

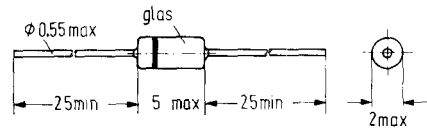
## Silicon Z diode for 500 mW

BZX 83 is an epitaxial silicon planar Z diode in a glass case 56 A 2 DIN 41883 (DO-35). It is used for the stabilization and limitation of voltages as well as for the generation of reference voltages at low power requirements.

Modern technology ensures a particularly sharp break-off of the reverse characteristic, low noise and an excellent time stability of the electrical data. The cathode end is marked by a colour ring.

Type	Order number
BZX 83 C0V8	Q62702-Z1352
BZX 83 C2V4	Q62702-Z1353
BZX 83 C2V7	Q62702-Z1063
BZX 83 C3V0	Q62702-Z1064
BZX 83 C3V3	Q62702-Z1065
BZX 83 C3V6	Q62702-Z1066
BZX 83 C3V9	Q62702-Z1067
BZX 83 C4V3	Q62702-Z1068
BZX 83 C4V7	Q62702-Z1069
BZX 83 C5V1	Q62702-Z1070
BZX 83 C5V6	Q62702-Z1071
BZX 83 C6V2	Q62702-Z1072
BZX 83 C6V8	Q62702-Z1073
BZX 83 C7V5	Q62702-Z1074
BZX 83 C8V2	Q62702-Z1075
BZX 83 C9V1	Q62702-Z1076

Type	Order number
BZX 83 C10	Q62702-Z1077
BZX 83 C11	Q62702-Z1078
BZX 83 C12	Q62702-Z1079
BZX 83 C13	Q62702-Z1080
BZX 83 C15	Q62702-Z1081
BZX 83 C16	Q62702-Z1082
BZX 83 C18	Q62702-Z1083
BZX 83 C20	Q62702-Z1084
BZX 83 C22	Q62702-Z1085
BZX 83 C24	Q62702-Z1086
BZX 83 C27	Q62702-Z1087
BZX 83 C30	Q62702-Z1088
BZX 83 C33	Q62702-Z1089



Weight approx. 0.5 g Dimensions in mm

### Maximum ratings at $T_{amb} = 25^\circ\text{C}$

Storage temperature  
 Junction temperature  
 Maximum power dissipation at  $T_{amb} = 25^\circ\text{C}$

### Thermal resistance

Junction to air

BZX 83		
$T_s$	-55 to +175	$^\circ\text{C}$
$T_j$	max. 175	$^\circ\text{C}$
$P_{tot}$	500	mW
$R_{thJamb}$	$\leq 300$	K/W

The leads are maintained at  $25^\circ\text{C}$  4 mm away from the case.

