ALSO AVAILABLE IN SURFACE MOUNT

Microsemi Corp.
The diode experts

SCOTTSDALE, AZ
For more information call:
(602) 941-6300

P6KE6.8 thru P6KE200A

TRANSIENT ABSORPTION ZENER

FEATURES

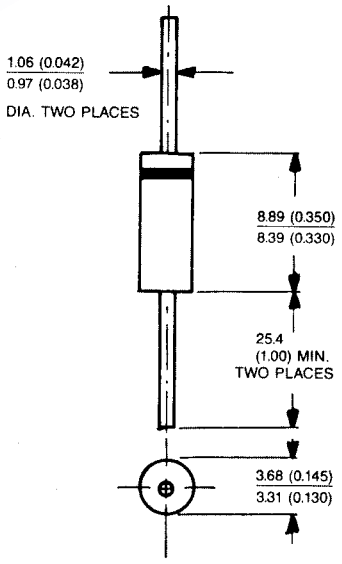
- ECONOMICAL SERIES
- AVAILABLE IN BOTH UNIDIRECTIONAL AND BIDIRECTIONAL CONSTRUCTION
- 6.8 TO 200 VOLTS AVAILABLE
- 600 WATTS PEAK PULSE POWER DISSIPATION

MAXIMUM RATINGS

Peak Pulse Power Dissipation at 25°C: 600 Watts
Steady State Power Dissipation: 5 Watts at T_L = +75°C, 3/8" Lead Length
$t_{clamping}$ (0 Volts to BV Min.):
Unidirectional $< 1x10^{-12}$ Seconds; Bidirectional $< 5 x 10^{-9}$ Seconds.
Operating and Storage Temperature: -65° to 200°C

APPLICATION

TAZ is an economical, molded, commercial product used to protect voltage-sensitive components from destruction or partial degradation. The response time of their clamping action is virtually instantaneous ($1 x 10^{-12}$ seconds) and they have a peak pulse power rating of 600 watts for 1 msec as depicted in Figure 1 and 2. Microsemi also offers various varieties of TAZ to meet higher and lower power demands and special applications.



Cathode Indicated by Band
All Dimensions in Millimeters (Inches)

MECHANICAL CHARACTERISTICS

CASE: Void free transfer molded thermosetting plastic (T-18).

FINISH: Silver plated copper readily solderable.

POLARITY: Band denotes cathode. Bidirectional not marked.

WEIGHT: 0.7 gram (Appx.).

MOUNTING POSITION: Any.

