

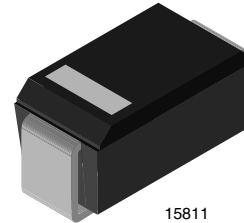
Zener Diodes

Features

- High reliability
- Voltage range 10 V to 270 V
- Fits onto 5 mm SMD footpads
- Wave and reflow solderable
- AEC-Q101 qualified
- Compliant to RoHS directive 2002/95/EC and in accordance to WEEE 2002/96/EC



RoHS
COMPLIANT



Applications

- Voltage stabilization

Mechanical Data

Case: DO-214AC

Weight: approx. 77 mg

Packaging codes/options:

TR/1.5K 7" reel

TR3/6K 13" reel 6K/box

Absolute Maximum Ratings

$T_{amb} = 25\text{ }^{\circ}\text{C}$, unless otherwise specified

Parameter	Test condition	Symbol	Value	Unit
Power dissipation	$R_{thJA} < 25\text{ K/W}$, $T_{amb} = 100\text{ }^{\circ}\text{C}$	P_{diss}	3	W
	$R_{thJA} < 100\text{ K/W}$, $T_{amb} = 50\text{ }^{\circ}\text{C}$	P_{diss}	1.25	W
Non repetitive peak surge power dissipation	$t_p = 100\text{ }\mu\text{s sq.pulse}$, $T_j = 25\text{ }^{\circ}\text{C}$ prior to surge	P_{ZSM}	600	W
Junction temperature		T_j	150	$^{\circ}\text{C}$
Storage temperature range		T_{stg}	- 65 to + 150	$^{\circ}\text{C}$

Thermal Characteristics

$T_{amb} = 25\text{ }^{\circ}\text{C}$, unless otherwise specified

Parameter	Test condition	Symbol	Value	Unit
Junction lead		R_{thJL}	25	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_2O_3), fig. 1b	R_{thJA}	100	K/W

Electrical Characteristics

$T_{amb} = 25\text{ }^{\circ}\text{C}$, unless otherwise specified

Parameter	Test condition	Symbol	Min.	Typ.	Max.	Unit
Forward voltage	$I_F = 0.5\text{ A}$	V_F			1.2	V

Electrical Characteristics

BZG03C...

Part number	Zener voltage range			Dynamic resistance		Test current	Temperature coefficient of zener voltage		Reverse leakage current	
	V_Z at I_{ZT}			r_{zj} and TK_{VZ} at I_{ZT}		I_{ZT}	TK_{VZ} at I_{ZT}		I_R at V_R	
	V			Ω		mA	%K		μA	V
	min.	typ.	max.	typ.	max.		min.	max.	max.	
BZG03C10	9.4	10	10.6	2	4	50	0.05	0.09	10	7.5
BZG03C11	10.4	11	11.6	4	7	50	0.05	0.1	4	8.2
BZG03C12	11.4	12	12.7	4	7	50	0.05	0.1	3	9.1
BZG03C13	12.4	13	14.1	5	10	50	0.05	0.1	2	10
BZG03C15	13.8	15	15.6	5	10	50	0.05	0.1	1	11
BZG03C16	15.3	16	17.1	6	15	25	0.06	0.11	1	12
BZG03C18	16.8	18	19.1	6	15	25	0.06	0.11	1	13
BZG03C20	18.8	20	21.2	6	15	25	0.06	0.11	1	15
BZG03C22	20.8	22	23.3	6	15	25	0.06	0.11	1	16
BZG03C24	22.8	24	25.6	7	15	25	0.06	0.11	1	18
BZG03C27	25.1	27	28.9	7	15	25	0.06	0.11	1	20
BZG03C30	28	30	32	8	15	25	0.06	0.11	1	22
BZG03C33	31	33	35	8	15	25	0.06	0.11	1	24
BZG03C36	34	36	38	21	40	10	0.06	0.11	1	27
BZG03C39	37	39	41	21	40	10	0.06	0.11	1	30
BZG03C43	40	43	46	24	45	10	0.07	0.12	1	33
BZG03C47	44	47	50	24	45	10	0.07	0.12	1	36
BZG03C51	48	51	54	25	60	10	0.07	0.12	1	39
BZG03C56	52	56	60	25	60	10	0.07	0.12	1	43
BZG03C62	58	62	66	25	80	10	0.08	0.13	1	47
BZG03C68	64	68	72	25	80	10	0.08	0.13	1	51
BZG03C75	70	75	79	30	100	10	0.08	0.13	1	56
BZG03C82	77	82	87	30	100	10	0.08	0.13	1	62
BZG03C91	85	91	96	60	200	5	0.09	0.13	1	68
BZG03C100	94	100	106	60	200	5	0.09	0.13	1	75
BZG03C110	104	110	116	80	250	5	0.09	0.13	1	82
BZG03C120	114	120	127	80	250	5	0.09	0.13	1	91
BZG03C130	124	130	141	110	300	5	0.09	0.13	1	100
BZG03C150	138	150	156	130	300	5	0.09	0.13	1	110
BZG03C160	158	160	171	150	350	5	0.09	0.13	1	120
BZG03C180	168	180	191	180	400	5	0.09	0.13	1	130
BZG03C200	188	200	212	200	500	5	0.09	0.13	1	150
BZG03C220	208	220	233	350	750	2	0.09	0.13	1	160
BZG03C240	228	240	256	400	850	2	0.09	0.13	1	180
BZG03C270	251	270	289	450	1000	2	0.09	0.13	1	200

