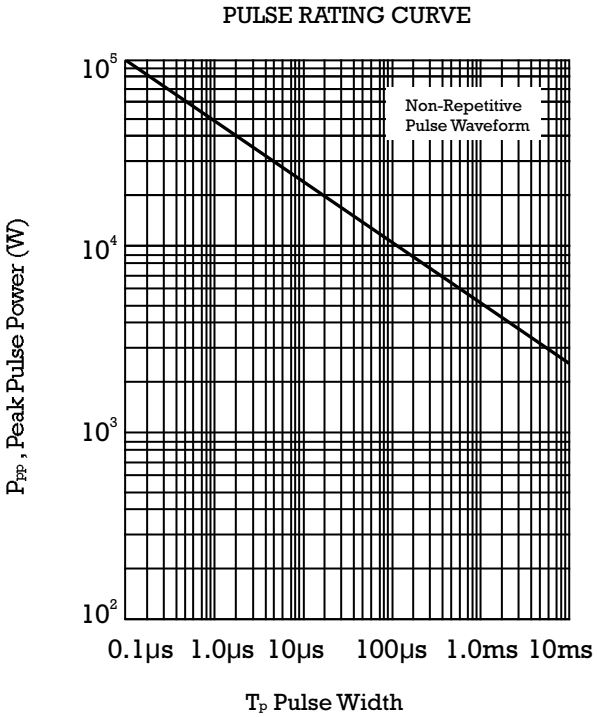
Type	Breakdown Voltage V_{BR} Volts (Note 1)		@ I_R	Maximum Reverse Leakage Current		Maximum Clamping Voltage		Maximum Temperature Coefficient of V_{BR}
	Min.	Max.	(mA)	I_{RM} (µA)	V_{RM} (V)	V_{CL} (V) (Note 2)	I_{PP} (A)	(%C)
5KP7.5C	8.33	10.20	5.0	250	7.5	14.3	350	0.073
5KP8.0C	8.89	10.90	5.0	150	8.0	15.0	333	0.075
5KP8.5C	9.44	11.50	5.0	50	8.5	15.9	314	0.078
5KP9.0C	10.00	12.20	5.0	20	9.0	16.9	295	0.081
5KP10C	11.10	13.60	5.0	15	10.0	18.8	266	0.084
5KP11C	12.20	14.90	5.0	10	11.0	20.1	249	0.086
5KP12C	13.30	16.30	5.0	10	12.0	22.0	227	0.088
5KP13C	14.40	17.60	5.0	10	13.0	23.8	210	0.090
5KP14C	15.60	19.10	5.0	10	14.0	25.8	194	0.092
5KP15C	16.70	20.40	5.0	10	15.0	26.9	188	0.094
5KP16C	17.80	21.80	5.0	10	16.0	28.8	176	0.096
5KP17C	18.90	23.10	5.0	10	17.0	30.5	164	0.097
5KP18C	20.00	24.40	5.0	10	18.0	32.2	155	0.098
5KP20C	22.20	27.10	5.0	10	20.0	35.8	139	0.099
5KP22C	24.40	29.80	5.0	10	22.0	39.4	127	0.100
5KP24C	26.70	32.60	5.0	10	24.0	43.0	116	0.101
5KP26C	28.90	35.30	5.0	10	26.0	46.6	107	0.101
5KP28C	31.10	38.00	5.0	10	28.0	50.1	99	0.102
5KP30C	33.30	40.70	5.0	10	30.0	53.5	93	0.103
5KP33C	36.70	44.90	5.0	10	33.0	59.0	85	0.104
5KP36C	40.00	48.90	5.0	10	36.0	64.3	78	0.104
5KP40C	44.40	54.30	5.0	10	40.0	71.4	70	0.105
5KP43C	47.80	58.40	5.0	10	43.0	76.7	65	0.105
5KP45C	50.00	61.10	5.0	10	45.0	80.3	62	0.106
5KP48C	53.30	65.20	5.0	10	48.0	85.5	58	0.106
5KP51C	56.70	69.30	5.0	10	51.0	91.1	55	0.107
5KP54C	60.00	73.30	5.0	10	54.0	96.3	52	0.107
5KP58C	64.40	78.70	5.0	10	58.0	103	49	0.107
5KP60C	66.70	81.50	5.0	10	60.0	107	47	0.108
5KP64C	71.10	96.90	5.0	10	64.0	114	44	0.108
5KP70C	77.80	95.10	5.0	10	70.0	125	40	0.108
5KP75C	83.30	102	5.0	10	75.0	134	37	0.108
5KP78C	86.70	106	5.0	10	78.0	126	36	0.108
5KP85C	94.40	115	5.0	10	85.0	151	33	0.108
5KP90C	100	122	5.0	10	90.0	160	31	0.110
5KP100C	111	136	5.0	10	100	179	28	0.110
5KP110C	122	149	5.0	10	110	196	26	0.112

NOTES:
1 V_{BR} measured after I_T= Square Wave Pulse or equivalent.
2. Surge Current waveform per Figure (Pulse Waveform) and Derate per Figure (Pulse Derating Curve).

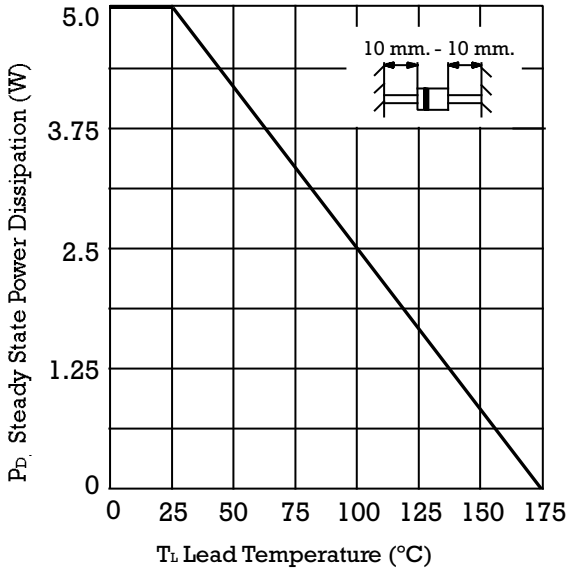


Pulse wave form 10/1000

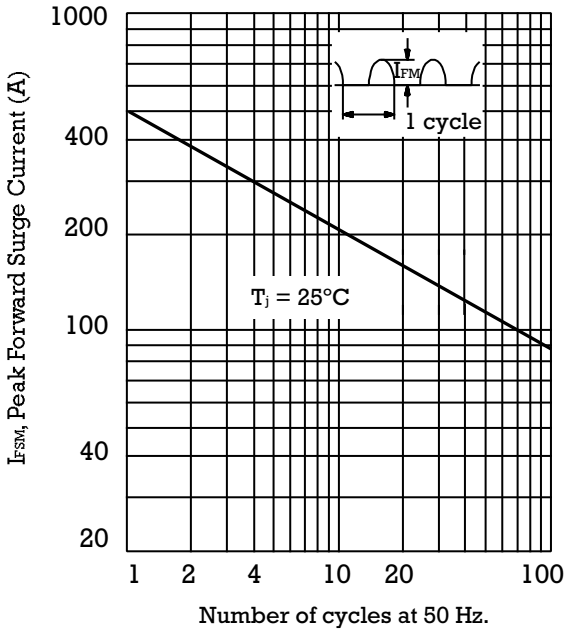




STEADY STATE POWER DERATING



MAXIMUM NON-REPETITIVE
PEAK FORWARD SURGE CURRENT



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