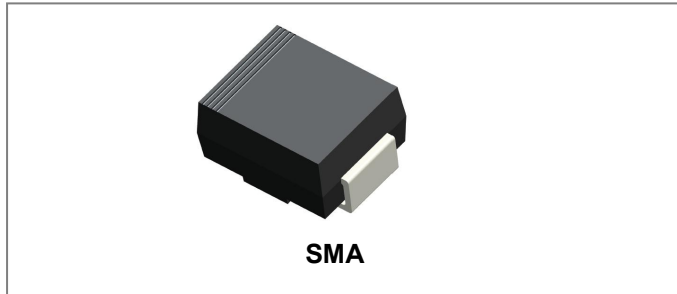


BZG05XX Series SURFACE MOUNT ZENER DIODE



Features

- Glass passivated chip
- Built-in strain relief
- Low inductance
- High peak reverse power dissipation
- Low reverse leakage
- For use in stabilizing and clipping with high power rating
- RoHS compliant

Circuit Diagram



Mechanical Data

- Case: DO-214AC SMA Molded plastic
- Lead: Solderable per MIL-STD-750, method 2026
- Epoxy: UL 94V-0 rate flame retardant
- Polarity: Color band denotes cathode end
- Mounting position: Any
- Weight: 0.06 grams

Maximum Ratings@T_A=25°C unless otherwise specified

Parameter	Test Condition	Symbol	Value	Units
Power Dissipation	R _{THJA} < 30K/W, T _{AMB} = 60°C	P _{TOT}	3000	mW
	R _{THJA} < 100K/W, T _{AMB} = 25°C	P _{TOT}	1250	mW
Non repetitive peak surge power dissipation	TP=100uS sq.pulse, T _J =25°C prior to surge	P _{ZSM}	60	W
Typical Thermal resistance junction to Lead	-	R _{θJL}	30	K/W
Maximum forward voltage	I _F =200m	V _F	1.2	V
Junction temperature rang		T _J	-55 to +150	°C
Storage temperature range		T _{STG}	-55 to +150	°C

Notes: 1. T_L=Lead temperature at 3/8" (9.5mm) from body.

Ordering Information

Device	Package	Shipping
BZG05Cxx series	SMA	5000pcs / reel
BZG05Cxx series TR	SMA	5000pcs / reel

For information on tape and reel specifications, including part orientation and tape sizes, please refer to our tape and reel packaging specification.

Marking Diagram



Where XXXXX is YYWWL

3V3 = Marking Code
YY = Year
WW = Week
L = Lot Number

Cautions: Molding resin
Epoxy resin UL:94V-0

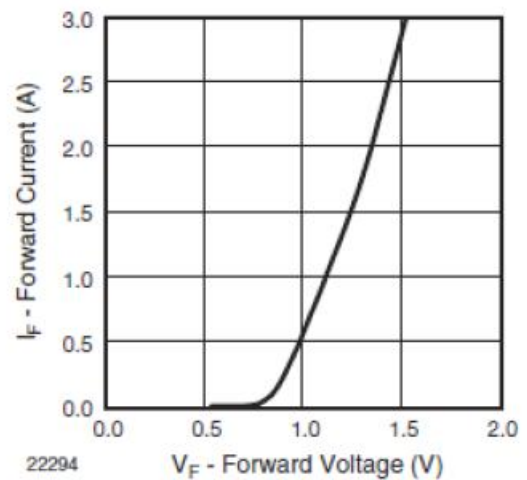
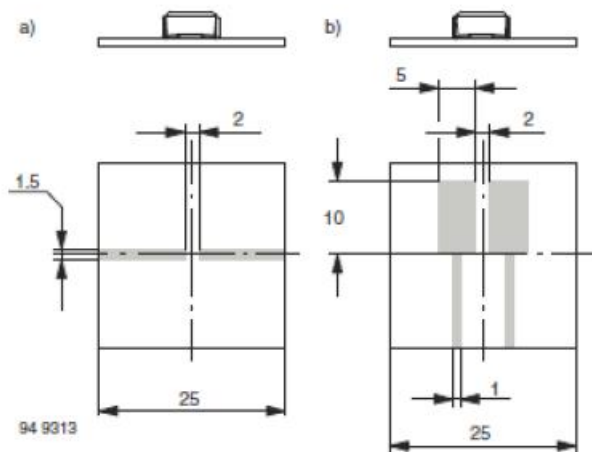
Ratings and Characteristics Curves ($T_A=25^\circ\text{C}$ unless otherwise noted)

