

# BZW06-5V8B SERIES

# BIDIRECTIONAL TRANSIENT VOLTAGE SUPPRESSOR

**V<sub>BR</sub> : 6.8 - 440 Volts**

**P<sub>PK</sub> : 600 Watts**

**FEATURES :**

- \* 600W surge capability at 1ms
- \* Excellent clamping capability
- \* Low zener impedance
- \* Fast response time : typically less than 1.0 ps from 0 volt to V<sub>BR(min)</sub>
- \* Typical I<sub>R</sub> less than 1μA above 10V
- \* **Pb / RoHS Free**

**MECHANICAL DATA :**

- \* Case : DO-15 Molded plastic
- \* Epoxy : UL94V-O rate flame retardant
- \* Lead : Axial lead solderable per MIL-STD-202, Method 208 guaranteed
- \* Mounting position : Any
- \* Weight : 0.4 gram

**DEVICES FOR BIPOLAR APPLICATIONS**

For uni-directional without B suffix  
Electrical characteristics apply in both directions

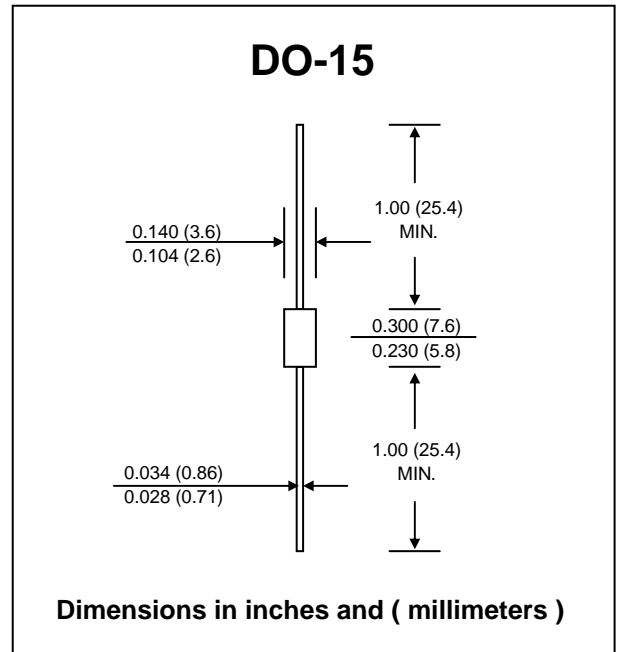
**MAXIMUM RATINGS**

Rating at 25 °C ambient temperature unless otherwise specified.

Rating	Symbol	Value	Unit
Peak Pulse Power for 1 msec. Exponential Pulse	PPP	Minimum 600	Watt
Steady State Power Dissipation ( L=10mm )	P <sub>D</sub>	5.0	Watt
Storage Temperature Range	T <sub>STG</sub>	- 65 to + 175	°C

**Notes :**

- (1) Non-repetitive Current pulse, per Fig. 5 and derated above Ta = 25 °C per Fig. 1
- (2) Mounted on Copper Leaf area of 1.57 in<sup>2</sup> (40mm<sup>2</sup>).
- (3) 8.3 ms single half sine-wave, duty cycle = 4 pulses per minutes maximum.





## ELECTRICAL CHARACTERISTICS

Rating at 25 °C ambient temperature unless otherwise specified.

