

Zener Diodes

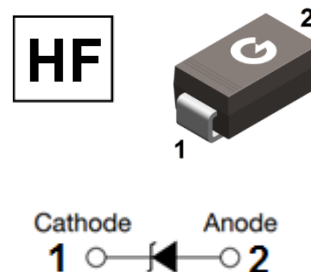
BZG05C-SERIES

Features

- High reliability
- Voltage range 3.3 V to 100 V
- Fits onto 5 mm SMD footpads
- RoHS compliant with Halogen-free

Mechanical Data

- Case: SMA molded plastic
- Molding compound, UL flammability classification rating 94V-0
- Terminals: Solder plated, solderable per MIL-STD-202, Method 208
- Polarity: Color band denotes cathode end



Absolute Maximum Ratings (@T_A = 25°C unless otherwise specified)

Parameter	Test condition	Symbol	Value	Unit
Power dissipation	R _{thJA} < 30 K/W, T _{amb} = 60 °C P _{diss} 3 W R _{thJA} < 100 K/W, T _{amb} = 25 °C	P _{diss}	3	W
Non repetitive peak surge power dissipation	tp = 100 μs sq.pulse, T _j = 25 °C prior to surge	P _{diss}	1.25	W
Peak reverse power dissipation(non-repetitive) tp=100μs square wave		P _{ZSM}	60	W
Junction temperature		T _j	-55 ~ +150	°C
Storage temperature range		T _{STG}	-55 ~ +150	°C

Thermal Characteristics

Parameter	Test condition	Symbol	Value	Unit
Junction lead		R _{thJL}	30	K/W
Junction ambient	mounted on epoxy-glass hard tissue, Fig. 1a	R _{thJA}	150	K/W
	mounted on epoxy-glass hard tissue, Fig. 1b	R _{thJA}	125	K/W
	mounted on Al-oxid-ceramic (Al ₂ O ₃), Fig. 1b	R _{thJA}	100	K/W

Electrical Characteristics

Parameter	Test condition	Symbo	Min	Typ	Max	Unit
Forward voltage	I _F = 0.2 A	V _F			1.2	V

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Electrical Characteristics (@T_A = 25°C unless otherwise specified)

Type	Device marking code	Zener Voltage Range(Note 1)				Leakage Current	
		V _Z (V)			@I _{ZT}	I _R @ V _R	
		Min	typ	Max	mA	μA	V
BZG05C3V3	ZG3.3	3.1	3.3	3.5	80	40	1.0
BZG05C3V6	ZG3.6	3.4	3.6	3.8	60	20	1.0
BZG05C3V9	ZG3.9	3.7	3.9	4.1	60	10	1.0
BZG05C4V3	ZG4.3	4.0	4.3	4.6	50	3.0	1.0
BZG05C4V7	ZG4.7	4.4	4.7	5	45	3.0	1.0
BZG05C5V1	ZG5.1	4.8	5.1	5.4	45	1.0	1.5
BZG05C5V6	ZG5.6	5.2	5.6	6.0	45	1.0	2.0
BZG05C6V2	ZG6.2	5.8	6.2	6.6	35	1.0	3.0
BZG05C6V8	ZG6.8	6.4	6.8	7.2	35	1.0	4.0
BZG05C7V5	ZG7.5	7.0	7.5	7.9	35	0.5	4.5
BZG05C8V2	ZG8.2	7.7	8.2	8.7	25	0.5	6.2
BZG05C9V1	ZG9.1	8.5	9.1	9.6	25	0.5	6.8
BZG05C10	ZG10	9.4	10	10.6	25	0.5	7.0
BZG05C11	ZG11	10.4	11	11.6	20	0.5	8.2
BZG05C12	ZG12	11.4	12	12.7	20	0.5	9.1
BZG05C13	ZG13	12.4	13	14.1	20	0.5	10
BZG05C15	ZG15	13.8	15	15.6	15	0.5	11
BZG05C16	ZG16	15.3	16	17.1	15	0.5	12
BZG05C18	ZG18	16.8	18	19.1	15	0.5	13
BZG05C20	ZG20	18.8	20	21.2	10	0.5	15
BZG05C22	ZG22	20.8	22	23.3	10	0.5	16
BZG05C24	ZG24	22.8	24	25.6	10	0.5	18
BZG05C27	ZG27	25.1	27	28.9	8.0	0.5	20
BZG05C30	ZG30	28	30	32	8.0	0.5	22
BZG05C33	ZG33	31	33	35	8.0	0.5	24
BZG05C36	ZG36	34	36	38	8.0	0.5	27
BZG05C39	ZG39	37	39	41	6.0	0.5	30
BZG05C43	ZG43	40	43	46	6.0	0.5	33
BZG05C47	ZG47	44	47	50	4.0	0.5	36
BZG05C51	ZG51	48	51	54	4.0	0.5	39
BZG05C56	ZG56	52	56	60	4.0	0.5	43
BZG05C62	ZG62	58	62	66	4.0	0.5	47
BZG05C68	ZG68	64	68	72	4.0	0.5	51
BZG05C75	ZG75	70	75	79	4.0	0.5	56
BZG05C82	ZG82	77	82	87	2.7	0.5	62
BZG05C91	ZG91	85	91	96	2.7	0.5	68
BZG05C100	ZG100	95	100	105	2.7	0.5	75

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Ratings and Characteristic Curves (@ $T_A=25^\circ\text{C}$ unless otherwise noted)