Part Number	Device Marking Code	ZENER VOLTAGE RANGE			TEST CURRENT		REVERSE LEAKAGE CURRENT		DYNAMIC RESISTANCE		TEMPERATURE COEFFICIENT	
		$V_Z @ I_{ZT1}$			I_{ZT1}	I_{ZT2}	$I_R @ V_R$		$Z_Z @ I_{ZT1}$	$Z_{ZK} @ I_{ZT2}$	$TC_{VZ} @ I_{ZT1}$	
		MIN.	NOM.	MAX.			MAX	V	MAX.	MAX.	MIN.	MAX
		V			mA		uA		Ω		%K	
BZG05C3V3	3V3	3.1	3.3	3.5	80	1.00	100	1.0	20	400	-0.080	-0.050
BZG05C3V6	3V6	3.4	3.6	3.8	60	1.00	100	1.0	20	500	-0.080	-0.050
BZG05C3V9	3V9	3.7	3.9	4.1	60	1.00	50	1.0	15	500	-0.070	-0.020
BZG05C4V3	4V3	4.0	4.3	4.6	50	1.00	10	1.0	13	500	-0.070	-0.010
BZG05C4V7	4V7	4.4	4.7	5.0	45	1.00	10	1.0	13	600	-0.030	0.040
BZG05C5V1	5V1	4.8	5.1	5.4	45	1.00	10	1.5	10	500	-0.010	0.040
BZG05C5V6	5V6	5.2	5.6	6.0	45	1.00	10	2.0	7	400	0.000	0.045
BZG05C6V2	6V2	5.8	6.2	6.6	35	1.00	10	3.0	4	300	0.010	0.055
BZG05C6V8	6V8	6.4	6.8	7.2	35	1.00	10	4.0	4	300	0.015	0.060
BZG05C7V5	7V5	7.0	7.5	7.9	35	0.50	10	4.5	3	200	0.020	0.065
BZG05C8V2	8V2	7.7	8.2	8.7	25	0.50	10	6.2	5	200	0.030	0.070
BZG05C9V1	9V1	8.5	9.1	9.6	25	0.50	10	6.8	5	200	0.035	0.075
BZG05C10	10	9.4	10	10.6	25	0.50	10	7.0	7	200	0.040	0.080
BZG05C11	11	10.4	11	11.6	20	0.50	1	8.2	8	300	0.045	0.080
BZG05C12	12	11.4	12	12.7	20	0.50	1	9.1	9	350	0.045	0.085
BZG05C13	13	12.4	13	14.1	20	0.50	1	10	10	400	0.050	0.085
BZG05C15	15	13.8	15	15.6	15	0.50	1	11	15	500	0.055	0.090
BZG05C16	16	15.3	16	17.1	15	0.50	1	12	15	500	0.055	0.090
BZG05C18	18	16.8	18	19.1	15	0.50	1	13	20	500	0.060	0.090
BZG05C20	20	18.8	20	21.2	10	0.50	1	15	24	600	0.060	0.090
BZG05C22	22	20.8	22	23.3	10	0.50	1	16	25	600	0.060	0.095
BZG05C24	24	22.8	24	25.6	10	0.50	1	18	25	600	0.060	0.095
BZG05C27	27	25.1	27	28.9	8.0	0.25	1	20	30	750	0.060	0.095
BZG05C30	30	28	30	32	8.0	0.25	1	22	30	1000	0.060	0.095
BZG05C33	33	31	33	35	8.0	0.25	1	24	35	1000	0.060	0.095
BZG05C36	36	34	36	38	8.0	0.25	1	27	40	1000	0.070	0.110
BZG05C39	39	37	39	41	6.0	0.25	1	30	50	1000	0.070	0.110
BZG05C43	43	40	43	46	6.0	0.25	1	33	50	1000	0.070	0.110

