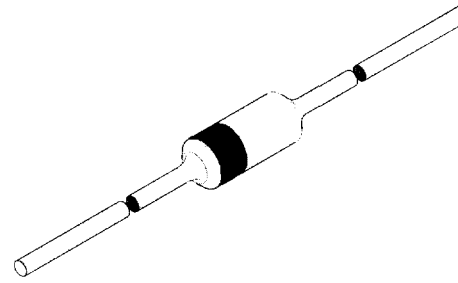
TZX...

Vishay Telefunken

Silicon Epitaxial Planar Z–Diodes

Features

- Very sharp reverse characteristic
- Low reverse current level
- Very high stability
- Low noise
- Available with tighter tolerances



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Applications

Voltage stabilization

Absolute Maximum Ratings

$T_j = 25°C$

Parameter	Test Conditions	Type	Symbol	Value	Unit
Power dissipation	l=4mm, T_L=25°C		P_V	500	mW
Z–current			I_Z	P_V/V_Z	mA
Junction temperature			T_j	175	°C
Storage temperature range			T_{stg}	–65...+175	°C

Maximum Thermal Resistance

$T_j = 25°C$

Parameter	Test Conditions	Symbol	Value	Unit
Junction ambient	l=4mm, T_L=constant	R_{thJA}	300	K/W

Electrical Characteristics

$T_j = 25°C$

Parameter	Test Conditions	Type	Symbol	Min	Typ	Max	Unit
Forward voltage	I_F=200mA		V_F			1.5	V

Type	$V_{Zmin.}$	$V_{Zmax.}$	Type	$V_{Zmin.}$	$V_{Zmax.}$	$r_{Zmax.}$	at I_Z	$I_{Rmax.}$	at V_R
	(V)	(V)		(V)	(V)	(Ω)	(mA)	(µA)	(V)
TZX2V4	2.3	2.6	TZX2V4A	2.3	2.5	100	5	5	0.5
TZX2V4	2.3	2.6	TZX2V4B	2.4	2.6	100	5	5	0.5
TZX2V7	2.5	2.9	TZX2V7A	2.5	2.7	100	5	5	0.5
TZX2V7	2.5	2.9	TZX2V7B	2.6	2.8	100	5	5	0.5
TZX2V7	2.5	2.9	TZX2V7C	2.7	2.9	100	5	5	0.5
TZX3V0	2.8	3.2	TZX3V0A	2.8	3.0	100	5	5	0.5
TZX3V0	2.8	3.2	TZX3V0B	2.9	3.1	100	5	5	0.5
TZX3V0	2.8	3.2	TZX3V0C	3.0	3.2	100	5	5	0.5
TZX3V3	3.1	3.5	TZX3V3A	3.1	3.3	100	5	5	1
TZX3V3	3.1	3.5	TZX3V3B	3.2	3.4	100	5	5	1
TZX3V3	3.1	3.5	TZX3V3C	3.3	3.5	100	5	5	1
TZX3V6	3.4	3.8	TZX3V6A	3.4	3.6	100	5	5	1
TZX3V6	3.4	3.8	TZX3V6B	3.5	3.7	100	5	5	1
TZX3V6	3.4	3.8	TZX3V6C	3.6	3.8	100	5	5	1
TZX3V9	3.7	4.1	TZX3V9A	3.7	3.9	100	5	5	1
TZX3V9	3.7	4.1	TZX3V9B	3.8	4.0	100	5	5	1
TZX3V9	3.7	4.1	TZX3V9C	3.9	4.1	100	5	5	1
TZX4V3	4.0	4.5	TZX4V3A	4.0	4.2	100	5	5	1.5
TZX4V3	4.0	4.5	TZX4V3B	4.1	4.3	100	5	5	1.5
TZX4V3	4.0	4.5	TZX4V3C	4.2	4.4	100	5	5	1.5
TZX4V3	4.0	4.5	TZX4V3D	4.3	4.5	100	5	5	1.5
TZX4V7	4.4	4.9	TZX4V7A	4.4	4.6	100	5	5	2
TZX4V7	4.4	4.9	TZX4V7B	4.5	4.7	100	5	5	2
TZX4V7	4.4	4.9	TZX4V7C	4.6	4.8	100	5	5	2
TZX4V7	4.4	4.9	TZX4V7D	4.7	4.9	100	5	5	2
TZX5V1	4.8	5.3	TZX5V1A	4.8	5.0	100	5	5	2
TZX5V1	4.8	5.3	TZX5V1B	4.9	5.1	100	5	5	2
TZX5V1	4.8	5.3	TZX5V1C	5.0	5.2	100	5	5	2
TZX5V1	4.8	5.3	TZX5V1D	5.1	5.3	100	5	5	2
TZX5V6	5.2	5.9	TZX5V6A	5.2	5.5	40	5	5	2
TZX5V6	5.2	5.9	TZX5V6B	5.3	5.6	40	5	5	2
TZX5V6	5.2	5.9	TZX5V6C	5.4	5.7	40	5	5	2
TZX5V6	5.2	5.9	TZX5V6D	5.5	5.8	40	5	5	2
TZX5V6	5.2	5.9	TZX5V6E	5.6	5.9	40	5	5	2
TZX6V2	5.7	6.6	TZX6V2A	5.7	6.0	15	5	1	3
TZX6V2	5.7	6.6	TZX6V2B	5.8	6.1	15	5	1	3
TZX6V2	5.7	6.6	TZX6V2C	6.0	6.3	15	5	1	3
TZX6V2	5.7	6.6	TZX6V2D	6.1	6.4	15	5	1	3
TZX6V2	5.7	6.6	TZX6V2E	6.3	6.6	15	5	1	3
TZX6V8	6.4	7.2	TZX6V8A	6.4	6.7	15	5	1	3.5
TZX6V8	6.4	7.2	TZX6V8B	6.6	6.9	15	5	1	3.5
TZX6V8	6.4	7.2	TZX6V8C	6.7	7.0	15	5	1	3.5
TZX6V8	6.4	7.2	TZX6V8D	6.9	7.2	15	5	1	3.5
TZX7V5	7.0	7.9	TZX7V5A	7.0	7.3	15	5	1	5.0
TZX7V5	7.0	7.9	TZX7V5B	7.2	7.6	15	5	1	5.0