**Inventory of types**

values apply to  $T_{amb} = 25^{\circ}\text{C}$

Type	Nominal voltage	Breakdown voltage range	Dyn. resistance		Reverse current	
			$I_z = 5 \text{ mA}$		$I_R (\mu\text{A})$	at $V_R (V)$
	$V_z (V)^*$	$V_z (V)$	$r_z (\Omega)$	$r_z (\Omega)$		
<b>BZX 83 C0V8</b>	0.78	0.73 to 0.83	<10	—	—	—
<b>BZX 83 C2V4</b>	2.4	2.28 to 2.56	<90	<600	<120	1
<b>BZX 83 C2V7</b>	2.7	2.5 to 2.9	<90	<600	<200	1
<b>BZX 83 C3V0</b>	3	2.8 to 3.2	<90	<600	<60	1
<b>BZX 83 C3V3</b>	3.3	3.1 to 3.5	<90	<600	<30	1
<b>BZX 83 C3V6</b>	3.6	3.4 to 3.8	<90	<600	<20	1
<b>BZX 83 C3V9</b>	3.9	3.7 to 4.1	<90	<600	<10	1
<b>BZX 83 C4V3</b>	4.3	4.0 to 4.6	<85	<600	<5	1
<b>BZX 83 C4V7</b>	4.7	4.4 to 5.0	<80	<600	<2	1
<b>BZX 83 C5V1</b>	5.1	4.8 to 5.4	<60	<550	<1	1
<b>BZX 83 C5V6</b>	5.6	5.2 to 6.0	<40	<450	<1	1
<b>BZX 83 C6V2</b>	6.2	5.8 to 6.6	<10	<200	<1	2
<b>BZX 83 C6V8</b>	6.8	6.4 to 7.2	<8	<150	<1	3
<b>BZX 83 C7V5</b>	7.5	7.0 to 7.9	<7	<50	<1	3.5
<b>BZX 83 C8V2</b>	8.2	7.7 to 8.7	<7	<50	<1	4
<b>BZX 83 C9V1</b>	9.1	8.5 to 9.6	<10	<50	<1	5
<b>BZX 83 C10</b>	10	9.4 to 10.6	<15	<70	<1	6
<b>BZX 83 C11</b>	11	10.4 to 11.6	<20	<70	<1	7
<b>BZX 83 C12</b>	12	11.4 to 12.7	<20	<90	<1	8
<b>BZX 83 C13</b>	13	12.4 to 14.1	<25	<110	<1	9
<b>BZX 83 C15</b>	15	13.8 to 15.6	<30	<110	<1	11
<b>BZX 83 C16</b>	16	15.3 to 17.1	<40	<170	<1	11
<b>BZX 83 C18</b>	18	16.8 to 19.1	<55	<170	<1	12
<b>BZX 83 C20</b>	20	18.8 to 21.2	<55	<220	<1	14
<b>BZX 83 C22</b>	22	20.8 to 23.3	<50	<220	<1	15
<b>BZX 83 C24</b>	24	22.8 to 25.6	<80	<220	<1	16
<b>BZX 83 C27</b>	27	25.1 to 28.9	<80	<250	<1	18
<b>BZX 83 C30</b>	30	28 to 32	<90	<250	<1	20
<b>BZX 83 C33</b>	33	31 to 35	<90	<250	<1	22

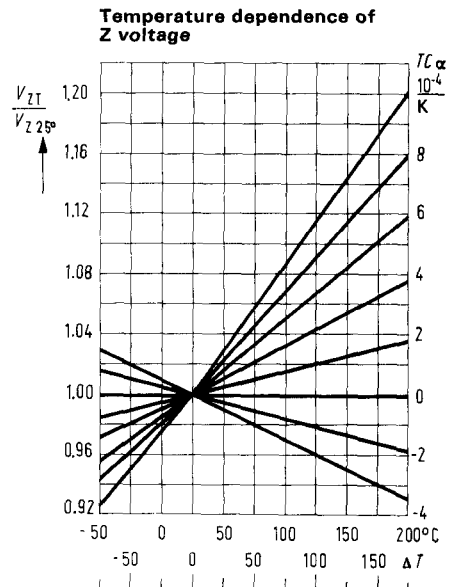
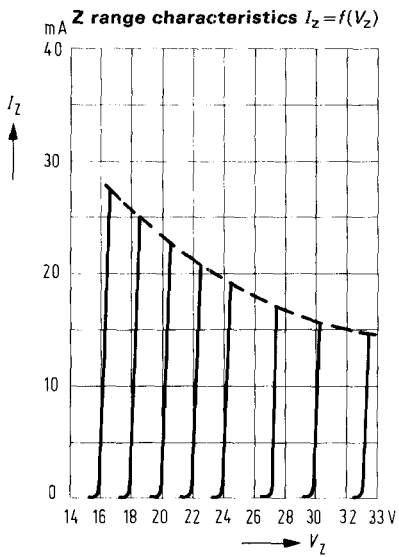
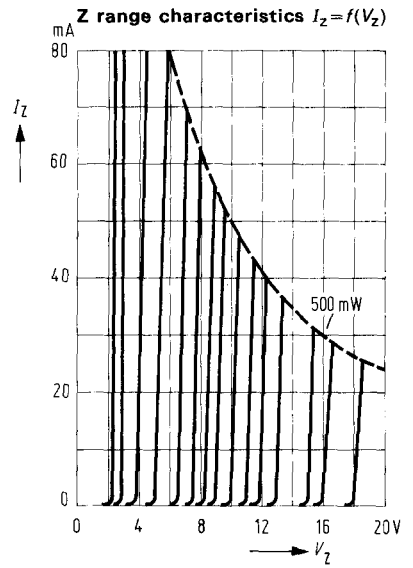
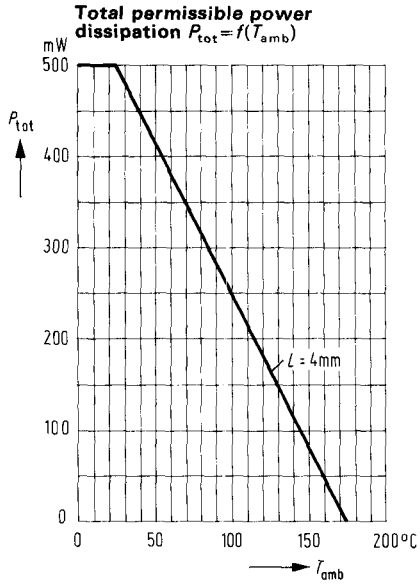
\*) Measured by impulses:  $t_p < 100 \text{ ms}$

