

BZG03 Series

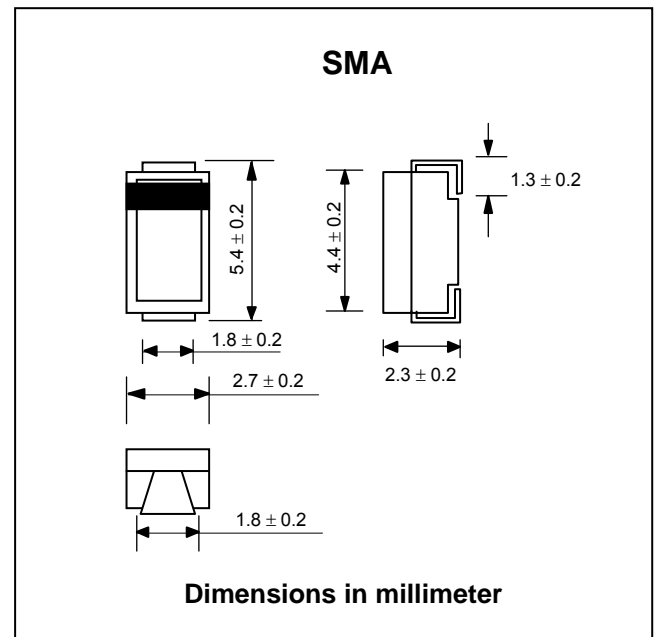
VOLTAGE REGULATOR DIODES

FEATURES :

- * Complete Voltage Range 10 to 270 Volts
- * High maximum operating temperature
- * Excellent stability
- * Low leakage current
- * Pb / RoHS Free

MECHANICAL DATA :

- * Case : SMA Molded plastic
- * Epoxy : UL94V-O 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 Al_2O_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 Al_2O_3 printed-circuit board, 0.7 mm thick; thickness of Cu-layer $\geq 35\text{ }\mu\text{m}$, see Fig.4.

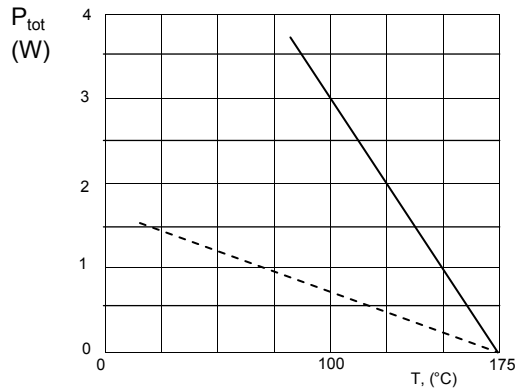
ELECTRICAL CHARACTERISTICS

Rating at $T_j = 25\text{ }^\circ\text{C}$ unless otherwise specified

Type No.	Marking Code	Working Voltage			Differential Resistance		Temperature Coefficient		Test Current	Maximum Reverse Leakage Current	
		$V_Z @ I_Z$			$r_{diff}(\Omega) \text{ at } I_Z$		$S_Z (\%/K) \text{ at } I_Z$		I_Z	$I_R @ V_R$	
		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	0.1	50	4.0	8.2
BZG03-C12	C12	11.4	12	12.7	4	7	0.05	0.1	50	3.0	9.1
BZG03-C13	C13	12.4	13	14.1	5	10	0.05	0.1	50	2.0	10
BZG03-C15	C15	13.8	15	15.6	5	10	0.05	0.1	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
BZG03-C220	C220	208	220	233	350	750	0.09	0.13	2	1.0	160
BZG03-C240	C240	228	240	256	400	850	0.09	0.13	2	1.0	180
BZG03-C270	C270	251	270	289	450	1000	0.09	0.13	2	1.0	200

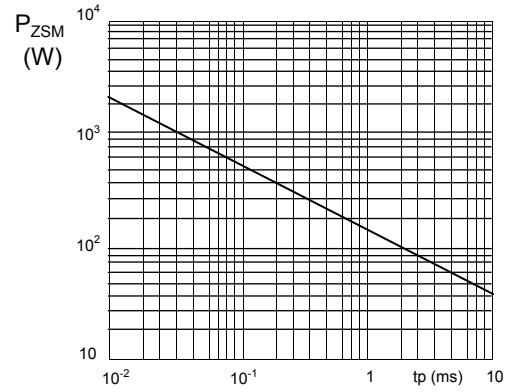
RATING AND CHARACTERISTIC CURVES (BZG03 Series)

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



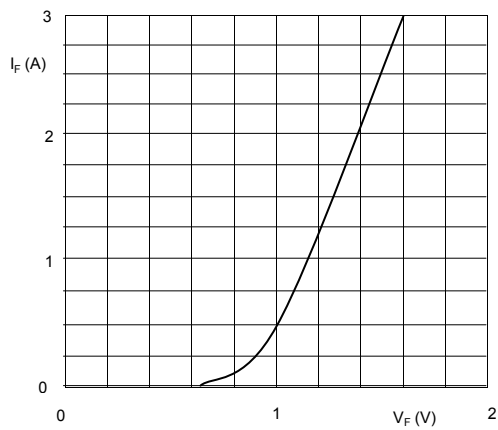
Solid line: tie-point temperature.
Dotted line: ambient temperature; device mounted on an Al_2O_3 PCB as shown in Fig.5.

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



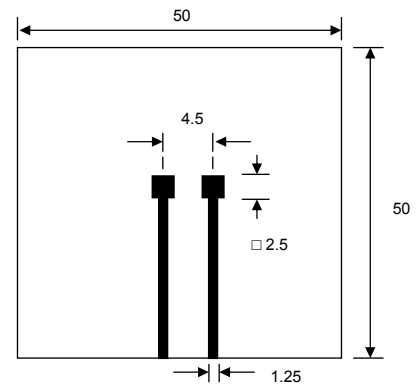
$T_j = 25\text{ °C}$ prior to surge.

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



$T_j = 25\text{ °C}$.

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



Dimensions in mm.