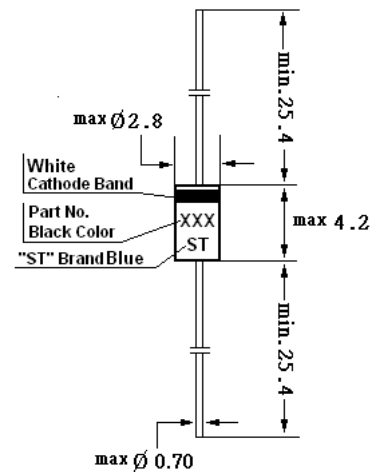


# ZPY3B9 THRU ZPYB82

## ZENER DIODES

### Features

- Silicon planar power zener diodes
- For use in stabilizing and clipping circuits with high power rating.
- The zener voltage tolerances  $\pm 2\%$ .



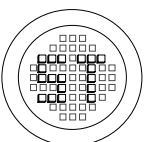
Glass Case JEDEC DO-41

Dimensions in mm

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

Parameter	Symbol	Value	Unit
Power Dissipation	$P_{\text{tot}}$	1.3 <sup>1)</sup>	W
Thermal Resistance Junction to Ambient Air	$R_{\theta JA}$	130 <sup>1)</sup>	$^\circ\text{C/W}$
Junction Temperature	$T_J$	175	$^\circ\text{C}$
Storage Temperature Range	$T_S$	-55 to +175	$^\circ\text{C}$

<sup>1)</sup> Valid provided that leads at a distance of 10mm from case are kept at ambient temperature.



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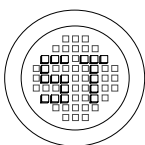
# ZPY3B9 THRU ZPYB82

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

Type	Zener Voltage at $I_{ZT}$ $V_Z$ (V) <sup>2)</sup>		Dynamic Resistance at $I_{ZT}$ $f = 1\text{ KHz}$ $r_{zj}$ ( $\Omega$ )	Temp. Coeff. of Zener Voltage at $I_{ZT}$ $\alpha_{VZ}$ ( $10^{-4}/^\circ\text{C}$ )		Test Current $I_{ZT}$ (mA)	Reverse Voltage at $I_R = 0.5\text{ }\mu\text{A}$ $V_R$ (V)	Admissible Zener Current at $T_a = 25\text{ }^\circ\text{C}$ $I_Z$ (mA) <sup>1)</sup>
	Min.	Max.	Max.	Min.	Max.			
ZPY3B9	3.82	3.98	< 7	-7	2	100	-	290
ZPY4B3	4.21	4.39	< 7	-7	3	100	-	260
ZPY4B7	4.61	4.79	< 7	-7	4	100	-	235
ZPY5B1	5	5.2	< 5	-6	5	100	> 0.7	215
ZPY5B6	5.49	5.71	< 2	-3	5	100	> 1.5	193
ZPY6B2	6.08	6.32	< 2	-1	6	100	> 2	183
ZPY6B8	6.66	6.94	< 2	0	7	100	> 3	157
ZPY7B5	7.35	7.65	< 2	0	7	100	> 5	143
ZPY8B2	8.04	8.36	< 2	3	8	100	> 6	127
ZPY9B1	8.92	9.28	< 4	3	8	50	> 7	117
ZPYB10	9.8	10.2	< 4	5	9	50	> 7.5	105
ZPYB11	10.78	11.22	< 7	5	10	50	> 8.5	94
ZPYB12	11.76	12.24	< 7	5	10	50	> 9	85
ZPYB13	12.74	13.26	< 9	5	10	50	> 10	78
ZPYB15	14.7	15.3	< 9	5	10	50	> 11	70
ZPYB16	15.68	16.32	< 10	7	11	25	> 12	63
ZPYB18	17.64	18.36	< 11	7	11	25	> 14	57
ZPYB20	19.6	20.4	< 12	7	11	25	> 15	52
ZPYB22	21.56	22.44	< 13	7	11	25	> 17	48
ZPYB24	23.52	24.48	< 14	7	12	25	> 18	42
ZPYB27	26.46	27.54	< 15	7	12	25	> 20	38
ZPYB30	29.4	30.6	< 20	7	12	25	> 22.5	35
ZPYB33	32.34	33.66	< 20	7	12	25	> 25	31
ZPYB36	35.28	36.72	< 60	7	12	10	> 27	29
ZPYB39	38.22	39.78	< 60	8	12	10	> 29	26
ZPYB43	42.14	43.86	< 80	8	13	10	> 32	24
ZPYB47	46.06	47.94	< 80	8	13	10	> 35	22
ZPYB51	49.98	52.02	< 100	8	13	10	> 38	20
ZPYB56	54.88	57.12	< 100	8	13	10	> 42	18
ZPYB62	60.76	63.24	< 130	8	13	10	> 47	16
ZPYB68	66.64	69.36	< 130	8	13	10	> 51	14
ZPYB75	73.5	76.5	< 160	8	13	10	> 56	13
ZPYB82	80.36	83.64	< 160	8	13	10	> 61	12