Type	$V_{Zmin.}$	$V_{Zmax.}$	Type	$V_{Zmin.}$	$V_{Zmax.}$	$r_{Zmax.}$	at I_Z	$I_{Rmax.}$	at V_R
	(V)	(V)		(V)	(V)	(Ω)	(mA)	(μA)	(V)
TZX7V5	7.0	7.9	TZX7V5C	7.3	7.7	15	5	1	5.0
TZX7V5	7.0	7.9	TZX7V5D	7.5	7.9	15	5	1	5.0
TZX8V2	7.7	8.7	TZX8V2A	7.7	8.1	20	5	1	6.2
TZX8V2	7.7	8.7	TZX8V2B	7.9	8.3	20	5	1	6.2
TZX8V2	7.7	8.7	TZX8V2C	8.1	8.5	20	5	1	6.2
TZX8V2	7.7	8.7	TZX8V2D	8.3	8.7	20	5	1	6.2
TZX9V1	8.5	9.7	TZX9V1A	8.5	8.9	20	5	1	6.8
TZX9V1	8.5	9.7	TZX9V1B	8.7	9.1	20	5	1	6.8
TZX9V1	8.5	9.7	TZX9V1C	8.9	9.3	20	5	1	6.8
TZX9V1	8.5	9.7	TZX9V1D	9.1	9.5	20	5	1	6.8
TZX9V1	8.5	9.7	TZX9V1E	9.3	9.7	20	5	1	6.8
TZX10	9.5	10.6	TZX10A	9.5	9.9	25	5	1	7.5
TZX10	9.5	10.6	TZX10B	9.7	10.1	25	5	1	7.5
TZX10	9.5	10.6	TZX10C	9.9	10.3	25	5	1	7.5
TZX10	9.5	10.6	TZX10D	10.2	10.6	25	5	1	7.5
TZX11	10.4	11.6	TZX11A	10.4	10.8	25	5	1	8.2
TZX11	10.4	11.6	TZX11B	10.7	11.1	25	5	1	8.2
TZX11	10.4	11.6	TZX11C	10.9	11.3	25	5	1	8.2
TZX11	10.4	11.6	TZX11D	11.1	11.6	25	5	1	8.2
TZX12	11.4	12.7	TZX12A	11.4	11.9	35	5	1	9.5
TZX12	11.4	12.7	TZX12B	11.6	12.1	35	5	1	9.5
TZX12	11.4	12.7	TZX12C	11.9	12.4	35	5	1	9.5
TZX12	11.4	12.7	TZX12D	12.2	12.7	35	5	1	9.5
TZX13	12.4	13.4	TZX13A	12.4	12.9	35	5	1	10
TZX13	12.4	13.4	TZX13B	12.6	13.1	35	5	1	10
TZX13	12.4	13.4	TZX13C	12.9	13.4	35	5	1	10
TZX14	13.2	14.3	TZX14A	13.2	13.7	35	5	1	11
TZX14	13.2	14.3	TZX14B	13.5	14.0	35	5	1	11
TZX14	13.2	14.3	TZX14C	13.8	14.3	35	5	1	11
TZX15	14.1	15.5	TZX15A	14.1	14.7	40	5	1	11.5
TZX15	14.1	15.5	TZX15B	14.5	15.1	40	5	1	11.5
TZX15	14.1	15.5	TZX15C	14.9	15.5	40	5	1	11.5
TZX16	15.3	17.1	TZX16A	15.3	15.9	45	5	1	12
TZX16	15.3	17.1	TZX16B	15.7	16.5	45	5	1	12
TZX16	15.3	17.1	TZX16C	16.3	17.1	45	5	1	12
TZX18	16.9	19.0	TZX18A	16.9	17.7	55	5	1	13
TZX18	16.9	19.0	TZX18B	17.5	18.3	55	5	1	13
TZX18	16.9	19.0	TZX18C	18.1	19.0	55	5	1	13
TZX20	18.8	21.2	TZX20A	18.8	19.7	60	2	1	15
TZX20	18.8	21.2	TZX20B	19.5	20.4	60	2	1	15
TZX20	18.8	21.2	TZX20C	20.2	21.2	60	2	1	15
TZX22	20.9	23.3	TZX22A	20.9	21.9	65	2	1	17
TZX22	20.9	23.3	TZX22B	21.6	22.6	65	2	1	17
TZX22	20.9	23.3	TZX22C	22.3	23.3	65	2	1	17
TZX24	22.9	25.5	TZX24A	22.9	24.0	70	2	1	19
TZX24	22.9	25.5	TZX24B	23.6	24.7	70	2	1	19

