

FEATURES

- * Ideal for surface mount applications
- * Easy pick and place
- * High temperature soldering guaranteed:
260°C / 10 seconds at terminals

VOLTAGE RANGE

2.0 to 75 Volts

500 mW

MECHANICAL DATA

- * Case: Molded plastic
- * Epoxy: UL 94V-0 rate flame retardant
- * Metallurgically bonded construction
- * Polarity: Color band denotes cathode end
- * Mounting position: Any



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MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Rating 25°C ambient temperature unless otherwise specified.
Single phase half wave, 60Hz, resistive or inductive load.
For capacitive load, derate current by 20%.

Absolute Maximum Ratings ($T_a = 25^\circ\text{C}$)

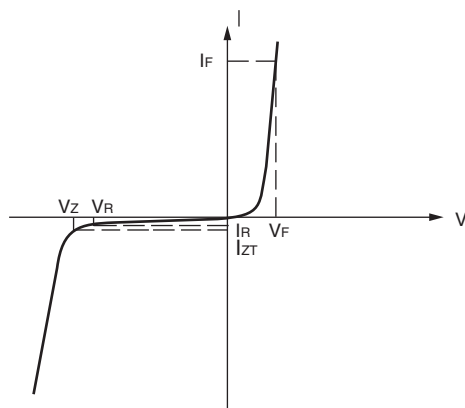
Parameter	Symbol	Value	Unit
Power Dissipation	P_{tot}	500	mW
Junction Temperature	T_J	150	°C
Storage Temperature Range	T_{stg}	- 65 to + 150	°C

Characteristics at $T_a = 25^\circ\text{C}$

Parameter	Symbol	Max.	Unit
Thermal Resistance Junction to Ambient Air	R_{thA}	340	°C/W
Forward Voltage at $I_F = 10 \text{ mA}$	V_F	0.9	V

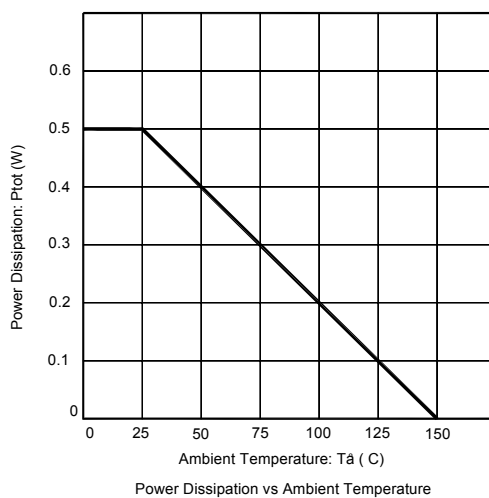
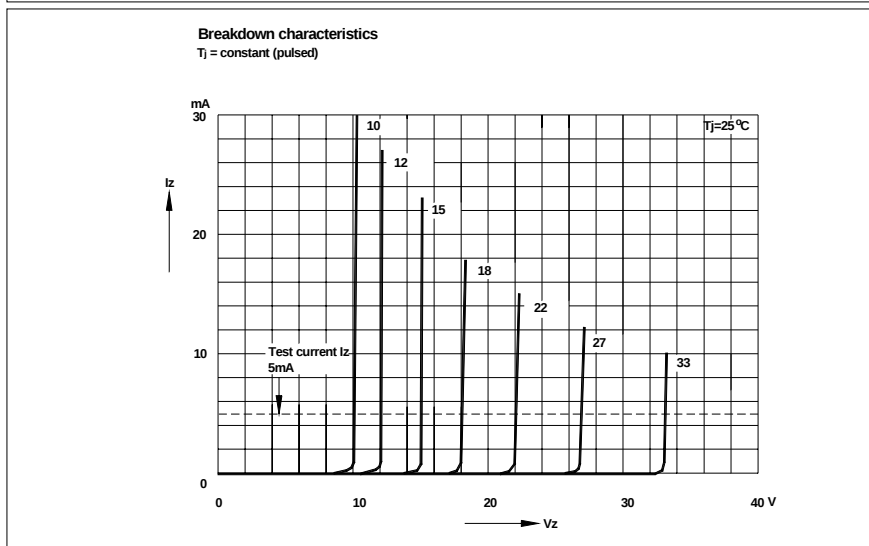
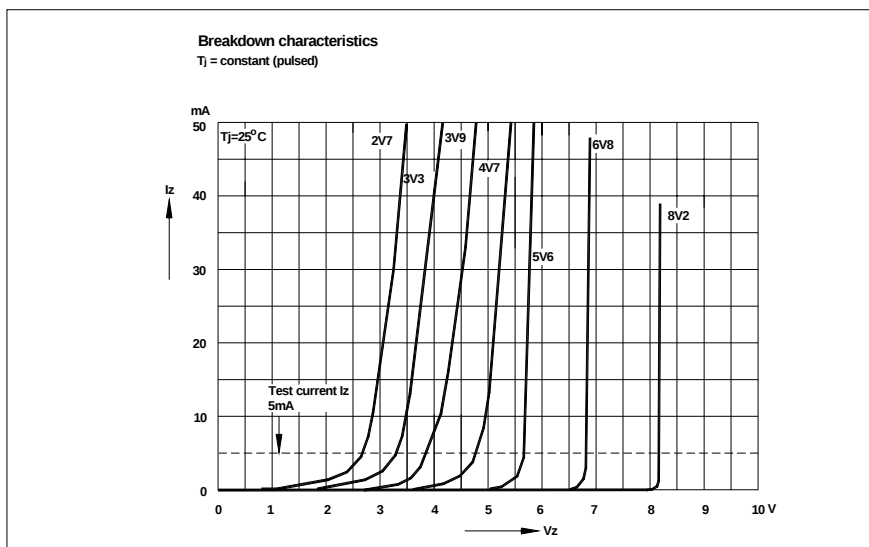
ELECTRICAL CHARACTERISTICS

