

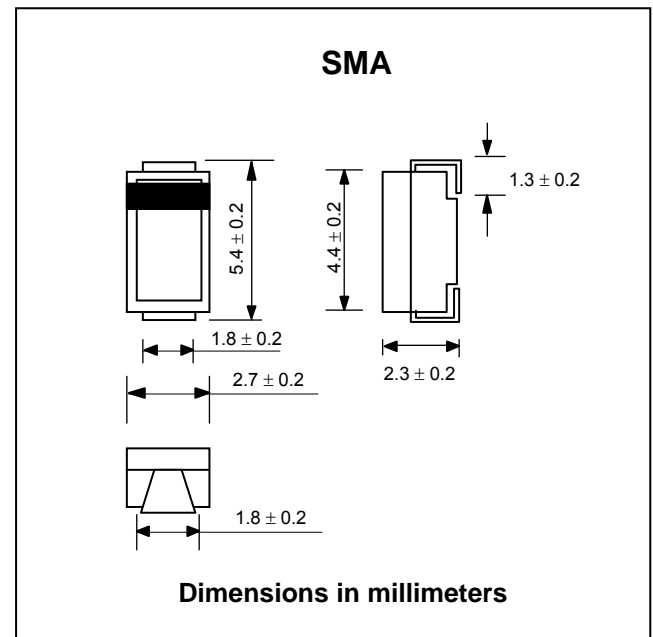
# BZG03-C220 ~ BZG03-C270 VOLTAGE REGULATOR DIODES

## FEATURES :

- \* Complete Voltage Range 220 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	$P_{tot}$	$T_{tp} = 100\text{ °C}$ , see Fig. 1	-	3	W
Power dissipation	$P_{tot}$	$T_a = 50\text{ °C}$ , 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; $T_j = 25\text{ °C}$ prior to surge; see Fig. 2	-	600	W
Forward voltage	$V_F$	$I_F = 0.5\text{ A}$ ; $T_j = 25\text{ °C}$ ; see Fig. 3	-	2.0	V
Junction Temperature Range	$T_j$		-65	+175	°C
Storage Temperature Range	$T_{stg}$		-65	+175	°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

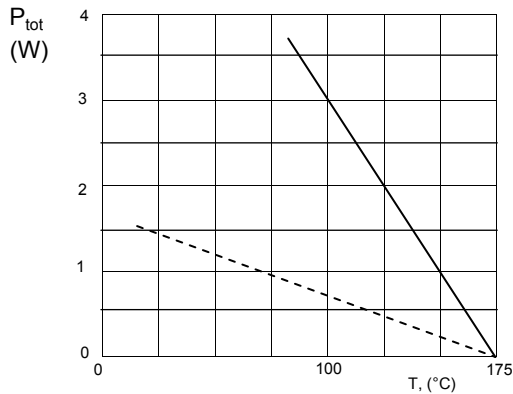
1. Device mounted on an  $Al_2O_3$  printed-circuit board, 0.7 mm thick; thickness of Cu-layer  $\geq 35\text{ }\mu\text{m}$ , see Fig.4.

## ELECTRICAL CHARACTERISTICS (Rating at $T_j = 25\text{ °C}$ unless otherwise specified)

Type No.	Marking Code	Working Voltage			Differential Resistance		Temperature Coefficient		Test Current	Maximum Reverse Leakage Current	
		$V_Z @ I_Z$			$r_{diff}(\Omega)$ at $I_Z$		$S_Z (\%/K)$ at $I_Z$		$I_Z$	$I_R @ V_R$	
		Min.	Nom.	Max.	Typ.	Max.	Min.	Max.	(mA)	(mA)	(V)
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

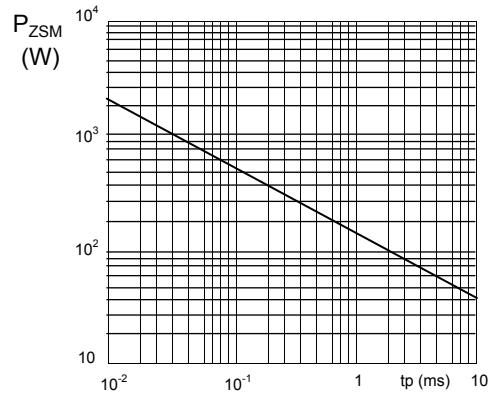
**RATING AND CHARACTERISTIC CURVES ( BZG03-C220 ~ BZG03-C270 )**

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



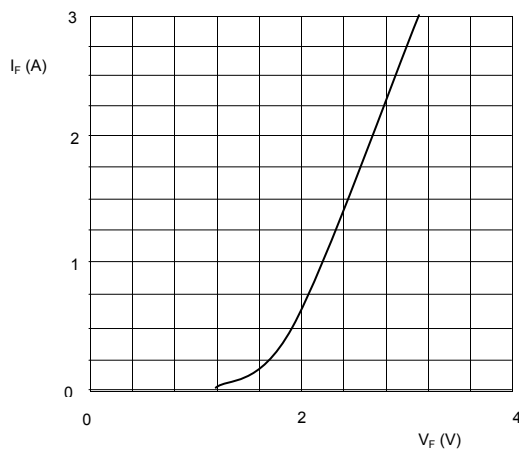
Solid line: tie-point temperature.  
Dotted line: ambient temperature; device mounted on an Al<sub>2</sub>O<sub>3</sub> PCB as shown in Fig.5.

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



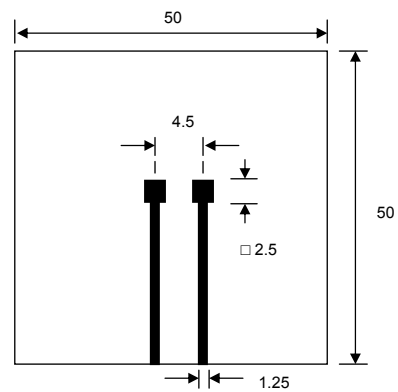
T<sub>j</sub> = 25 °C prior to surge.

**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.