<sup>1)</sup> Valid provided that leads are kept at ambient temperature at a distance of 10 mm from case.

<sup>2)</sup> Tested with pulses  $t_p = 20\text{ ms}$ .



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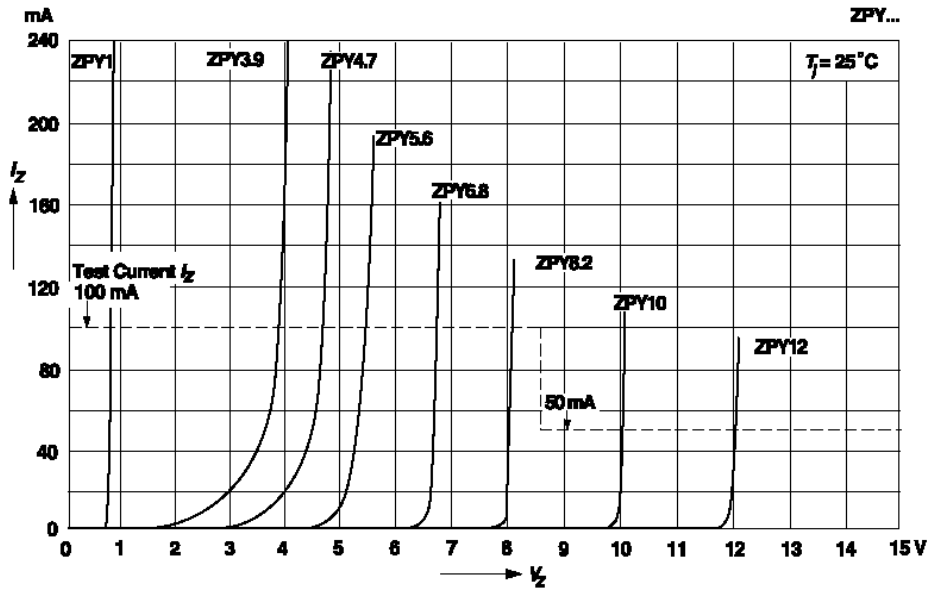
ISO/TS 16949 : 2002 Certificate No. 05103  
 ISO 14001:2004 Certificate No. 7116  
 ISO 9001:2000 Certificate No. 0506098

Dated : 05/05/2006

# ZPY3B9 THRU ZPYB82

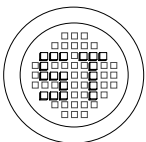
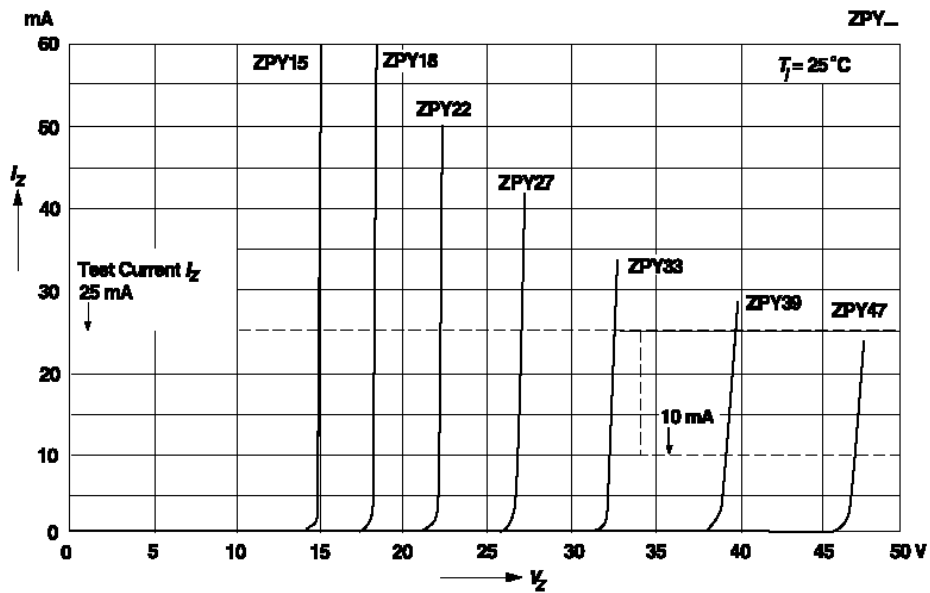
## Breakdown characteristics