Type	$V_{Zmin.}$ (V)	$V_{Zmax.}$ (V)	Type	$V_{Zmin.}$ (V)	$V_{Zmax.}$ (V)	$r_{Zmax.}$ (Ω)	at I_Z (mA)	$I_{Rmax.}$ (µA)	at V_R (V)
TZX24	22.9	25.5	TZX24C	24.3	25.5	70	2	1	19
TZX27	25.2	28.6	TZX27A	25.2	26.6	80	2	1	21
TZX27	25.2	28.6	TZX27B	26.2	27.6	80	2	1	21
TZX27	25.2	28.6	TZX27C	27.2	28.6	80	2	1	21
TZX30	28.2	31.6	TZX30A	28.2	29.6	100	2	1	23
TZX30	28.2	31.6	TZX30B	29.2	30.6	100	2	1	23
TZX30	28.2	31.6	TZX30C	30.2	31.6	100	2	1	23
TZX33	31.2	34.5	TZX33A	31.2	32.6	120	2	1	25
TZX33	31.2	34.5	TZX33B	32.2	33.6	120	2	1	25
TZX33	31.2	34.5	TZX33C	33.2	34.5	120	2	1	25
TZX36	34.2	38.0	TZX36A	34.2	35.7	140	2	1	27
TZX36	34.2	38.0	TZX36B	35.3	36.8	140	2	1	27
TZX36	34.2	38.0	TZX36C	36.4	38.0	140	2	1	27

