

# BZG04 Series

Transient Voltage Suppressor

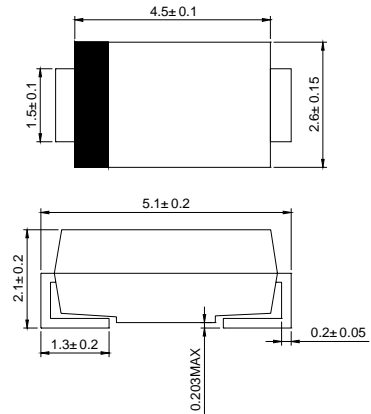


**BREAKDOWN VOLTAGE: 8.2 --- 220 V**  
**PEAK PULSE POWER: 300 W**

## Features

- ◇ Plastic package has underwriters laboratory flammability classification 94V-0
- ◇ Optimized for LAN protection applications
- ◇ Low profile package with built-in strain relief for surface mounted applications
- ◇ Glass passivated junction
- ◇ Low incremental surge resistance, excellent clamping capability
- ◇ 300W peak pulse power capability with a 10/1000 $\mu$ s waveform, repetition rate (duty cycle): 0.01%
- ◇ Very fast response time
- ◇ High temperature soldering guaranteed: 250°C/10 seconds at terminals

## DO-214AC(SMA)



Dimensions in millimeters

## Mechanical Data

- ◇ Case: JEDEC DO-214AC molded plastic over passivated chip
- ◇ Terminals: solder plated, solderable per MIL-STD-750, method 2026
- ◇ Mounting position: any Weight: 0.002 ounces, 0.064 grams

## Devices for Bidirectional Applications

For bi-directional devices, use suffix C (e.g. BZG04-10C). Electrical characteristics apply in both directions.

## MAXIMUM RATINGS AND CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

	SYMBOL	VALUE	UNIT
Non-repetitive peak reverse power dissipation 10/1000s exponential pulse(see Fig.3); T <sub>j</sub> =25 prior to surge; see also Fig.1	P <sub>RSM</sub>	300	W
Typical thermal resistance, junction to ambient	R <sub>θJA</sub>	100(NOTE1) 150(NOTE2)	°C/W
Forward voltage @I <sub>F</sub> =0.5A; see Fig.2	V <sub>F</sub>	1.2	V
Operating junction temperature range	R <sub>θJL</sub>	-55---+175	°C
Operating storage temperature range	T <sub>J</sub>	-55---+175	°C

NOTES: (1) Device mounted on an Al<sub>2</sub>O<sub>3</sub> printed-circuit board, 0.7mm thick; thickness of Cu-layer 35μm, see Fig.4.

(2) Device mounted on an epoxy-glass printed-circuit board, 1.5mm thick; thickness of Cu-layer 40 μm, see Fig.4.

For more information please refer to the "General Part of associated Handbook".

**ELECTRICAL CHARACTERISTICS** Ratings at 25°C ambient temperature unless otherwise specified. (uni-directional only )

Partnumber	Reverse breakdown voltage	Temperature coefficient		Test current	Clamping voltage		Reverse current at reverse voltage	
	$V_{(BR)R}$ at $I_{test}$	$\alpha_z @ I_z$		$I_{ZT}$	$V_{(CL)R}$	at $I_{RSM}$ (note 1) A	$I_R$	$V_R$
	V	%/		m A	V		$\mu A$	V
	MIN.	MIN.	MAX.		MAX.		MAX.	
BZG04-8V2	9.4	0.05	0.09	50	14.8	20.3	20	8.2
BZG04-9V1	10.4	0.05	0.10	50	15.7	19.1	5	9.1
BZG04-10	11.4	0.05	0.10	50	17	17.7	5	10
BZG04-11	12.4	0.05	0.10	50	18.9	15.9	5	11
BZG04-12	13.8	0.05	0.10	50	20.9	14.4	5	12
BZG04-13	15.3	0.06	0.11	25	22.9	13.1	5	13
BZG04-15	16.8	0.06	0.11	25	25.6	11.7	5	15
BZG04-16	18.8	0.06	0.11	25	28.4	10.6	5	16
BZG04-18	20.8	0.06	0.11	25	31.0	9.7	5	18
BZG04-20	22.8	0.06	0.11	25	33.8	8.9	5	20
BZG04-22	25.1	0.06	0.11	25	38.1	7.9	5	22
BZG04-24	28	0.06	0.11	25	42.2	7.1	5	24
BZG04-27	31	0.06	0.11	25	46.2	6.5	5	27
BZG04-30	34	0.06	0.11	10	50.1	6.0	5	30
BZG04-33	37	0.06	0.11	10	54.1	5.5	5	33
BZG04-36	40	0.07	0.12	10	60.7	4.9	5	36
BZG04-39	44	0.07	0.12	10	65.5	4.6	5	39
BZG04-43	48	0.07	0.12	10	70.8	4.2	5	43
BZG04-47	52	0.07	0.12	10	78.6	3.8	5	47
BZG04-51	58	0.08	0.13	10	86.5	3.5	5	51
BZG04-56	64	0.08	0.13	10	94.4	3.2	5	56
BZG04-62	70	0.08	0.13	10	103.5	2.9	5	62
BZG04-68	77	0.08	0.13	10	114	2.6	5	68
BZG04-75	85	0.09	0.13	5.0	126	2.4	5	75
BZG04-82	94	0.09	0.13	5.0	139	2.2	5	82
BZG04-91	104	0.09	0.13	5.0	152	2.0	5	91
BZG04-100	114	0.09	0.13	5.0	167	1.8	5	100
BZG04-110	124	0.09	0.13	5.0	185	1.6	5	110
BZG04-120	138	0.09	0.13	5.0	204	1.5	5	120
BZG04-130	153	0.09	0.13	5.0	224	1.3	5	130
BZG04-150	168	0.09	0.13	5.0	249	1.2	5	150
BZG04-160	188	0.09	0.13	5.0	276	1.1	5	160
BZG04-180	208	0.09	0.13	2.0	305	1.0	5	180
BZG04-200	228	0.09	0.13	2.0	336	0.9	5	200
BZG04-220	251	0.09	0.13	2.0	380	0.8	5	220