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

Part Number	Device Marking Code	ZENER VOLTAGE RANGE			TEST CURRENT		REVERSE LEAKAGE CURRENT		DYNAMIC RESISTANCE		TEMPERATURE COEFFICIENT	
		$V_Z @ I_{ZT1}$			I_{ZT1}	I_{ZT2}	$I_R @ V_R$		$Z_Z @ I_{ZT1}$	$Z_{ZK} @ I_{ZT2}$	$TC_{VZ} @ I_{ZT1}$	
		MIN.	NOM.	MAX.			MAX.	V	MAX.	MAX.	MIN.	MAX.
		V			mA		uA		Ω		%K	
BZG05C47	47	44	47	50	4.0	0.25	1	36	90	1500	0.070	0.110
BZG05C51	51	48	51	54	4.0	0.25	1	39	115	1500	0.080	0.120
BZG05C56	56	52	56	60	4.0	0.25	1	43	120	2000	0.080	0.120
BZG05C62	62	58	62	66	4.0	0.25	1	47	125	2000	0.080	0.120
BZG05C68	68	64	68	72	4.0	0.25	1	51	130	2000	0.080	0.120
BZG05C75	75	70	75	79	4.0	0.25	1	56	135	2000	0.080	0.120
BZG05C82	82	77	82	87	2.7	0.25	1	62	200	3000	0.080	0.120
BZG05C91	91	85	91	96	2.7	0.25	1	68	250	3000	0.080	0.120
BZG05C100	100	95	100	106	2.7	0.25	1	75	350	3000	0.080	0.120

Ratings and Characteristics Curves



Ratings and Characteristics Curves

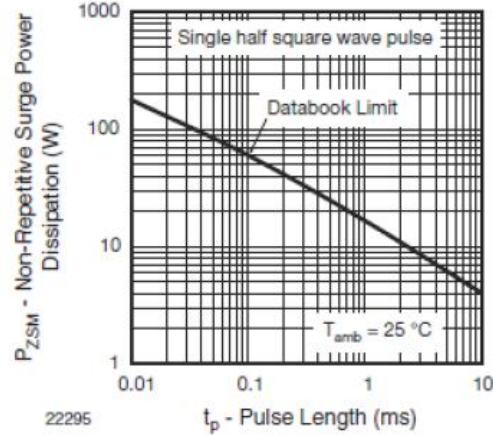
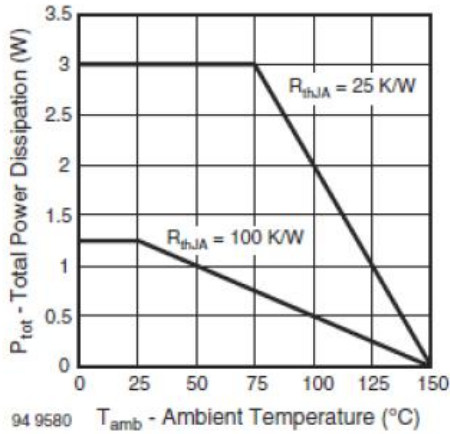