Characteristics (T_j = 25°C unless otherwise specified)

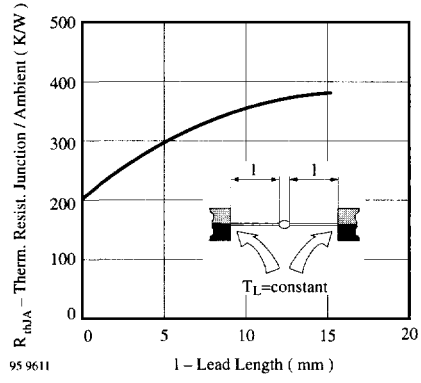

Figure 1. Thermal Resistance vs. Lead Length

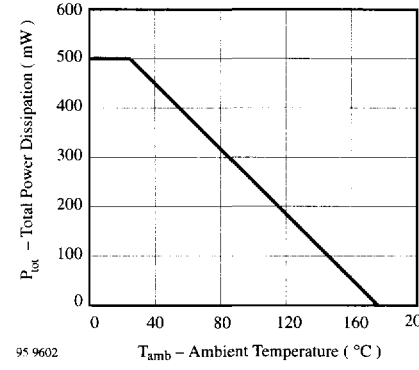

Figure 2. Total Power Dissipation vs. Ambient Temperature

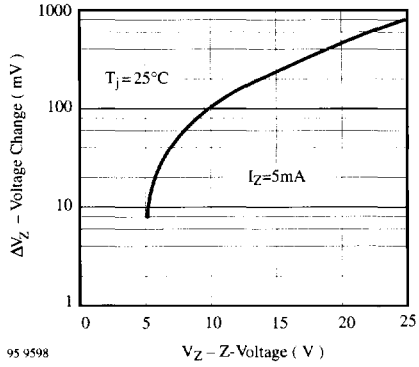

Figure 3. Typical Change of Working Voltage under Operating Conditions at $T_{amb}=25°C$

