

600 W Unidirectional and Bidirectional Transient Voltage Suppressor Diodes

DO-204AC (DO-15) 	Peak Pulse Power Rating At 1 ms. Esp. 600 W Reverse stand-off Voltage 5.8 ÷ 376 V HYPERECTIFIER®
	FEATURE • Glass passivated chip junction • Hyperectifier structure for high reliability • 600 W peak pulse power capability with a 10/1000 µs waveform, repetitive rate (duty cycle): 0.01 % • Solder dip 260 °C, 10s • AEC-Q101 qualified • Component in accordance to RoHS 2011/65/EU and WEEE 2002/96/EC • Excellent clamping capability • Very fast response time • Low incremental surge resistance • Available in uni-directional and bidirectional AUTOMOTIVE GRADE Available Pb e3 RoHS COMPLIANT
	MECHANICAL DATA • Case: DO-204AC (DO-15). Epoxy meets UL 94V-0 flammability rating. • Polarity: For unidirectional types the color band denotes cathode end, no marking on bi-directional types. • Terminals: Matte tin plated leads, solderable per MIL-STD-750 Method 2026, J-STD-002 and JESD22-B102. Consumer grade, meets JESD 201 class 1A whisker test. TYPICAL APPLICATIONS Used in sensitive electronics protection against voltage transients induced by inductive load switching and lighting on ICs, MOSFET, signal lines of sensor units for consumer, computer, industrial, automotive and telecommunication.

Maximum Ratings and Electrical Characteristics at 25 °C

P_{pp}	Peak pulse power with 10/1000 µs exponential pulse	600 W
I_{FSM}	Non repetitive surge peak forward current (t=8.3 ms) (Jedec Method) (Note 1)	100 A
T_j	Operating temperature range	- 65 to + 175 °C
T_{stg}	Storage temperature range	- 65 to + 175 °C
$P_{M(AV)}$	Steady state power dissipation (l=10 mm)	5 W

Electrical Characteristics at Tamb = 25 °C

V_F	Max. forward voltage drop at $I_F = 50$ A (Note 1)	$V_{BR} \leq 220$ V $V_{BR} > 220$ V	3.5 V 5.0 V
R_{thj-l}	Max. thermal resistance (l=10 mm)		30 °C/W

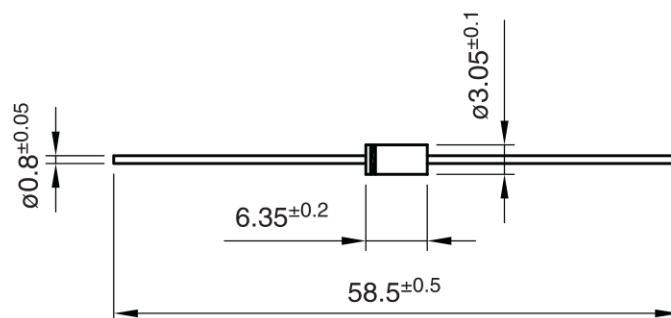
Note 1: Valid only for Unidirectionals

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Ordering information

PREFERRED P/N	PACKAGE CODE	DELIVERY MODE	BASE QUANTITY	UNIT WEIGHT (g)
BZW06-20 AMP	AMP	AMMO BOX	4,000	0.378
BZW06-20 TR	TR	14" diameter tape and reel	4,000	0.378
BZW06-20 HE3 AMP	AMP	AMMO BOX	4,000	0.378
BZW06-20 HE3 TR	TR	14" diameter tape and reel	4,000	0.378

Package Outline Dimensions: (mm) DO-204AC (DO-15)