SYMBOL	PARAMETER
V_Z	Reverse Zener voltage at I_{ZT}
I_{ZT}	Reverse current
Z_{ZT}	Maximum Zener impedance at I_{ZT}
I_{ZK}	Reverse current
Z_{ZK}	Maximum Zener impedance at I_{ZK}
I_R	Reverse leakage current at V_R
V_R	Reverse voltage
I_F	Forward current
V_F	Forward voltage at I_F
I_{ZM}	Maximum DC Zener current



Zener Voltage Regulator

RATING AND CHARACTERISTIC CURVES



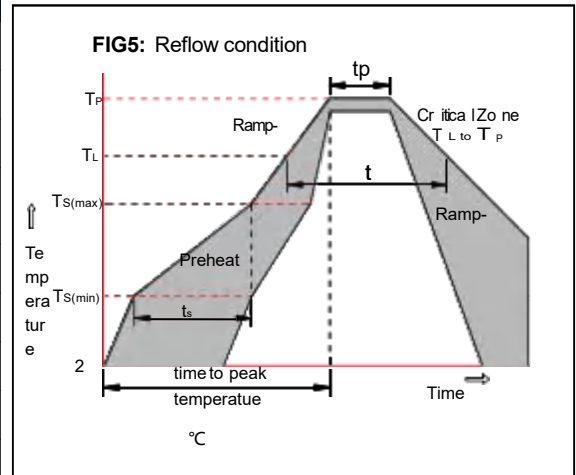
Characteristics at Ta = 25°C

Type	Marking	Zener Voltage Range ⁽²⁾				Maximum Zener ⁽³⁾ Impedance				Reverse Current ⁽²⁾	
		V _{ZT} (at I _{ZT})			I _{ZT}	Z _{ZT} @I _{ZT}	I _{ZT}	Z _{ZK} @I _{ZK}	I _{ZK}	I _R	@V _R
		Min (V)	Nom (V)	Max (V)							
BZT52C2V0	WY	1.91	2.0	2.09	5	100	5	600	1	150	1.0
BZT52C2V4	WX	2.2	2.4	2.6	5	100	5	600	1	50	1.0
BZT52C2V7	W1	2.5	2.7	2.9	5	100	5	600	1	20	1.0
BZT52C3V0	W2	2.8	3.0	3.2	5	95	5	600	1	10	1.0
BZT52C3V3	W3	3.1	3.3	3.5	5	95	5	600	1	5.0	1.0
BZT52C3V6	W4	3.4	3.6	3.8	5	90	5	600	1	5.0	1.0
BZT52C3V9	W5	3.7	3.9	4.1	5	90	5	600	1	3.0	1.0
BZT52C4V3	W6	4	4.3	4.6	5	90	5	600	1	3.0	1.0
BZT52C4V7	W7	4.4	4.7	5	5	80	5	500	1	3.0	2.0
BZT52C5V1	W8	4.8	5.1	5.4	5	60	5	480	1	2.0	2.0
BZT52C5V6	W9	5.2	5.6	6	5	40	5	400	1	1.0	2.0
BZT52C6V2	WA	5.8	6.2	6.6	5	10	5	150	1	3.0	4.0
BZT52C6V8	WB	6.4	6.8	7.2	5	15	5	80	1	2.0	4.0
BZT52C7V5	WC	7	7.5	7.9	5	15	5	80	1	1.0	5.0
BZT52C8V2	WD	7.7	8.2	8.7	5	15	5	80	1	0.7	5.0
BZT52C9V1	WE	8.5	9.1	9.6	5	15	5	100	1	0.5	6.0
BZT52C10	WF	9.4	10	10.6	5	20	5	150	1	0.2	7.0
BZT52C11	WG	10.4	11	11.6	5	20	5	150	1	0.1	8.0
BZT52C12	WH	11.4	12	12.7	5	25	5	150	1	0.1	8.0
BZT52C13	WI	12.4	13	14.1	5	30	5	170	1	0.1	8.0
BZT52C15	WJ	13.8	15	15.6	5	30	5	200	1	0.1	10.5
BZT52C16	WK	15.3	16	17.1	5	40	5	200	1	0.1	11.2
BZT52C18	WL	16.8	18	19.1	5	45	5	225	1	0.1	12.6
BZT52C20	WM	18.8	20	21.2	5	55	5	225	1	0.1	14.0
BZT52C22	WN	20.8	22	23.3	5	55	5	250	1	0.1	15.4
BZT52C24	WO	22.8	24	25.6	5	70	5	250	1	0.1	16.8
BZT52C27	WP	25.1	27	28.9	2	80	2	300	0.5	0.1	18.9
BZT52C30	WQ	28	30	32	2	80	2	300	0.5	0.1	21.0
BZT52C33	WR	31	33	35	2	80	2	325	0.5	0.1	23.1
BZT52C36	WS	34	36	38	2	90	2	350	0.5	0.1	25.2
BZT52C39	WT	37	39	41	2	130	2	350	0.5	0.1	27.3
BZT52C43	6A	40	43	46	2.5	130	2	500	1	2	33
BZT52C47	6B	44	47	50	2.5	150	2	500	1	2	36
BZT52C51	6C	48	51	54	2.5	180	2	500	1	1	37
BZT52C56	6D	52	56	60	2.5	180	2	500	1	1	43
BZT52C62	6E	58	62	66	2.5	200	2	500	1	0.2	47
BZT52C68	6F	64	68	72	2.5	250	2	500	1	0.2	52
BZT52C75	6H	70	75	79	2.5	300	2	500	1	0.2	57

