

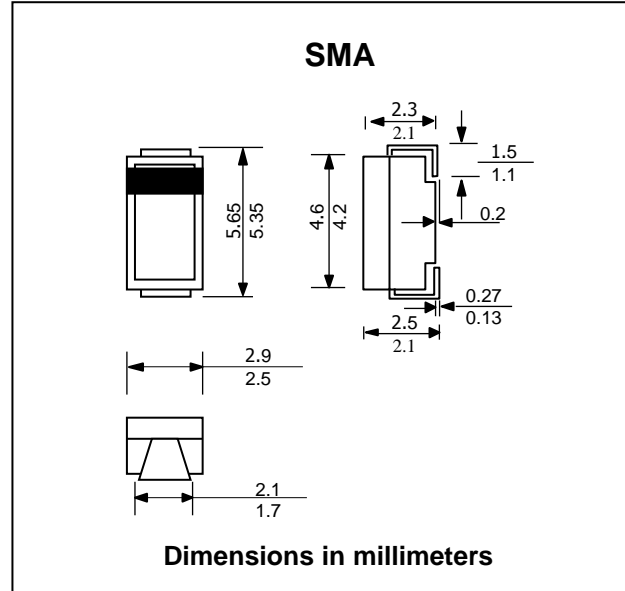
# BZG03-C10 ~ BZG03-C200 VOLTAGE REGULATOR DIODES

## FEATURES :

- \* Complete Voltage Range 10 to 200 Volts
- \* High maximum operating temperature
- \* Excellent stability
- \* Low leakage current
- \* Pb / RoHS Free

## MECHANICAL DATA :

- \* Case : SMA Molded plastic
- \* Epoxy : UL94V-0 rate flame retardant
- \* Polarity : Color band denotes cathode end
- \* Mounting position : Any
- \* Weight : 0.060 gram (Approximately)



## MAXIMUM RATINGS

Rating at 25 °C ambient temperature unless otherwise specified

Parameter	Symbol	Condition	Min.	Max.	Unit
Power dissipation	$P_{tot}$	$T_{tp} = 100\text{ }^{\circ}\text{C}$ , see Fig. 1	-	3	W
Power dissipation	$P_{tot}$	$T_a = 50\text{ }^{\circ}\text{C}$ , see Fig. 1; device mounted on an $\text{Al}_2\text{O}_3$ PCB (Fig. 4)	-	1.25	W
Non-repetitive peak reverse	$P_{ZSM}$	$t_p = 100\text{ }\mu\text{s}$ ; square pulse; $T_j = 25\text{ }^{\circ}\text{C}$ prior to surge; see Fig. 2	-	600	W
Forward voltage	$V_F$	$I_F = 0.5\text{ A}$ ; $T_j = 25\text{ }^{\circ}\text{C}$ ; see Fig. 3	-	1.2	V
Junction Temperature Range	$T_j$		-65	+175	$^{\circ}\text{C}$
Storage Temperature Range	$T_{stg}$		-65	+175	$^{\circ}\text{C}$

## THERMAL CHARACTERISTICS

Parameter	Symbol	Condition	Value	Unit
Thermal resistance from junction to tie-point	$R_{th\ j-tp}$		25	K/W
Thermal resistance from junction to ambient	$R_{th\ j-a}$	(Note 1)	100	K/W

### Note

1. Device mounted on an  $\text{Al}_2\text{O}_3$  printed-circuit board, 0.7 mm thick; thickness of Cu-layer  $\geq 35\text{ }\mu\text{m}$ , see Fig.4.