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Type	Maximum Reverse Leakage Current		Breakdown Voltage				Max. Clamping Voltage	
	I_{RM}	at V_{RM}	(1)	V_{BR}	at I_R		V_{CL}	at I_{PP}
	(μA)	(V)	Min.	Nom.	Max.	(mA)	(V)	(A)
BZW06-5V8	1000	5.8	6.45	6.8	7.14	10	10.5	57
BZW06-6V4	500	6.4	7.13	7.5	7.88	10	11.3	53
BZW06-7V0	200	7.02	7.79	8.2	8.61	10	12.1	50
BZW06-7V8	50	7.78	8.65	9.1	9.55	1	13.4	45
BZW06-8V5	10	8.55	9.5	10	10.5	1	14.5	41
BZW06-9V4	5	9.4	10.5	11	11.6	1	15.6	38
BZW06-10	5	10.2	11.4	12	12.6	1	16.7	36
BZW06-11	5	11.1	12.4	13	13.7	1	18.2	33
BZW06-13	5	12.8	14.3	15	15.8	1	21.2	28
BZW06-14	5	13.6	15.2	16	16.8	1	22.5	27
BZW06-15	5	15.3	17.1	18	18.9	1	25.2	24
BZW06-17	5	17.1	19	20	21	1	27.7	22
BZW06-19	5	18.8	20.9	22	23.1	1	30.6	20
BZW06-20	5	20.5	22.8	24	25.2	1	33.2	18
BZW06-23	5	23.1	25.7	27	28.4	1	37.5	16
BZW06-26	5	25.6	28.5	30	31.5	1	41.5	14.5
BZW06-28	5	28.2	31.4	33	34.7	1	45.7	13.1
BZW06-31	5	30.8	34.2	36	37.8	1	49.9	12
BZW06-33	5	33.3	37.1	39	41	1	53.9	11.1
BZW06-37	5	36.8	40.9	43	45.2	1	59.3	10.1
BZW06-40	5	40.2	44.7	47	49.4	1	64.8	9.3
BZW06-44	5	43.6	48.5	51	53.6	1	70.1	8.6
BZW06-48	5	47.8	53.2	56	58.8	1	77	7.8
BZW06-53	5	53	58.9	62	65.1	1	85	7.1
BZW06-58	5	58.1	64.6	68	71.4	1	92	6.5
BZW06-64	5	64.1	71.3	75	78.8	1	103	5.8
BZW06-70	5	70.1	77.9	82	86.1	1	113	5.3
BZW06-78	5	77.8	86.5	91	95.5	1	125	4.8
BZW06-85	5	85.8	95	100	105	1	137	4.4
BZW06-94	5	94	105	110	116	1	152	3.9
BZW06-102	5	102	114	120	126	1	165	3.6
BZW06-111	5	111	124	130	137	1	179	3.4
BZW06-128	5	128	143	150	158	1	207	2.9
BZW06-136	5	136	152	160	168	1	219	2.7
BZW06-145	5	145	161	170	179	1	234	2.6
BZW06-154	5	154	171	180	189	1	246	2.4
BZW06-171	5	171	190	200	210	1	274	2.2
BZW06-188	5	188	209	220	231	1	301	2
BZW06-213	5	213	237	250	263	1	344	1.8
BZW06-239	5	239	266	280	294	1	384	1.7
BZW06-256	5	256	285	300	315	1	414	1.6
BZW06-273	5	273	304	320	336	1	436	1.6
BZW06-299	5	299	332	350	368	1	482	1.6
BZW06-342	5	342	380	400	420	1	548	1.3
BZW06-376	5	376	418	440	462	1	603	1.3