Typical Characteristics

$T_{amb} = 25\text{ }^{\circ}\text{C}$, unless otherwise specified

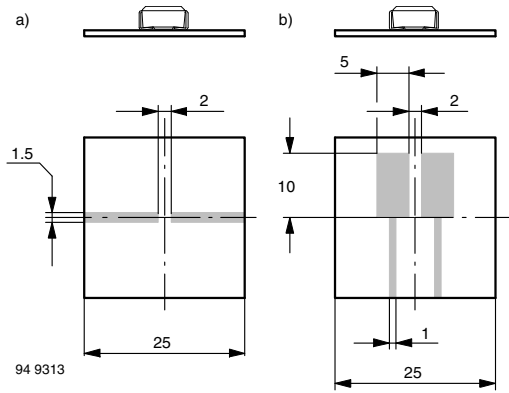


Figure 1. Boards for R_{thJA} Definition (Copper Overlay $35\text{ }\mu$)

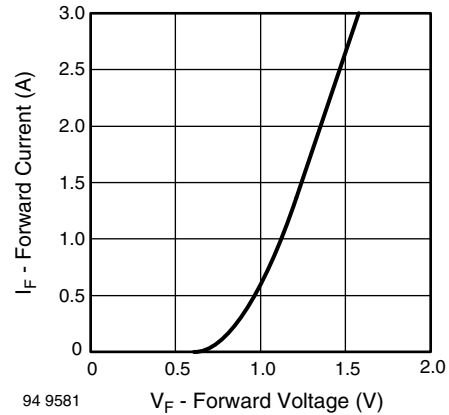


Figure 3. Forward Current vs. Forward Voltage

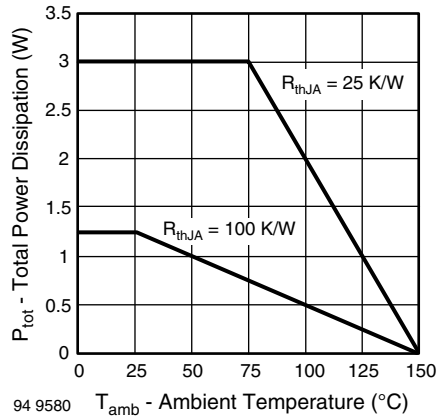


Figure 2. Total Power Dissipation vs. Ambient Temperature