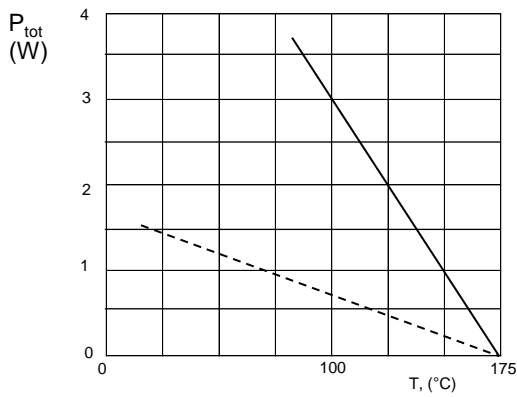
## ELECTRICAL CHARACTERISTICS

Rating at Tj = 25 °C unless otherwise specified

Type No.	Marking Code	Working Voltage			Differential Resistance		Temperature Coefficient		Test Current	Maximum Reverse Leakage Current	
		V <sub>Z</sub> @ I <sub>Z</sub>			r <sub>diff</sub> (Ω) at I <sub>Z</sub>		S <sub>Z</sub> (%/K) at I <sub>Z</sub>		I <sub>Z</sub>	I <sub>R</sub> @ V <sub>R</sub>	
		Min.	Nom.	Max.	Typ.	Max.	Min.	Max.	(mA)	(μA)	(V)
BZG03-C10	C10	9.4	10	10.6	2	4	0.05	0.09	50	7.0	7.5
BZG03-C11	C11	10.4	11	11.6	4	7	0.05	0.10	50	4.0	8.2
BZG03-C12	C12	11.4	12	12.7	4	7	0.05	0.10	50	3.0	9.1
BZG03-C13	C13	12.4	13	14.1	5	10	0.05	0.10	50	2.0	10
BZG03-C15	C15	13.8	15	15.6	5	10	0.05	0.10	50	1.0	11
BZG03-C16	C16	15.3	16	17.1	6	15	0.05	0.11	25	1.0	12
BZG03-C18	C18	16.8	18	19.1	6	15	0.06	0.11	25	1.0	13
BZG03-C20	C20	18.8	20	21.2	6	15	0.06	0.11	25	1.0	15
BZG03-C22	C22	20.8	22	23.3	6	15	0.06	0.11	25	1.0	16
BZG03-C24	C24	22.8	24	25.6	7	15	0.06	0.11	25	1.0	18
BZG03-C27	C27	25.1	27	28.9	7	15	0.06	0.11	25	1.0	20
BZG03-C30	C30	28	30	32	8	15	0.06	0.11	25	1.0	22
BZG03-C33	C33	31	33	35	8	15	0.06	0.11	25	1.0	24
BZG03-C36	C36	34	36	38	21	40	0.06	0.11	10	1.0	27
BZG03-C39	C39	37	39	41	21	40	0.06	0.11	10	1.0	30
BZG03-C43	C43	40	43	46	24	45	0.07	0.12	10	1.0	33
BZG03-C47	C47	44	47	50	24	45	0.07	0.12	10	1.0	36
BZG03-C51	C51	48	51	54	25	60	0.07	0.12	10	1.0	39
BZG03-C56	C56	52	56	60	25	60	0.07	0.12	10	1.0	43
BZG03-C62	C62	58	62	66	25	80	0.08	0.13	10	1.0	47
BZG03-C68	C68	64	68	72	25	80	0.08	0.13	10	1.0	51
BZG03-C75	C75	70	75	79	30	100	0.08	0.13	10	1.0	56
BZG03-C82	C82	77	82	87	30	100	0.08	0.13	10	1.0	62
BZG03-C91	C91	85	91	96	60	200	0.09	0.13	5	1.0	68
BZG03-C100	C100	94	100	106	60	200	0.09	0.13	5	1.0	75
BZG03-C110	C110	104	110	116	80	250	0.09	0.13	5	1.0	82
BZG03-C120	C120	114	120	127	80	250	0.09	0.13	5	1.0	91
BZG03-C130	C130	124	130	141	110	300	0.09	0.13	5	1.0	100
BZG03-C150	C150	138	150	156	130	300	0.09	0.13	5	1.0	110
BZG03-C160	C160	153	160	171	150	350	0.09	0.13	5	1.0	120
BZG03-C180	C180	168	180	191	180	400	0.09	0.13	5	1.0	130
BZG03-C200	C200	188	200	212	200	500	0.09	0.13	5	1.0	150

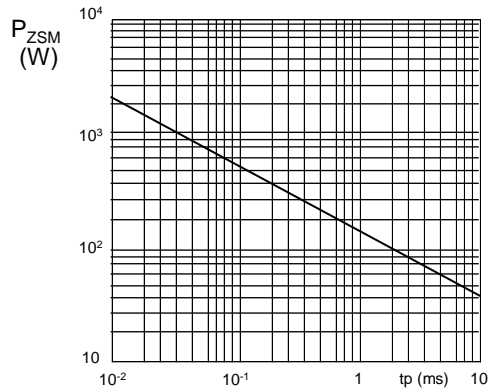
**RATING AND CHARACTERISTIC CURVES ( BZG03-C10 ~ BZG03-C200 )**

**FIG.1 - Maximum total power dissipation as a function of temperature.**



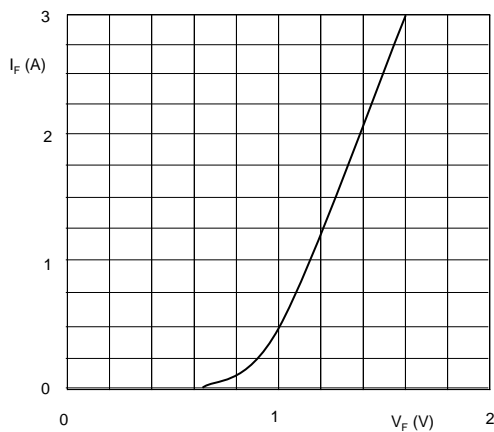
Solid line: tie-point temperature.  
Dotted line: ambient temperature; device mounted on an Al<sub>2</sub>O<sub>3</sub> PCB as shown in Fig.5.

**FIG.2 - Maximum non-repetitive peak reverse power dissipation as a function of pulse duration (square pulse).**



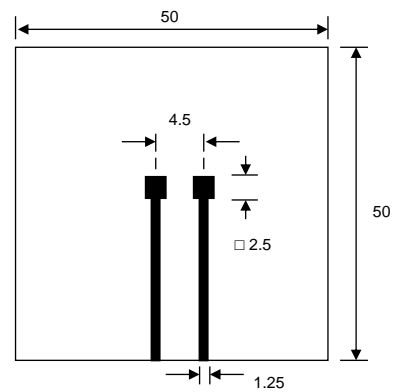
T<sub>j</sub> = 25 °C prior to surge.

**FIG. 3 - Forward current as a function of forward voltage; typical values.**



T<sub>j</sub> = 25 °C.

**FIG.4 - Printed-circuit board for surface mounting.**



Dimensions in mm.