NOTES: 1. Non-repetitive peak reverse current in accordance with "IEC60-1, Section8" (10/100s pulse); see Fig.3.

## Ratings AND Characteristic Curves

Fig.1 Maximum non-repetitive peak reverse power dissipation as a function of pulse duration (square pulse).

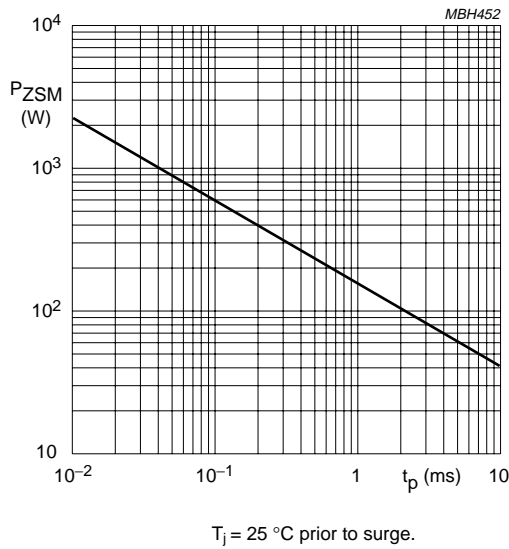


Fig.2 Forward current as a function of forward voltage; typical values.

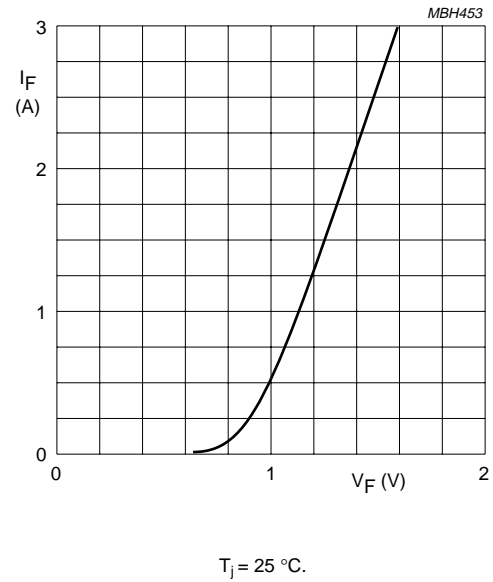
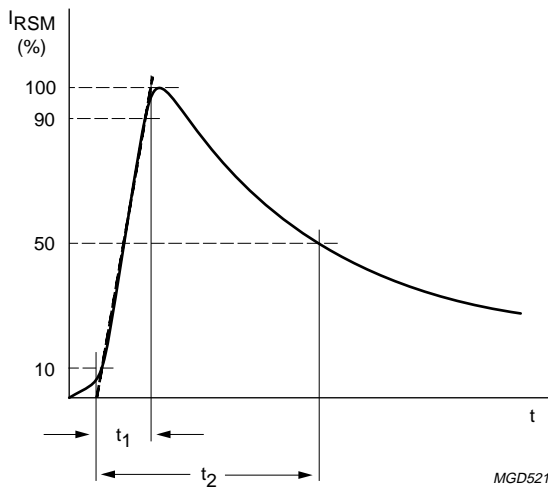


Fig.3 Non-repetitive peak reverse current pulse definition.

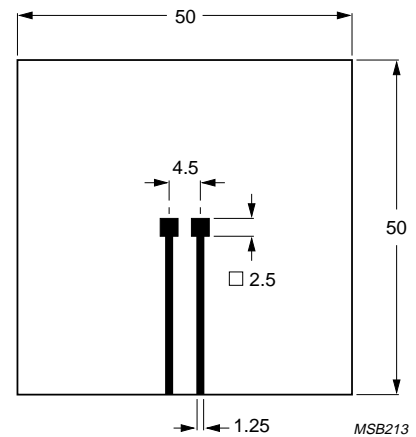


In accordance with "IEC 60-1, Section 8".

$t_1 = 10\text{ }\mu\text{s}$ .

$t_2 = 1000\text{ }\mu\text{s}$ .

Fig.4 Printed-circuit board for surface mounting.



Dimensions in mm.