(1) Tested with pulses.
Pulse test: $t_p \leq 50 \text{ ms}$; $\delta < 2\%$

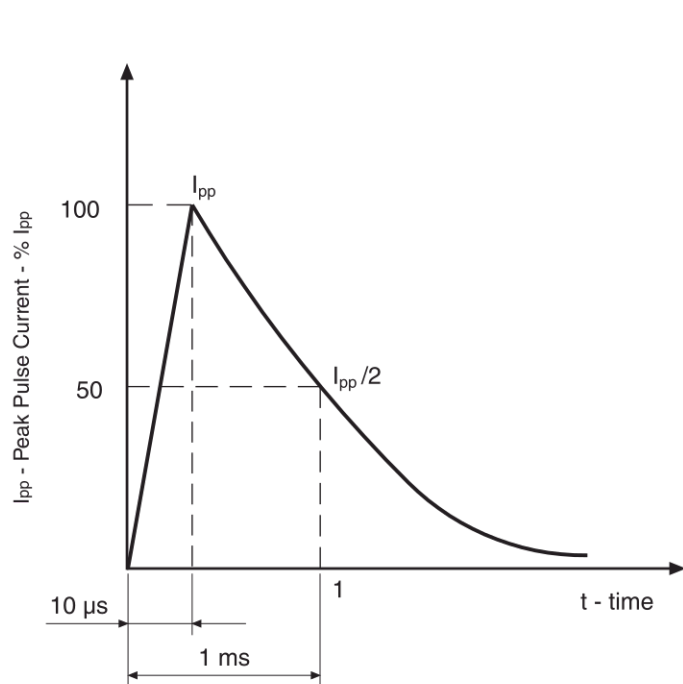
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Type	Maximum Reverse Leakage Current		(1) Breakdown Voltage V_{BR} at I_R				Max. Clamping Voltage V_{CL} at I_{PP}	
	I_{RM} at V_{RM}						max. 1 ms. Expo.	
Bidirectional	(μA)	(V)	Min.	Nom.	Max.	(mA)	(V)	(A)
BZW06-5V8B	1000	5.8	6.45	6.8	7.5	10	10.5	57
BZW06-6V4B	500	6.4	7.13	7.5	8.25	10	11.3	53
BZW06-7V0B	200	7.02	7.79	8.2	9.02	10	12.1	50
BZW06-7V8B	50	7.78	8.65	9.1	10	1	13.4	45
BZW06-8V5B	10	8.55	9.5	10	11	1	14.5	41
BZW06-9V4B	5	9.4	10.5	11	12.1	1	15.6	38
BZW06-10B	5	10.2	11.4	12	13.2	1	16.7	36
BZW06-11B	5	11.1	12.4	13	14.3	1	18.2	33
BZW06-13B	5	12.8	14.3	15	16.5	1	21.2	28
BZW06-14B	5	13.6	15.2	16	17.6	1	22.5	27
BZW06-15B	5	15.3	17.1	18	19.8	1	25.2	24
BZW06-17B	5	17.1	19	20	22	1	27.7	22
BZW06-19B	5	18.8	20.9	22	24.2	1	30.6	20
BZW06-20B	5	20.5	22.8	24	26.4	1	33.2	18
BZW06-23B	5	23.1	25.7	27	29.7	1	37.5	16
BZW06-26B	5	25.6	28.5	30	33	1	41.5	14.5
BZW06-28B	5	28.2	31.4	33	36.3	1	45.7	13.1
BZW06-31B	5	30.8	34.2	36	39.6	1	49.9	12
BZW06-33B	5	33.3	37.1	39	42.9	1	53.9	11.1
BZW06-37B	5	36.8	40.9	43	47.3	1	59.3	10.1
BZW06-40B	5	40.2	44.7	47	51.7	1	64.8	9.3
BZW06-44B	5	43.6	48.5	51	56.1	1	70.1	8.6
BZW06-48B	5	47.8	53.2	56	61.6	1	77	7.8
BZW06-53B	5	53	58.9	62	68.2	1	85	7.1
BZW06-58B	5	58.1	64.6	68	74.8	1	92	6.5
BZW06-64B	5	64.1	71.3	75	82.5	1	103	5.8
BZW06-70B	5	70.1	77.9	82	90.2	1	113	5.3
BZW06-78B	5	77.8	86.5	91	100	1	125	4.8
BZW06-85B	5	85.8	95	100	110	1	137	4.4
BZW06-94B	5	94	105	110	121	1	152	3.9
BZW06-102B	5	102	114	120	132	1	165	3.6
BZW06-111B	5	111	124	130	143	1	179	3.4
BZW06-128B	5	128	143	150	165	1	207	2.9
BZW06-136B	5	136	152	160	176	1	219	2.7
BZW06-145B	5	145	161	170	187	1	234	2.6
BZW06-154B	5	154	171	180	198	1	246	2.4
BZW06-171B	5	171	190	200	220	1	274	2.2
BZW06-188B	5	188	209	220	242	1	301	2
BZW06-213B	5	213	237	250	275	1	344	1.8
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BZW06-273B	5	273	304	320	353	1	436	1.6
BZW06-299B	5	299	332	350	385	1	482	1.6
BZW06-342B	5	342	380	400	438	1	548	1.3
BZW06-376B	5	376	418	440	480	1	603	1.3