$T_j = \text{constant (pulsed)}$



## Breakdown characteristics

$T_j = \text{constant (pulsed)}$



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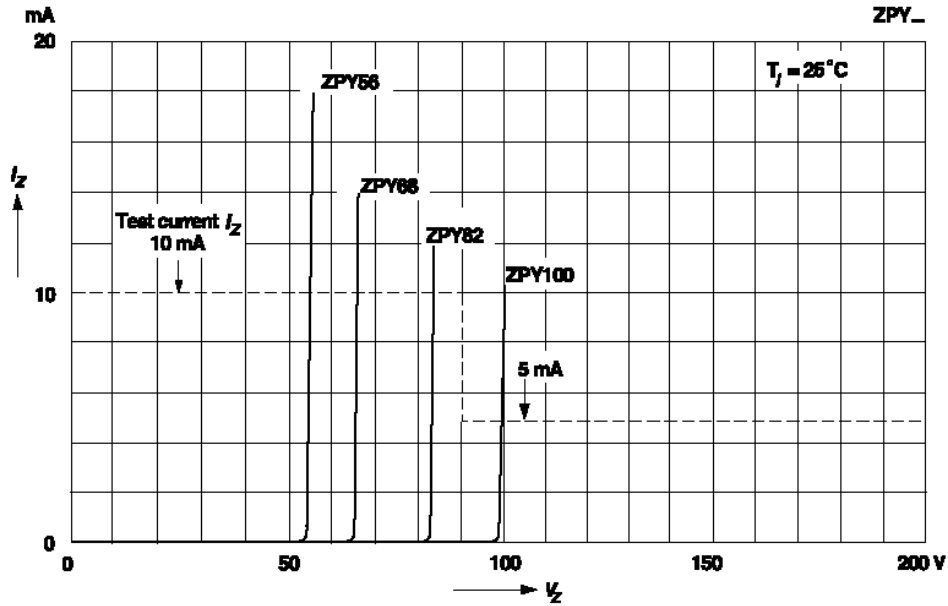
ISO 9001:2000  
Certificate No. 0506098

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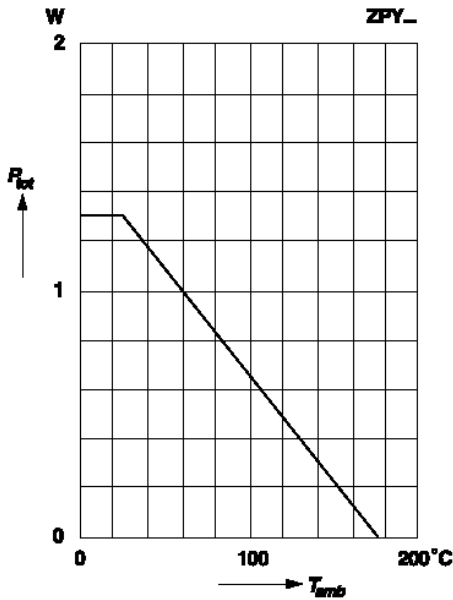
## Breakdown characteristics

$T_j = \text{constant (pulsed)}$



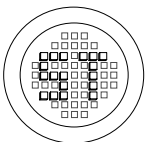
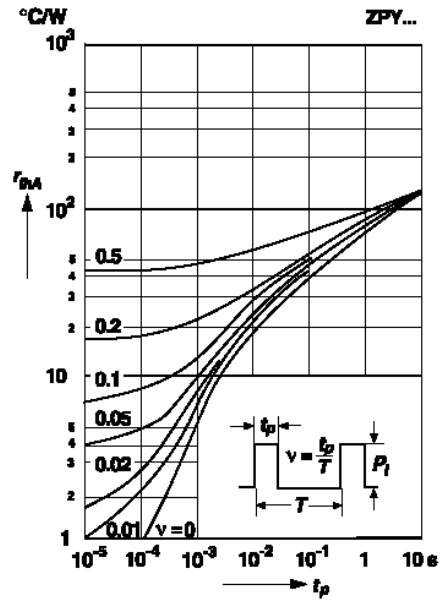
## Admissible power dissipation versus ambient temperature