P6KE6.8 thru P6KE200A

ELECTRICAL CHARACTERISTICS T_A = 25°C

MICROSEMI PART NUMBER	BREAKDOWN VOLTAGE $V_{(BR)}$ MIN.	BREAKDOWN VOLTAGE $V_{(BR)}$ NOM.	BREAKDOWN VOLTAGE $V_{(BR)}$ MAX.	TEST CURRENT I_T	RATED STAND-OFF VOLTAGE V_{WM}	MAX. REVERSE LEAKAGE CURRENT I_D @ V_{WM}	MAX. CLAMPING VOLTAGE V_C @ I_{PP}	MAX. PEAK PULSE CURRENT I_{PP}	MAX. TEMP. COEFFICIENT OF V_{BR} $V_{(BR)}$ (TA) -55°C To 100°C
	V_{DC}	V_{DC}	V_{DC}	mADC	V	μADC	V	A	%/°C
P6KE6.8	6.12	6.8	7.48	10	5.5	1000	10.8	56	.057
P6KE6.8A	6.45	6.8	7.14	10	5.8	1000	10.5	57	.057
P6KE7.5	6.75	7.5	8.25	10	6.05	500	11.7	51	.061
P6KE7.5A	7.13	7.5	7.88	10	6.4	500	11.3	53	.061
P6KE8.2	7.38	8.2	9.02	10	6.63	200	12.5	48	.065
P6KE8.2A	7.79	8.2	8.61	10	7.02	200	12.1	50	.065
P6KE9.1	8.19	9.1	10	1	7.37	50	13.8	44	.068
P6KE9.1A	8.65	9.1	9.55	1	7.78	50	13.4	45	.068
P6KE10	9.0	10	11	1	8.1	10	15	40	.073
P6KE10A	9.5	10	10.5	1	8.55	10	14.5	41	.073
P6KE11	9.9	11	12.1	1	8.92	5	16.2	37	.075
P6KE11A	10.5	11	11.6	1	9.4	5	15.6	38	.075
P6KE12	10.8	12	13.2	1	9.72	5	17.3	35	.078
P6KE12A	11.4	12	12.6	1	10.2	5	16.7	36	.078
P6KE13	11.7	13	14.3	1	10.5	5	19	32	.081
P6KE13A	12.4	13	13.7	1	11.1	5	18.2	33	.081
P6KE15	13.5	15	16.5	1	12.1	5	22	27	.084
P6KE15A	14.3	15	15.8	1	12.8	5	21.2	28	.084
P6KE16	14.4	16	17.6	1	12.9	5	23.5	26	.086
P6KE16A	15.2	16	16.8	1	13.6	5	22.5	27	.086
P6KE18	16.2	18	19.8	1	14.5	5	26.5	23	.088
P6KE18A	17.1	18	18.9	1	15.3	5	25.2	24	.088
P6KE20	18	20	22	1	16.2	5	29.1	21	.090
P6KE20A	19	20	21	1	17.1	5	27.7	22	.090
P6KE22	19.8	22	24.2	1	17.8	5	31.9	19	.092
P6KE22A	20.9	22	23.1	1	18.8	5	30.6	20	.092
P6KE24	21.6	24	26.4	1	19.4	5	34.7	17	.094
P6KE24A	22.8	24	25.2	1	20.5	5	33.2	18	.094
P6KE27	24.3	27	29.7	1	21.8	5	39.1	15	.096
P6KE27A	25.7	27	28.4	1	23.1	5	37.5	16	.096
P6KE30	27	30	33	1	24.3	5	43.5	14	.097
P6KE30A	28.5	30	31.5	1	25.6	5	41.4	14.4	.097
P6KE33	29.7	33	36.3	1	26.8	5	47.7	12.6	.098
P6KE33A	31.4	33	34.7	1	28.2	5	45.7	13.2	.098
P6KE36	32.4	36	39.6	1	29.1	5	52	11.6	.099
P6KE36A	34.2	36	37.8	1	30.8	5	49.9	12	.099
P6KE39	35.1	39	42.9	1	31.6	5	56.4	10.6	.100
P6KE39A	37.1	39	41	1	33.3	5	53.9	11.2	.100
P6KE43	38.7	43	47.3	1	34.8	5	61.9	9.6	.101
P6KE43A	40.9	43	45.2	1	36.8	5	59.3	10.1	.101
P6KE47	42.3	47	51.7	1	38.1	5	67.8	8.8	.101
P6KE47A	44.7	47	49.4	1	40.2	5	64.8	9.3	.101
P6KE51	45.9	51	56.1	1	41.3	5	73.5	8.2	.102
P6KE51A	48.5	51	53.6	1	43.6	5	70.1	8.6	.102
P6KE56	50.4	56	61.6	1	45.4	5	80.5	7.4	.103
P6KE56A	53.2	56	58.8	1	47.8	5	77	7.8	.103
P6KE62	55.8	62	68.2	1	50.2	5	89	6.8	.104
P6KE62A	58.9	62	65.1	1	53	5	85	7.1	.104
P6KE68	61.2	68	74.8	1	55.1	5	98	6.1	.104
P6KE68A	64.6	68	71.4	1	58.1	5	92	6.5	.104
P6KE75	67.5	75	82.5	1	60.7	5	108	5.5	.105
P6KE75A	71.3	75	78.8	1	64.1	5	103	5.8	.105
P6KE82	73.8	82	90.2	1	66.4	5	118	5.1	.105
P6KE82A	77.9	82	86.1	1	70.1	5	113	5.3	.105
P6KE91	81.9	91	100	1	73.7	5	131	4.5	.106
P6KE91A	86.5	91	95.5	1	77.8	5	125	4.8	.106
P6KE100	90	100	110	1	81	5	144	4.2	.106
P6KE100A	95	100	105	1	85.5	5	137	4.4	.106
P6KE110	99	110	121	1	89.2	5	158	3.8	.107
P6KE110A	105	110	116	1	94	5	152	3.4	.107
P6KE120	108	120	132	1	97.2	5	173	3.5	.107
P6KE120A	114	120	126	1	102	5	165	3.6	.107
P6KE130	117	130	143	1	105	5	187	3.2	.107
P6KE130A	124	130	137	1	111	5	179	3.3	.107
P6KE150	135	150	165	1	121	5	215	2.8	.108
P6KE150A	143	150	158	1	128	5	207	2.9	.108
P6KE160	144	160	176	1	130	5	230	2.6	.108
P6KE160A	152	160	168	1	136	5	219	2.7	.108
P6KE170	153	170	187	1	138	5	244	2.5	.108
P6KE170A	161	170	179	1	145	5	234	2.6	.108
P6KE180	162	180	198	1	146	5	258	2.3	.108
P6KE180A	171	180	189	1	154	5	246	2.4	.108
P6KE200	180	200	220	1	162	5	287	2.1	.108
P6KE200A	190	200	210	1	171	5	274	2.2	.108

Forward Voltage (V_f) @ 50 amps peak, 8.3 msec sine wave equal to 3.5 volts max. (For unidirectional only)

For Bidirectional Construction, indicate a C or CA suffix after part number, i.e. P6KE200CA. Capacitance will be 1/2 that shown in Figure 3.

SYMBOLS AND ABBREVIATIONS

V_{WM} = Rated Stand-Off Voltage
I_{PP} = Peak Pulse Current
P_P = Peak Pulse Power
V_C = Clamping Voltage
$V_{(BR)}$ = Breakdown Voltage
I_T = Test Current
I_D = Reverse Leakage

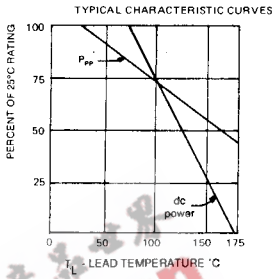


FIGURE 1
POWER DERATING CURVE

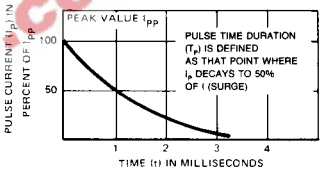


FIGURE 2
PULSE WAVEFORM FOR EXPONENTIAL SURGE

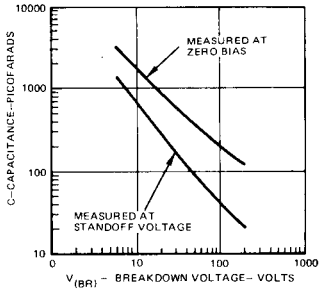


FIGURE 3
P6KE TYPICAL CAPACITANCE VS BREAKDOWN VOLTAGE

Consult factory for higher voltages.