Fig. 2 - Typ. Total Power Dissipation vs. Ambient Temperature

Fig. 4 - Non Repetitive Surge Power Dissipation vs. Pulse Length

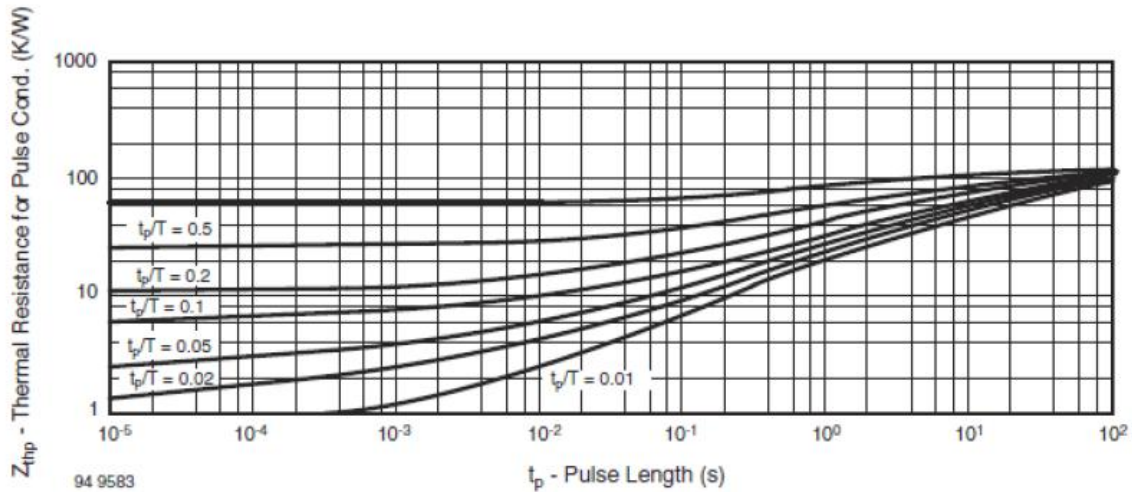
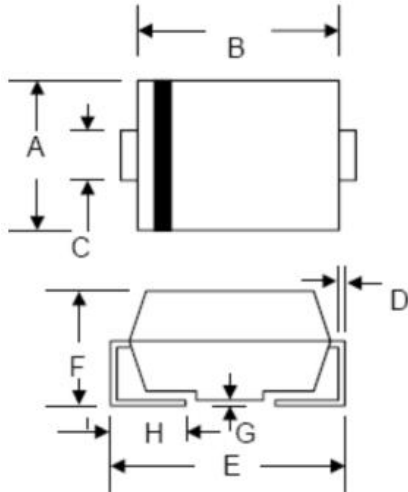


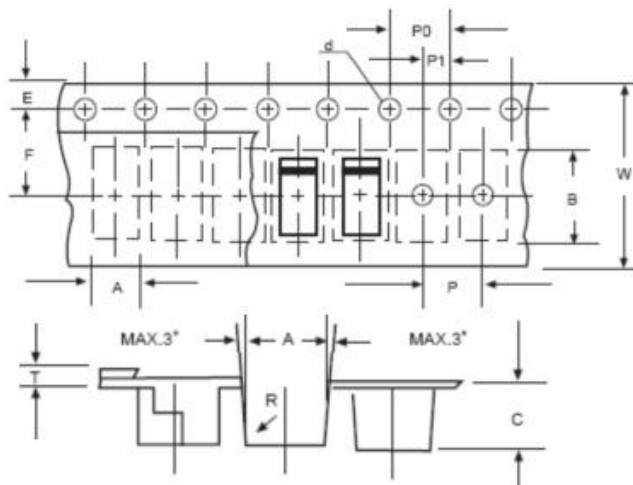
Fig. 5 - Thermal Response

Mechanical Dimensions SMA



SYMBOL	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	2.18	2.84	0.086	0.112
B	3.90	4.75	0.154	0.187
C	1.05	1.80	0.041	0.071
D	0.145	0.51	0.006	0.020
E	4.70	5.66	0.185	0.223
F	1.70	2.95	0.067	0.116
G	0.05	0.203	0.002	0.008
H	0.76	1.52	0.030	0.600

Carrier Tape Specification SMA



SYMBOL	Millimeters	
	Min.	Max.
A	2.97	3.17
B	5.70	5.90
C	2.32	2.52
d	1.40	1.60
E	1.40	1.60
F	5.60	5.70
P	3.90	4.10
P0	3.90	4.10
P1	1.90	2.10
T	0.25	0.35
W	11.80	12.20

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