

BZY 83 C, BZY 83 D, BZY 85 C, BZY 85 D

Silicon Z-diodes

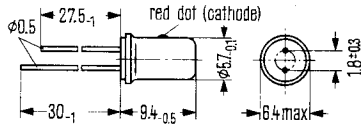
Silicon Z-diodes type BZY 83 and BZY 85 are available with 5% tolerance (C) and 10% tolerance (D). BZY 83 is provided with a metal case 1A2 DIN 41871 and may be operated in free air as well as mounted on a chassis with a cooling fin (heat sink). BZY 85 is provided with a glass case 51A2 DIN 41880 (DO-7). They are suitable for stabilizing and limiting voltages as well as for generating reference voltages at low power requirements. The cathode lead is marked by a red dot (BZY 83) or a colour ring (BZY 85).

Type	Order number	Type	Order number
BZY 83/C 4V7	Q 60225-Y 83-J 1	■ BZY 85/C 4V7	Q 60225-Y 85-J 47
BZY 83/C 5V1	Q 60225-Y 83-J 2	■ BZY 85/C 5V1	Q 60225-Y 85-J 51
BZY 83/C 5V6	Q 60225-Y 93-J 3	■ BZY 85/C 5V6	Q 60225-Y 85-J 56
BZY 83/C 6V2	Q 60225-Y 83-J 4	■ BZY 85/C 6V2	Q 60225-Y 85-J 62
BZY 83/C 6V8	Q 60225-Y 83-J 5	■ BZY 85/C 6V8	Q 60225-Y 85-J 68
BZY 83/C 7V5	Q 60225-Y 83-J 6	■ BZY 85/C 7V5	Q 60225-Y 85-J 75
BZY 83/C 8V2	Q 60225-Y 83-J 7	■ BZY 85/C 8V2	Q 60225-Y 85-J 82
BZY 83/C 9V1	Q 60225-Y 83-J 8	■ BZY 85/C 9V1	Q 60225-Y 85-J 91
BZY 83/C 10	Q 60225-Y 83-J 9	■ BZY 85/C 10	Q 60225-Y 85-J 100
BZY 83/C 11	Q 60225-Y 83-J 10	■ BZY 85/C 11	Q 60225-Y 85-J 110
BZY 83/C 12	Q 60225-Y 83-J 11	■ BZY 85/C 12	Q 60225-Y 85-J 120
BZY 83/C 13	Q 60225-Y 83-J 20	■ BZY 85/C 13	Q 60225-Y 85-J 936
BZY 83/C 15	Q 60225-Y 83-J 13	■ BZY 85/C 15	Q 60225-Y 85-J 150
BZY 83/C 16	Q 60225-Y 83-J 21	■ BZY 85/C 16	Q 60225-Y 85-J 937
BZY 83/C 18	Q 60225-Y 83-J 15	■ BZY 85/C 18	Q 60225-Y 85-J 180
BZY 83/C 20	Q 60225-Y 83-J 16	■ BZY 85/C 20	Q 60225-Y 85-J 200
BZY 83/C 22	Q 60225-Y 83-J 17	■ BZY 85/C 22	Q 60225-Y 85-J 220
BZY 83/C 24	Q 60225-Y 83-J 22	■ BZY 85/C 24	Q 60225-Y 85-J 938
BZY 83/D 1	Q 60225-Y 83-K 1	■ BZY 85/D 1	Q 60225-Y 85-K 10
BZY 83/D 4V7	Q 60225-Y 83-K 2	■ BZY 85/D 4V7	Q 60225-Y 85-K 47
BZY 83/D 5V6	Q 60225-Y 83-K 3	■ BZY 85/D 5V6	Q 60225-Y 85-K 56
BZY 83/D 6V8	Q 60225-Y 83-K 4	■ BZY 85/D 6V8	Q 60225-Y 85-K 68
BZY 83/D 8V2	Q 60225-Y 83-K 5	■ BZY 85/D 8V2	Q 60225-Y 85-K 82
BZY 83/D 10	Q 60225-Y 83-K 6	■ BZY 85/D 10	Q 60225-Y 85-K 100
BZY 83/D 12	Q 60225-Y 83-K 7	■ BZY 85/D 12	Q 60225-Y 85-K 120
BZY 83/D 15	Q 60225-Y 83-K 8	■ BZY 85/D 15	Q 60225-Y 85-K 150
BZY 83/D 18	Q 60225-Y 83-K 9	■ BZY 85/D 18	Q 60225-Y 85-K 180
BZY 83/D 22	Q 60225-Y 83-K 10	■ BZY 85/D 22	Q 60225-Y 85-K 220
Heat sink	Q 62901-B 1		