¹⁾ V_{ZT} is tested with pulses (20 ms).

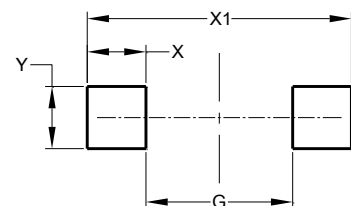
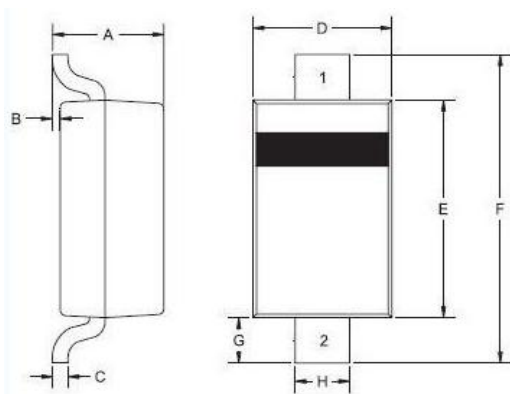
Soldering parameters

Reflow Condition		Pb-Free assembly (see as below)
Pre Heat	-Temperature Min ($T_{s(min)}$)	+150 °C
	-Temperature Max ($T_{s(max)}$)	+200 °C
	-Time (Min to Max) (ts)	60-180 secs.
Average ramp up rate (Liquid us Temp (T_L) to peak)		3 °C/sec. Max
$T_{s(max)}$ to T_L - Ramp-up Rate		3 °C/sec. Max
Reflow	-Temperature(T_L)(Liquid us)	+217 °C
	-Temperature(t_L)	60-150 secs.
Peak Temp (T_P)		+260(+0/-5) °C
Time within 5 °C of actual Peak Temp (t_p)		30 secs. Max
Ramp-down Rate		6 °C/sec. Max
Time 25 °C to Peak Temp (T_P)		8 min. Max
Do not exceed		+260 °C



Package Dimensions & Suggested Pad Layout

SOD123



SOD123		
Dim	Min	Max
A	0.95	1.35
B	0.00	0.12
C	-	0.20
D	1.40	1.80
E	2.50	2.80
F	3.60	3.90
G	0.40	-
H	0.50	0.70
All Dimensions in mm		

Dimensions	Value (in mm)
G	2.20
X	1.20
X1	4.60
Y	1.20

Tape & reel specification

Tape	Symbol	Dimension (mm)
	P0	4.00±0.20
	P1	4.00±0.20
	P2	2.00±0.20
	D0	1.55±0.10
	D1	1.00±0.20
	E	1.75±0.20
	F	3.60±0.20
	W	8.00±0.40
	A0	2.30±0.40
	B0	4.00±0.40
	K0	1.50±0.40
	T	0.23±0.10
	D2	177.0±3.0
7" Reel	D3	55Min.
	D4	R24.0±3.0
	G	R82.0±3.0
	I	13.0±2.0
	W1	11.0±3.0
	Quantity: 3000PCS	