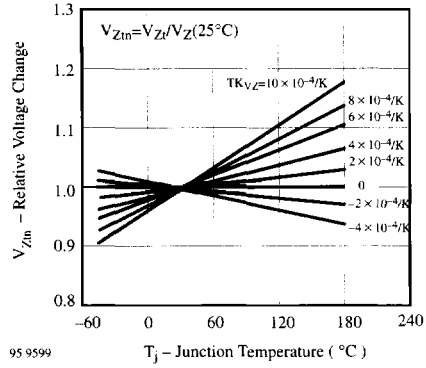

Figure 4. Typical Change of Working Voltage vs. Junction Temperature

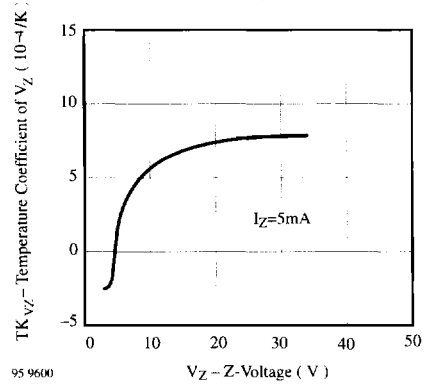

Figure 5. Temperature Coefficient of Vz vs. Z–Voltage

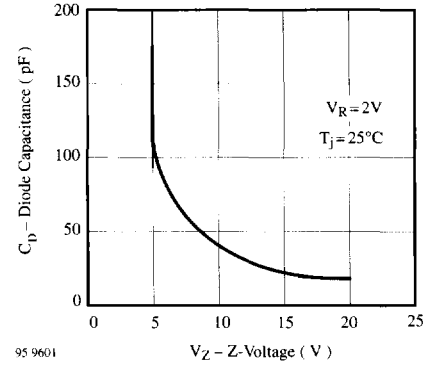

Figure 6. Diode Capacitance vs. Z–Voltage

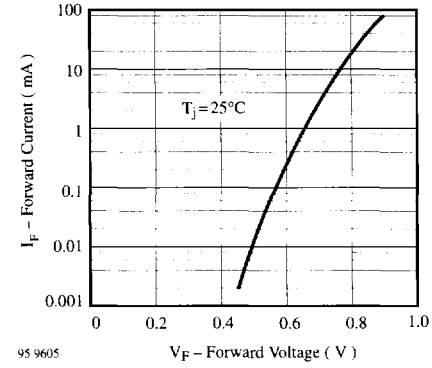

Figure 7. Forward Current vs. Forward Voltage

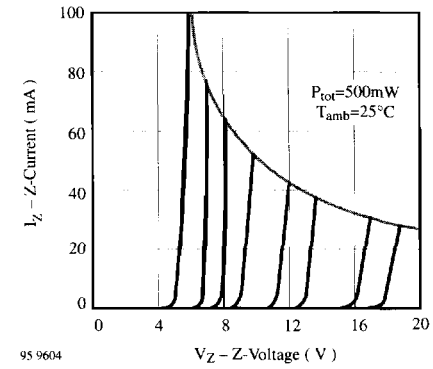

Figure 8. Z–Current vs. Z–Voltage

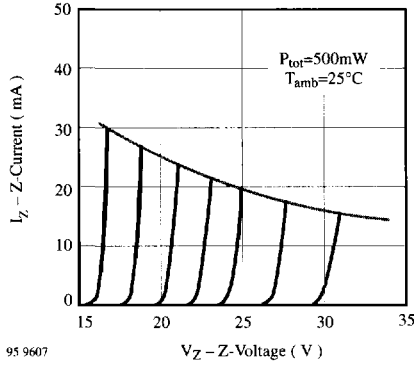

Figure 9. Z–Current vs. Z–Voltage

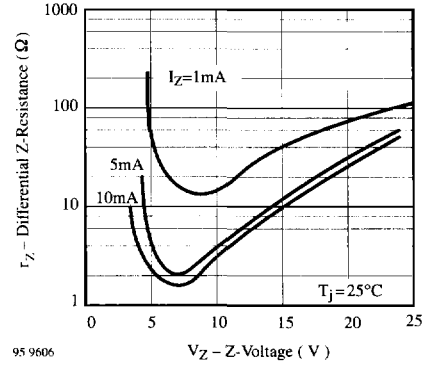

Figure 10. Differential Z–Resistance vs. Z–Voltage

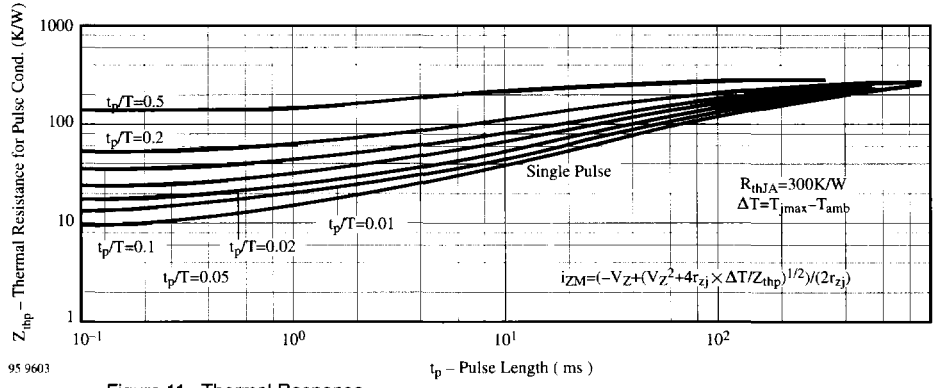

Figure 11. Thermal Response

Dimensions in mm

Standard Glass Case
54 A 2 DIN 41880
JEDEC DO 35
Weight max. 0.3 g