# BZX 83

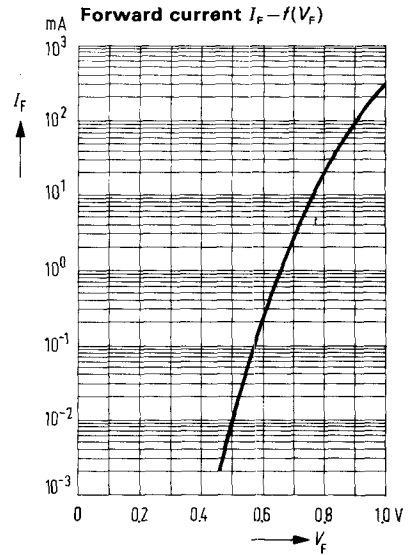
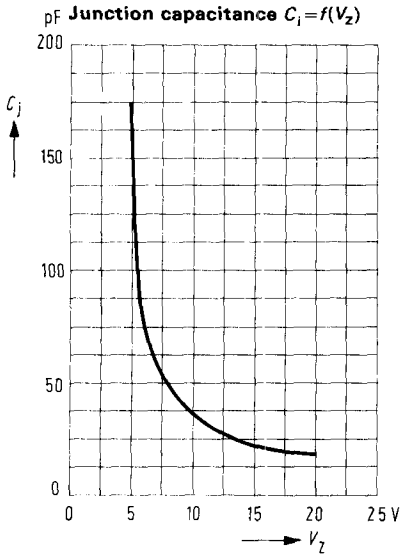
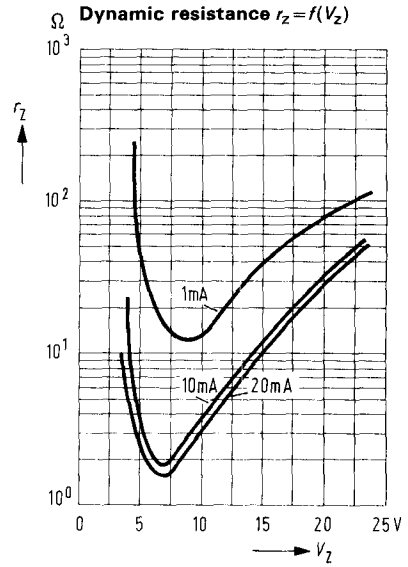
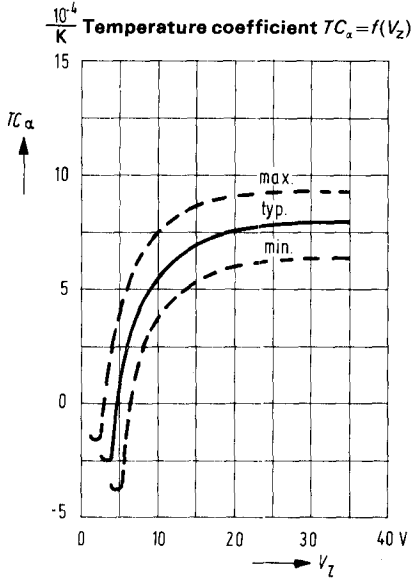
## Inventory of types