Valid provided that leads are kept at ambient temperature at a distance of 10 mm from case



## Pulse thermal resistance versus pulse duration

Valid provided that leads are kept at ambient temperature at a distance of 10 mm from case



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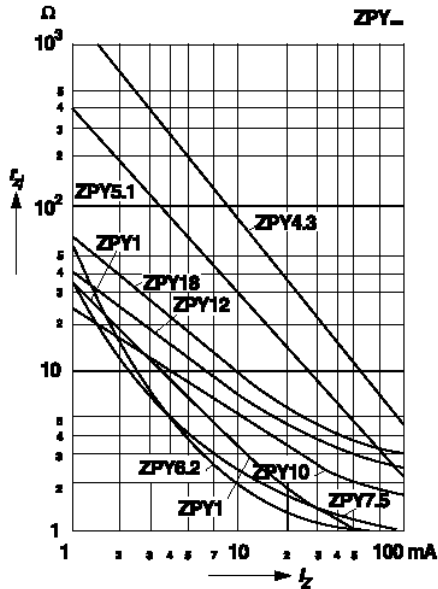
ISO 9001:2000  
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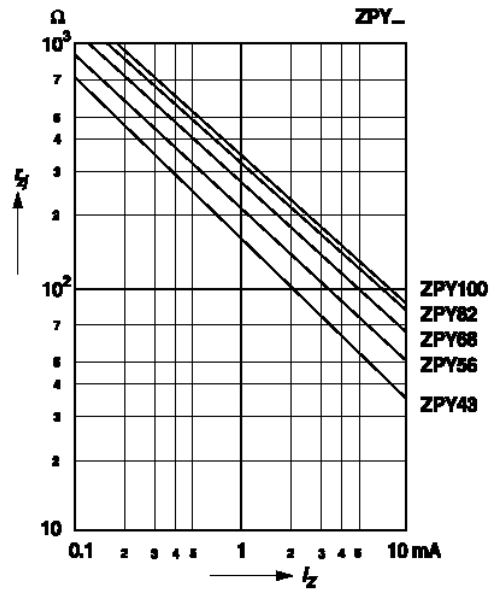
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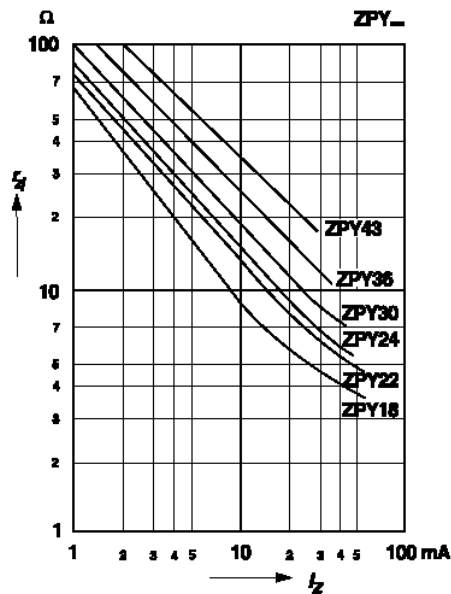
Dynamic resistance versus Zener current



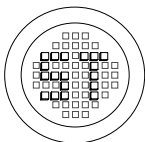
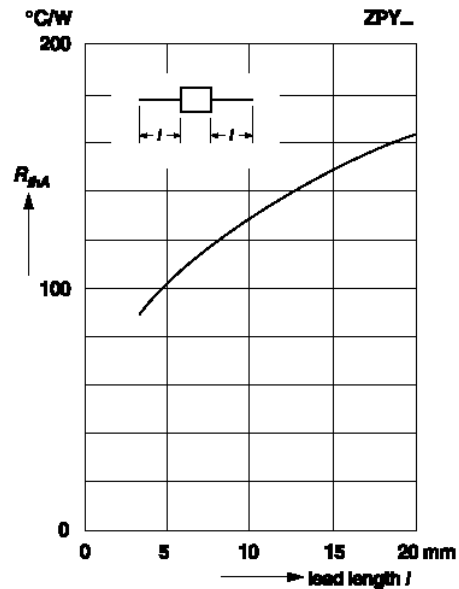
Dynamic resistance versus Zener current



Dynamic resistance versus Zener current



Thermal resistance versus lead length



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