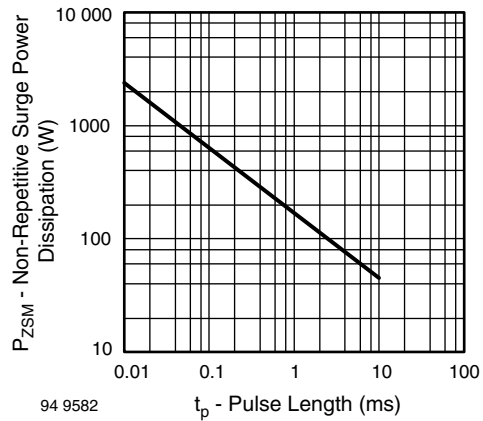


Figure 4. Non Repetitive Surge Power Dissipation vs. Pulse Length

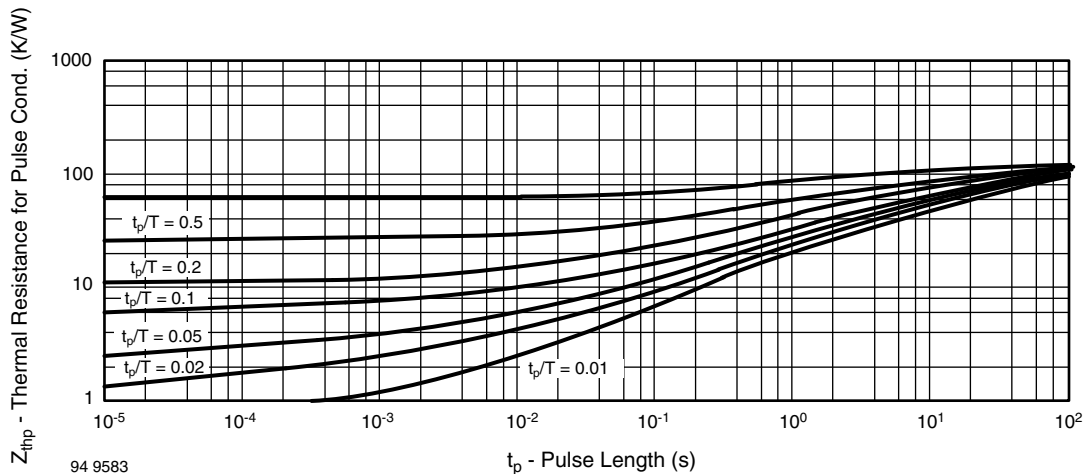


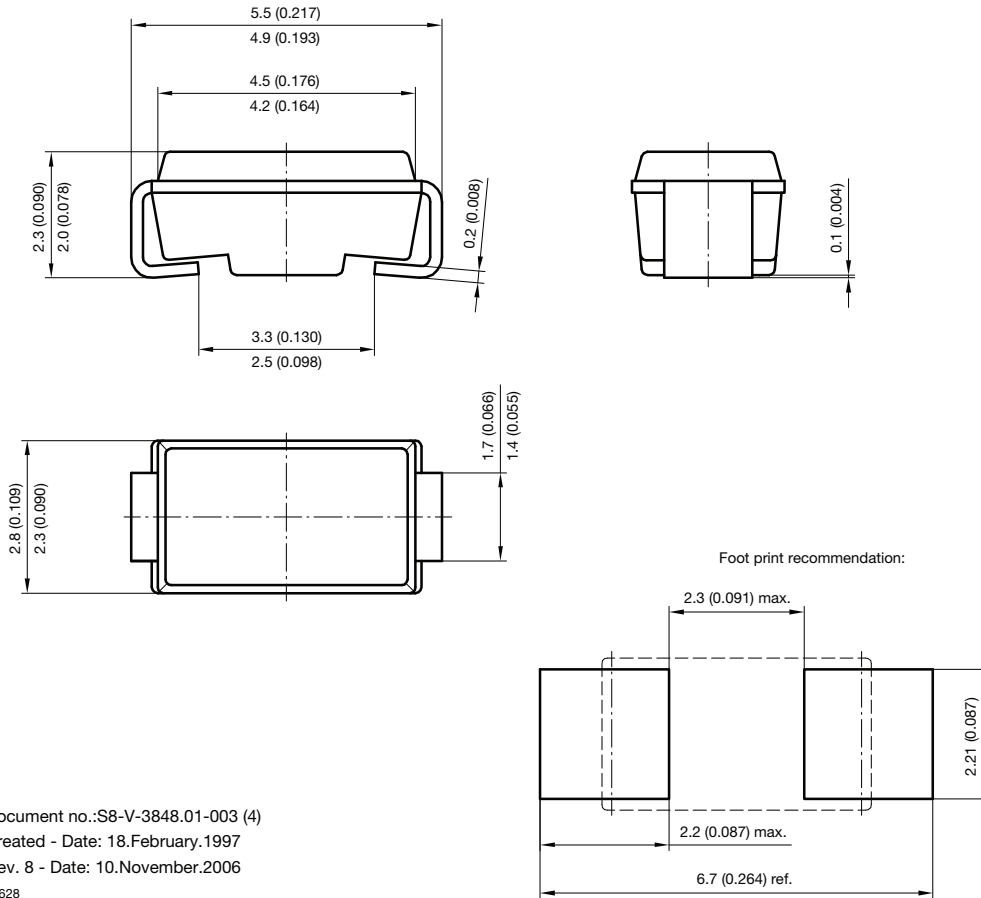
Figure 5. Thermal Response

BZG03C-Series



Vishay Semiconductors

Package Dimensions in millimeters (inches): **DO-214AC**



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