Types	Breakdown Voltage @ It ( Note 1 )			Working Peak Reverse Voltage	Maximum Reverse Leakage @ V <sub>RWM</sub>	Maximum Peak pulse Current	Maximum Clamping Voltage @ I <sub>PP</sub>	Typical Capaciyance (Note 2)
	V <sub>BR</sub> (V)		It					
	Min.	Max.	(mA)	(V)	(μA)	(A)	(V)	(pF)
BZW06P5V8B	6.45	7.48	10	5.80	2000	57	10.5	2000
BZW06-5V8B	6.45	7.14	10	5.80	2000	57	10.5	2000
BZW06P6V4B	7.13	7.25	10	6.40	1000	53	11.3	1850
BZW06-6V4B	7.13	7.88	10	6.40	1000	53	11.3	1850
BZW06P7V0B	7.79	9.02	10	7.02	400	50	12.1	1700
BZW06-7V0B	7.79	8.61	10	7.02	400	50	12.1	1700
BZW06P7V8B	8.65	10.0	1.0	7.78	100	45	13.4	1550
BZW06-7V8B	8.65	9.55	1.0	7.78	100	45	13.4	1550
BZW06P8V5B	9.5	11.0	1.0	8.55	20	41	14.5	1400
BZW06-8V5B	9.5	10.5	1.0	8.55	20	41	14.5	1400
BZW06P9V4B	10.5	12.1	1.0	9.40	10	38	15.6	1250
BZW06-9V4B	10.5	11.6	1.0	9.40	10	38	15.6	1250
BZW06P10B	11.4	13.2	1.0	10.2	5.0	36	16.7	1150
BZW06-10B	11.4	12.6	1.0	10.2	5.0	36	16.7	1150
BZW06P11B	12.4	14.3	1.0	11.1	5.0	33	18.2	1075
BZW06-11B	12.4	13.7	1.0	11.1	5.0	33	18.2	1075
BZW06P13B	14.3	16.5	1.0	12.8	5.0	28	21.2	950
BZW06-13B	14.3	15.8	1.0	12.8	5.0	28	21.2	950
BZW06P14B	15.2	17.6	1.0	13.6	5.0	27	22.5	900
BZW06-14B	15.2	16.8	1.0	13.6	5.0	27	22.5	900
BZW06P15B	17.1	19.8	1.0	15.3	1.0	24	25.2	800
BZW06-15B	17.1	18.9	1.0	15.3	1.0	24	25.2	800
BZW06P17B	19.0	22.0	1.0	17.1	1.0	22	27.2	750
BZW06-17B	19.0	21.0	1.0	17.1	1.0	22	27.2	750
BZW06P19B	20.9	24.2	1.0	18.8	1.0	20	30.6	675
BZW06-19B	20.9	23.1	1.0	18.8	1.0	20	30.6	675
BZW06P20B	22.8	26.4	1.0	20.5	1.0	18	33.2	625
BZW06-20B	22.8	25.2	1.0	20.5	1.0	18	33.2	625
BZW06P23B	25.7	29.7	1.0	23.1	1.0	16	37.5	575
BZW06-23B	25.7	28.4	1.0	23.1	1.0	16	37.5	575
BZW06P26B	28.5	33.0	1.0	25.6	1.0	14.5	41.5	538
BZW06-26B	28.5	31.5	1.0	25.6	1.0	14.5	41.5	538
BZW06P28B	31.4	36.3	1.0	28.2	1.0	13.1	45.7	500
BZW06-28B	31.4	34.7	1.0	28.2	1.0	13.1	45.7	500
BZW06P31B	34.2	39.6	1.0	30.8	1.0	12.0	49.9	475
BZW06-31B	34.2	37.8	1.0	30.8	1.0	12.0	49.9	475
BZW06P33B	37.1	42.9	1.0	33.3	1.0	11.1	53.9	450
BZW06-33B	37.1	41.0	1.0	33.3	1.0	11.1	53.9	450
BZW06P37B	40.9	47.3	1.0	36.8	1.0	10.1	59.3	425
BZW06-37B	40.9	45.2	1.0	36.8	1.0	10.1	59.3	425
BZW06P40B	44.7	51.7	1.0	40.2	1.0	9.3	64.8	400
BZW06-40B	44.7	49.4	1.0	40.2	1.0	9.3	64.8	400
BZW06P44B	48.5	56.1	1.0	43.6	1.0	8.6	70.1	375
BZW06-44B	48.5	53.6	1.0	43.6	1.0	8.6	70.1	375
BZW06P48B	53.2	61.6	1.0	47.8	1.0	7.8	77	350
BZW06-48B	53.2	58.8	1.0	47.8	1.0	7.8	77	350



## ELECTRICAL CHARACTERISTICS

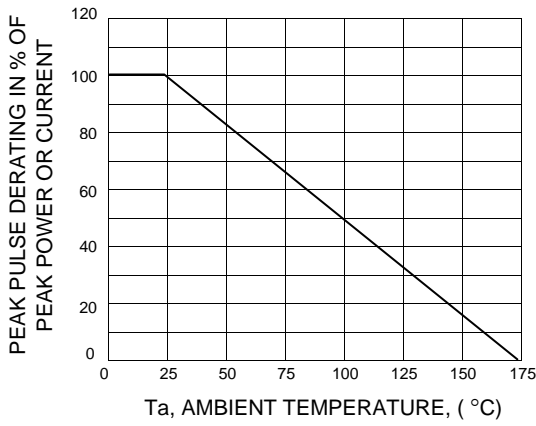
Rating at 25 °C ambient temperature unless otherwise specified.