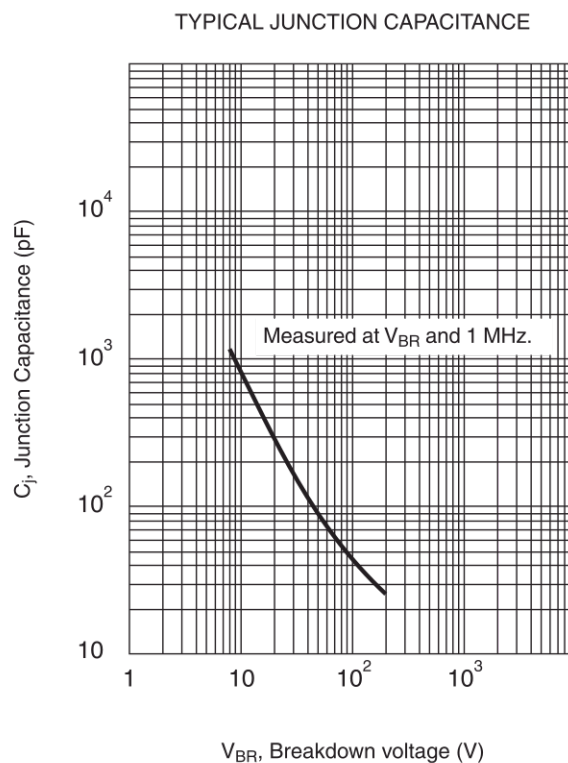
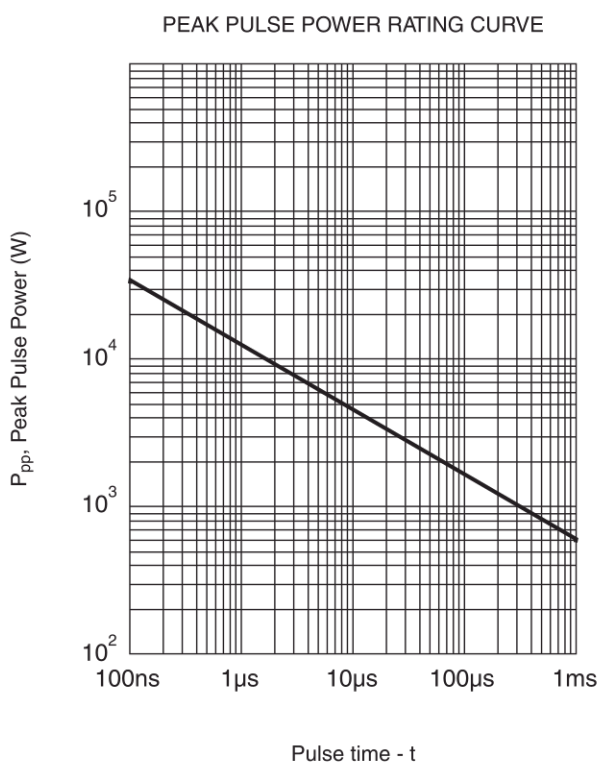
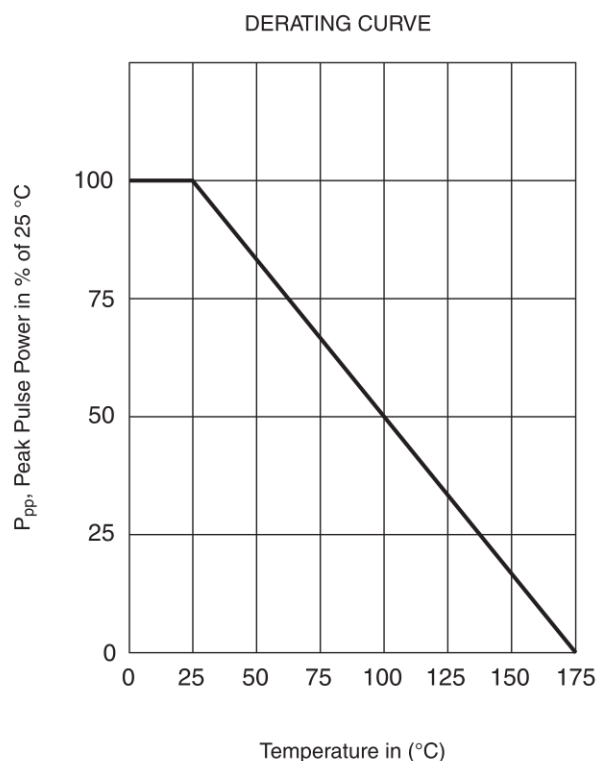
(1) Tested with pulses.
Pulse test: $t_p \leq 50$ ms; $\delta < 2\%$

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Rating and Characteristics (Ta 25 °C unless otherwise noted)



Pulse wave form 10/1000



600 W Unidirectional and Bidirectional Transient Voltage Suppressor Diodes**Revision History**

DATE	REVISION	DESCRIPTION OF CHANGES
10-Oct-2009	0	Original Data Sheet
7-Jul-2016	1	Format update
23-Apr-2018	2	Include reference HE3

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All product, product specifications and data are subject to change without notice to improve reliability, function or design or otherwise.

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