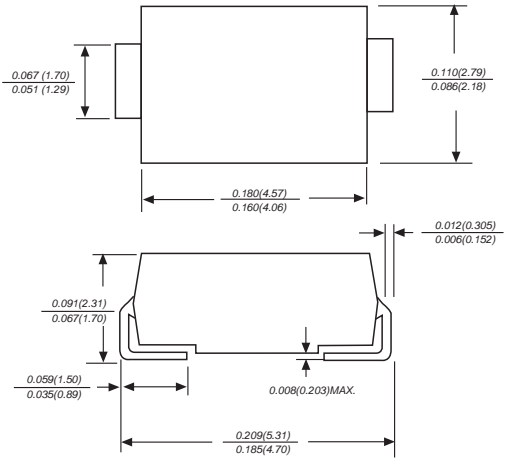


IV. Zener Diode

SMD Zener Diode (3.0 Watt) BZG03C6V2~BZG03C270

(Package: SMA (DO-214AC))

<p>FEATURES</p> <ul style="list-style-type: none"> • Glass passivated junction • High reliability • Voltage range 6.2V to 270V • Fits onto 5mm SMD footpads • Wave and reflow solderable <p>MECHANICAL DATA</p> <ul style="list-style-type: none"> • Case : JEDEC DO-214AC molded plastic body over passivated junction • Polarity : Color band denotes cathode • Mounting Position : Any • Weight : 0.058 grams 	 <p>Case: SMA Dimensions in inches and (millimeters)</p>
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Maximum Ratings, Thermal & Electrical Characteristics

(Ratings at 25 ambient temperature unless otherwise specified)

Parameter	Test conditions	Symbol	Value	Units
Power dissipation	Rth-JA<25 /W, Tamb = 100	P _V	3.00	Watts
	Rth-JA<100 /W, Tamb = 50	P _V	1.25	Watts
Non repetitive peak surge power dissipation	tp = 100us sq. pulse, T _j = 25 prior to surge	P _{ZSM}	600	Watts
Junction temperature	-	T _j	175	
Storage temperature range	-	T _{stg}	-65 to 150	

Parameter	Test conditions	Symbol	Value	Units
Junction lead	-	Rth-JL	25	/W
Junction ambient	Mounted on epoxy-glass hard tissue, Fig. 3a	Rth-JA	150	/W
	Mounted on epoxy-glass hard tissue, Fig. 3b	Rth-JA	125	/W
	Mounted on Al-oxide-ceramic (Al ₂ O ₃), Fig. 3b	Rth-JA	100	/W

Parameter	Test conditions	Type	Symbol	Min	Typ	Max	Units
Forward voltage	I _F = 0.5A	-	V _F	-	-	1.2	Volts

IV. Zener Diode

SMD Zener Diode (3.0 Watt)

BZG03C6V2~BZG03C270

(Package: SMA (DO-214AC))