Types	Breakdown Voltage @ $I_t$ ( Note 1 )			Working Peak Reverse Voltage	Maximum Reverse Leakage @ $V_{RWM}$	Maximum Peak pulse Current	Maximum Clamping Voltage @ $I_{PP}$	Typical Capaciynance (Note 2)
	$V_{BR}$ (V)		$I_t$					
	Min.	Max.	(mA)	(V)	( $\mu$ A)	(A)	(V)	(pF)
BZW06P53B	58.9	68.2	1.0	53	1.0	7.1	85	325
BZW06-53B	58.9	65.1	1.0	53	1.0	7.1	85	325
BZW06P58B	64.6	74.8	1.0	58.1	1.0	6.5	92	313
BZW06-58B	64.6	71.4	1.0	58.1	1.0	6.5	92	313
BZW06P64B	71.3	82.5	1.0	64.1	1.0	5.8	103	288
BZW06-64B	71.3	78.8	1.0	64.1	1.0	5.8	103	288
BZW06P70B	77.9	90.2	1.0	70.1	1.0	5.3	113	275
BZW06-70B	77.9	86.1	1.0	70.1	1.0	5.3	113	275
BZW06P78B	86.5	100	1.0	77.8	1.0	4.8	125	263
BZW06-78B	86.5	95.5	1.0	77.8	1.0	4.8	125	263
BZW06P85B	95	110	1.0	85.8	1.0	4.4	137	250
BZW06-85B	95	105	1.0	85.8	1.0	4.4	137	250
BZW06P94B	105	121	1.0	94.0	1.0	3.9	152	235
BZW06-94B	105	116	1.0	94.0	1.0	3.9	152	235
BZW06P102B	114	132	1.0	102	1.0	3.6	165	225
BZW06-102B	114	126	1.0	102	1.0	3.6	165	225
BZW06P111B	124	143	1.0	111	1.0	3.4	179	210
BZW06-111B	124	137	1.0	111	1.0	3.4	179	210
BZW06P128B	143	165	1.0	128	1.0	2.9	207	200
BZW06-128B	143	158	1.0	128	1.0	2.9	207	200
BZW06P136B	152	176	1.0	136	1.0	2.7	219	190
BZW06-136B	152	168	1.0	136	1.0	2.7	219	190
BZW06P145B	161	187	1.0	145	1.0	2.6	234	185
BZW06-145B	161	179	1.0	145	1.0	2.6	234	185
BZW06P154B	171	198	1.0	154	1.0	2.4	246	180
BZW06-154B	171	189	1.0	154	1.0	2.4	246	180
BZW06P171B	190	220	1.0	171	1.0	2.2	274	175
BZW06-171B	190	210	1.0	171	1.0	2.2	274	175
BZW06P188B	209	242	1.0	188	1.0	2.0	301	165
BZW06-188B	209	231	1.0	188	1.0	2.0	301	165
BZW06P213B	237	275	1.0	213	1.0	1.8	344	155
BZW06-213B	237	263	1.0	213	1.0	1.8	344	155
BZW06P239B	266	308	1.0	239	1.0	1.7	384	150
BZW06-239B	266	294	1.0	239	1.0	1.7	384	150
BZW06P256B	285	330	1.0	256	1.0	1.6	414	145
BZW06-256B	285	315	1.0	256	1.0	1.6	414	145
BZW06P273B	304	352	1.0	273	1.0	1.6	436	140
BZW06-273B	304	336	1.0	273	1.0	1.6	436	140
BZW06P299B	332	285	1.0	299	1.0	1.6	482	135
BZW06-299B	332	368	1.0	299	1.0	1.6	482	135
BZW06P342B	380	440	1.0	342	1.0	1.3	548	180
BZW06-342B	380	420	1.0	342	1.0	1.3	548	180
BZW06P376B	418	484	1.0	376	1.0	1.3	603	175
BZW06-376B	418	462	1.0	376	1.0	1.3	603	175

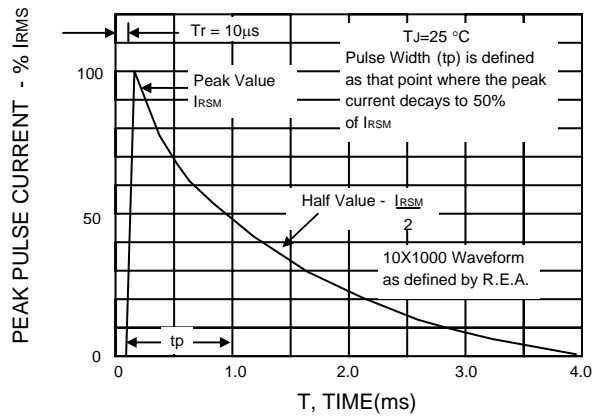
Note: ( 1 ) Pulse test :  $t_p < 50$  ms.

**RATING AND CHARACTERISTIC CURVES ( BZW06-5V8B SERIES )**

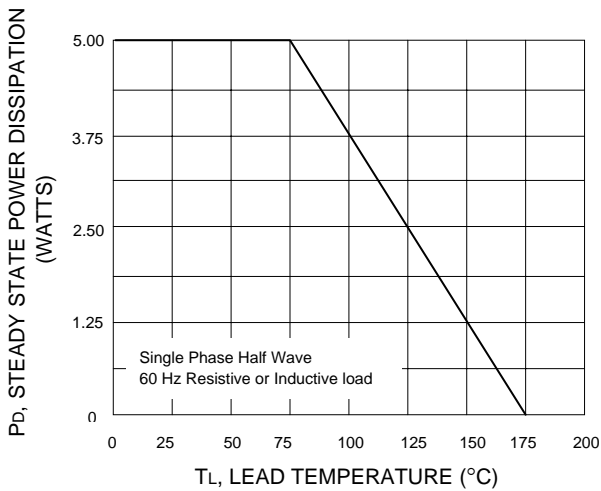
**FIG.1 - PULSE DERATING CURVE**



**FIG.2 - PULSE WAVEFORM**



**FIG.3 - STEADY STATE POWER DERATING**



**FIG.4 - PULSE RATING CURVE**