FIG.1 – TYPICAL FORWARD CHARACTERISTIC

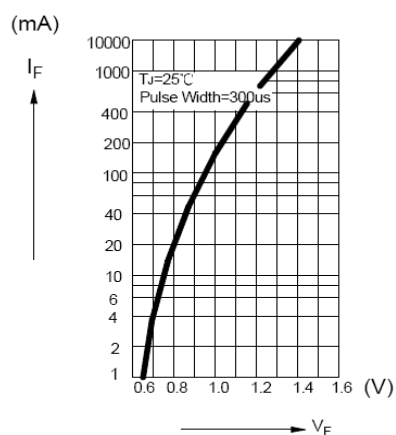
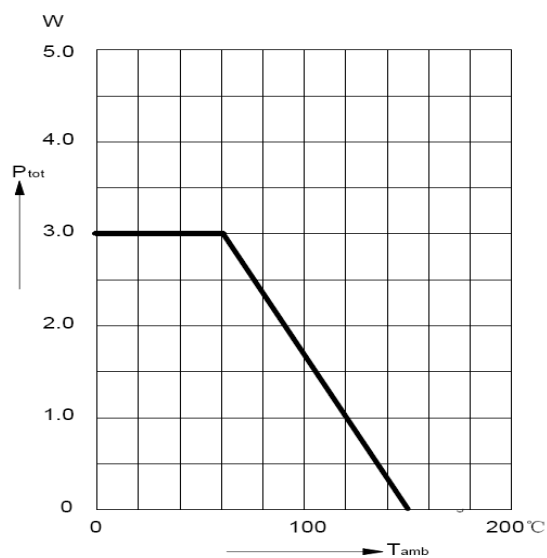


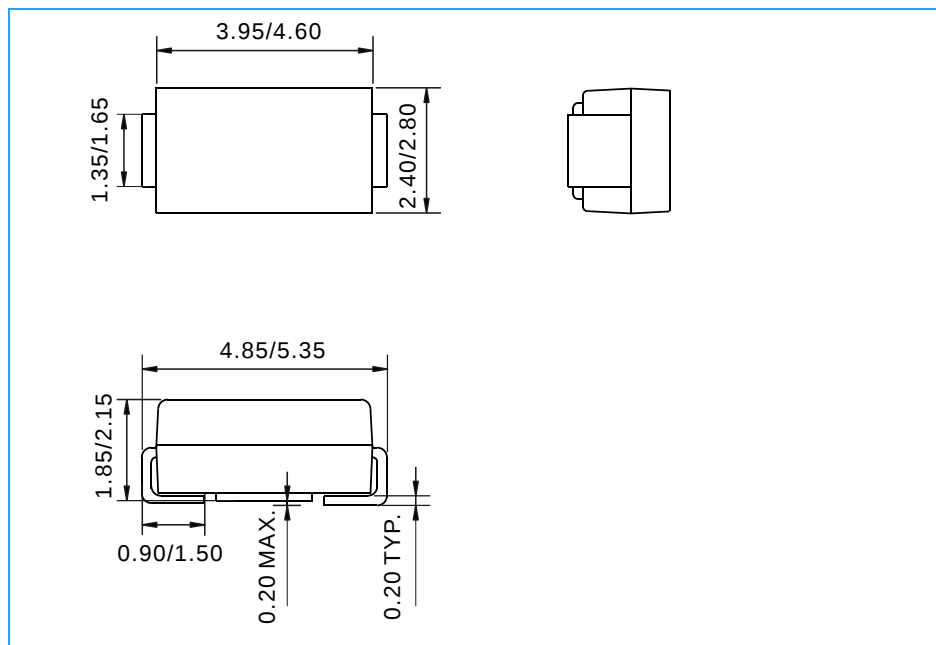
FIG.2 – ADMISSIBLE POWER DISSIPATION VERSUS AMBIENT TEMPERATURE



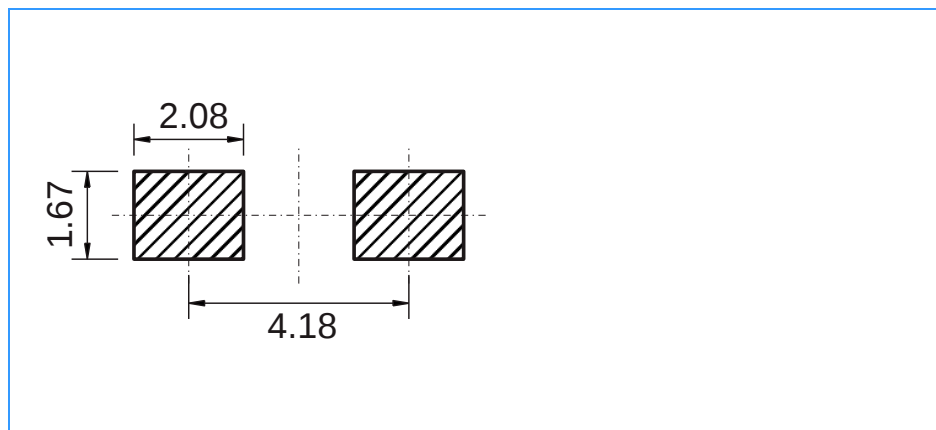
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Package Outline Dimensions (Unit: mm)



Mounting Pad Layout (Unit: mm)



Ordering Information

Part Number	Package	Shipping Quantity
BZG05C- SERIES	SMA	5000 pcs / Tape & Reel