Device Type	V _Z			R _{ZJ} and TK _{VZ} at I _Z				I _R at V _R		
	Volts					%K		mA	uA	Volts
	Min	Typ	Max	Typ	Max	Typ	Max		Max	
BZG03C6V2	5.8	6.2	6.6		< 4	0.010	0.055	50	1	3.0
BZG03C6V8	6.4	6.8	7.2		< 3.5	0.015	0.060	50	1	4.0
BZG03C7V5	7.0	7.5	7.9		< 3	0.020	0.065	50	1	4.5
BZG03C8V2	7.7	8.2	8.7		<5	0.030	0.070	50	1	6.2
BZG03C9V1	8.5	9.1	9.6		<5	0.035	0.075	50	1	6.8
BZG03C10	9.4	10	10.6	2	4	0.05	0.090	50	10	7.5
BZG03C11	10.4	11	11.6	4	7	0.05	0.10	50	4	8.2
BZG03C12	11.4	12	12.7	4	7	0.05	0.10	50	3	9.1
BZG03C13	12.4	13	14.1	5	10	0.05	0.10	50	2	10
BZG03C15	13.8	15	15.6	5	10	0.05	0.10	50	1	11
BZG03C16	15.3	16	17.1	6	15	0.06	0.11	25	1	12
BZG03C18	16.8	18	19.1	6	15	0.06	0.11	25	1	13
BZG03C20	18.8	20	21.2	6	15	0.06	0.11	25	1	15
BZG03C22	20.8	22	23.3	6	15	0.06	0.11	25	1	16
BZG03C24	22.8	24	25.6	7	15	0.06	0.11	25	1	18
BZG03C27	25.1	27	28.9	7	15	0.06	0.11	25	1	20
BZG03C30	28	30	32	8	15	0.06	0.11	25	1	22
BZG03C33	31	33	35	8	15	0.06	0.11	25	1	24
BZG03C36	34	36	38	21	40	0.06	0.11	10	1	27
BZG03C39	37	39	41	21	40	0.06	0.11	10	1	30
BZG03C43	40	43	46	24	45	0.07	0.12	10	1	33
BZG03C47	44	47	50	24	45	0.07	0.12	10	1	36
BZG03C51	48	51	54	25	60	0.07	0.12	10	1	39
BZG03C56	52	56	60	25	60	0.07	0.12	10	1	43
BZG03C62	58	62	66	25	80	0.08	0.13	10	1	47
BZG03C68	64	68	72	25	80	0.08	0.13	10	1	51
BZG03C75	70	75	79	30	100	0.08	0.13	10	1	56
BZG03C82	77	82	87	30	100	0.08	0.13	10	1	62
BZG03C91	85	91	96	60	200	0.09	0.13	5	1	68
BZG03C100	94	100	106	60	200	0.09	0.13	5	1	75
BZG03C110	104	110	116	80	250	0.09	0.13	5	1	82
BZG03C120	114	120	127	80	250	0.09	0.13	5	1	91
BZG03C130	124	130	141	110	300	0.09	0.13	5	1	100
BZG03C150	138	150	156	130	300	0.09	0.13	5	1	110
BZG03C160	158	160	171	150	350	0.09	0.13	5	1	120
BZG03C180	168	180	191	180	400	0.09	0.13	5	1	130
BZG03C200	188	200	212	200	500	0.09	0.13	5	1	150
BZG03C220	208	220	233	350	750	0.09	0.13	2	1	160
BZG03C240	228	240	256	400	850	0.09	0.13	2	1	180
BZG03C270	251	270	289	450	1000	0.09	0.13	2	1	200

Ratings and Characteristic Curves of BZG03C6V2~BZG03C270

($T_j = 25^\circ\text{C}$ unless otherwise specified)