values apply to  $T_{amb} = 25^\circ\text{C}$ ;  $L = 4\text{ mm}$

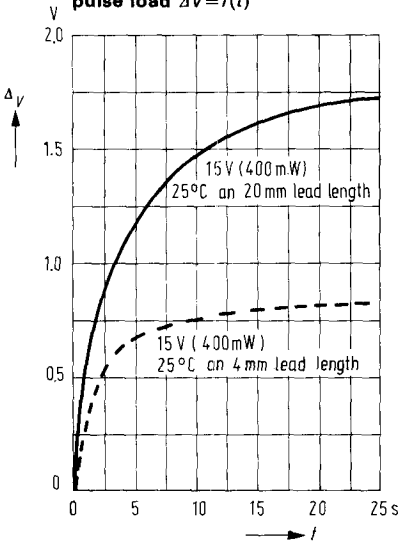
Type	Z current $T_{amb} = 50^\circ\text{C}$	TC of $V_Z$ at $I_Z$	Forward voltage at $I_F = 50\text{ mA}$
	$I_{Zmax}$ (mA)	TC ( $10^{-4}/\text{K}$ )	$V_F$ (V)
BZX 83 C0V8	—	—	—
BZX 83 C2V4	<155	-8	<1
BZX 83 C2V7	<135	-7	<1
BZX 83 C3V0	<125	-7	<1
BZX 83 C3V3	<115	-6	<1
BZX 83 C3V6	<106	-7	<1
BZX 83 C3V9	<95	-5.5	<1
BZX 83 C4V3	<85	-4.5	<1
BZX 83 C4V7	<80	1.5	<1
BZX 83 C5V1	<74	2	<1
BZX 83 C5V6	<66	3	<1
BZX 83 C6V2	<60	4	<1
BZX 83 C6V8	<55	4.5	<1
BZX 83 C7V5	<50	5	<1
BZX 83 C8V2	<46	5.5	<1
BZX 83 C9V1	<41	6	<1
BZX 83 C10	<37	6.5	<1
BZX 83 C11	<34	7	<1
BZX 83 C12	<31	7	<1
BZX 83 C13	<28	7.5	<1
BZX 83 C15	<25	7.5	<1
BZX 83 C16	<23	8	<1
BZX 83 C18	<21	8	<1
BZX 83 C20	<18	8	<1
BZX 83 C22	<17	8.5	<1
BZX 83 C24	<15	8.5	<1
BZX 83 C27	<14	8.5	<1
BZX 83 C30	<12	8.5	<1
BZX 83 C33	<11	8.5	<1



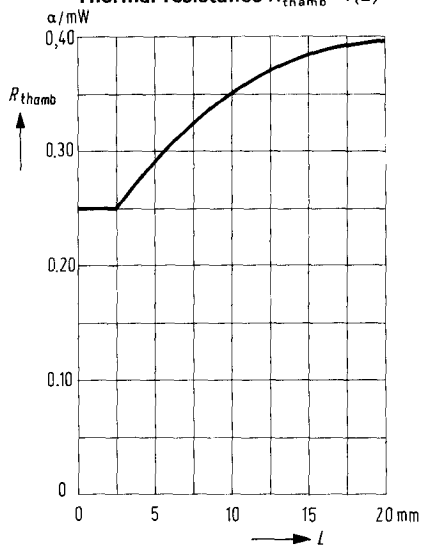
# BZX 83



Voltage change in case of pulse load  $\Delta V = f(t)$



Thermal resistance  $R_{thamb} = f(L)$



Alteration of the Z voltage from the switching moment to the reaching of thermal balance