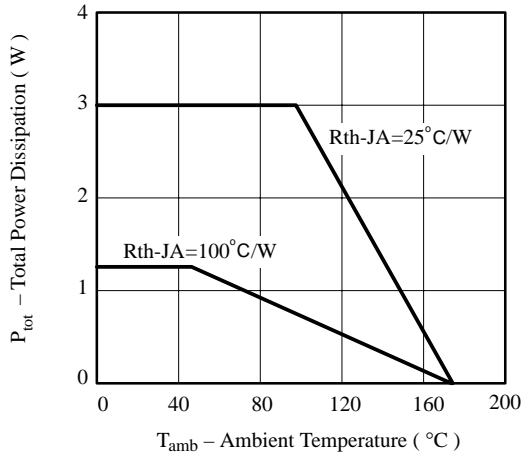


Figure 1. Total Power Dissipation vs. Ambient Temperature

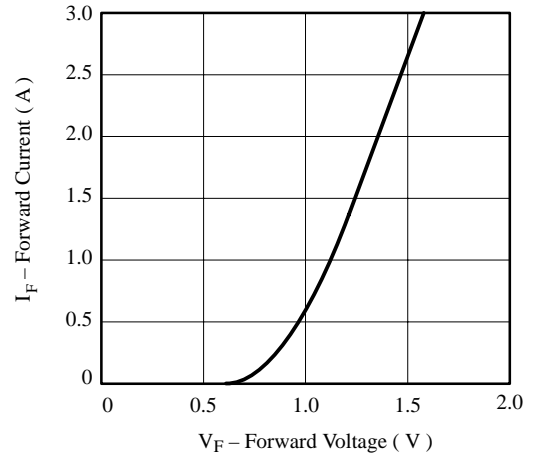


Figure 2. Forward Current vs. Forward Voltage

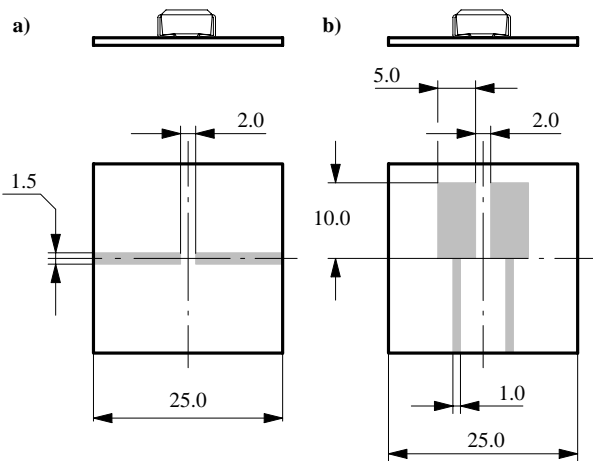


Figure 3. Boards for R_{th-JA} definition (copper overlay 35μ)

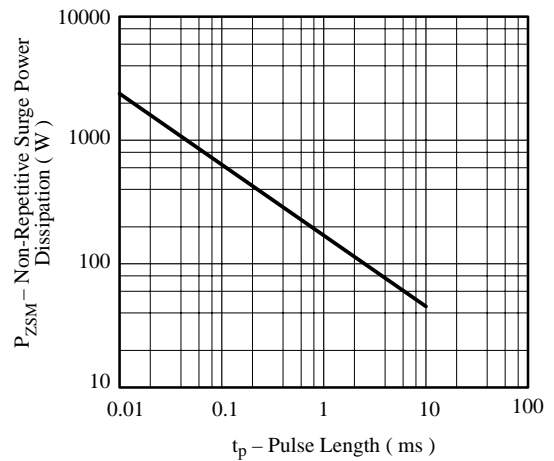


Figure 4. Non Repetitive Surge Power Dissipation vs. Pulse Length

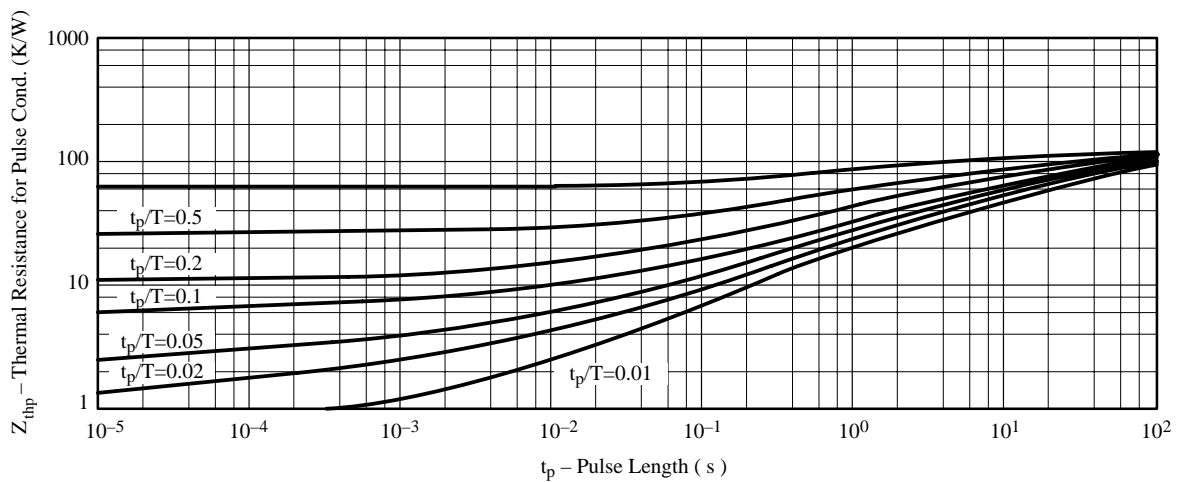


Figure 5. Thermal Response