■ Not for new development

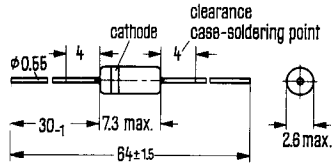
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BZY 83

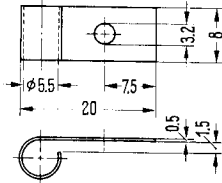


Weight approx. 1 g Dimensions in mm

BZY 85



Weight approx. 0.2 g Dimensions in mm



heat sink

Maximum ratings

	BZY 83	BZY 85	
Forward current	I_F 200	200	mA
Maximum current	I_{FM} 300	300	mA
Junction temperature	T_j 150	150	°C
Ambient temperature	T_{amb} -55 to +125	-55 to +150	°C
Total power dissipation ($T_{amb} = 45\text{ °C}$)	P_{tot} 300 ¹⁾	—	mW
Total power dissipation ($T_{amb} = 25\text{ °C}$)	P_{tot} 250	400 ²⁾	mW

Thermal resistance

between junction and static ambient air	R_{thJamb} < 500	< 310 ²⁾	K/W
between junction and case	$R_{thJcase}$ < 250	—	K/W
When mounted on a chassis of sheet aluminium 12 cm ² in area with cooling fin (heat sink)	R_{thL} < 350	—	K/W

Static characteristic ($T_{amb} = 25\text{ °C}$)

Forward voltage ($I_F = 100\text{ mA}$)	V_F 0.8 (<1.0)*	0.9 (<1.0)*	V
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Current and voltage data see following table

¹⁾ When mounted on a chassis of sheet aluminium 12 cm² in area with cooling fin (heat sink) $R_{thL} = 350\text{ K/W}$

²⁾ clearance case soldering point 4 mm ($T_{case} = \text{max. } 25\text{ °C}$)

* AQL=0.65%

Delivery program BZY 85

Not for new development	Type	Nominal voltage (V)	$I_{ztest}=5\text{ mA}$			$I_R^*)$ at	$V_R^*)$ at	$I_{zmax}^1)$ $T_L^2)=45\text{ °C}$ (mA)
			V_Z -range *) (V)	$r_{zdyn}^*)$ (Ω)	r_{zstat} (Ω)	$V_R=1\text{ P}$	$I_R=1\text{ }\mu\text{A}$	
						(nA)	(V)	
BZY 85/C4V7	4.7	4.4 to 5.0	70	70	<500	>1	55	
BZY 85/C5V1	5.1	4.8 to 5.4	60	64	<500	>1	52	
BZY 85/C5V6	5.6	5.2 to 6.0	40	47	<500	>1	49	
BZY 85/C6V2	6.2	5.8 to 6.6	10	23	<100	>1	45	
BZY 85/C6V8	6.8	6.4 to 7.2	8	24	<100	>1.5	41	
BZY 85/C7V5	7.5	7.0 to 7.9	7	29	<100	>1.5	37	
BZY 85/C8V2	8.2	7.7 to 8.7	7	36	<100	>3	33	
BZY 85/C9V1	9.1	8.5 to 9.6	10	47	<100	>3	30	
BZY 85/C10	10	9.4 to 10.6	15	60	<100	>4.5	28	
BZY 85/C11	11	10.4 to 11.6	20	74	<100	>4.5	25	
BZY 85/C12	12	11.4 to 12.7	20	91	<100	>6.5	22.5	
BZY 85/C13	13	12.4 to 14.1	26	108	<100	>6.5	20.5	
BZY 85/C15	15	13.8 to 15.6	30	138	<100	>9.5	19	
BZY 85/C16	16	15.3 to 17.1	40	177	<100	>9.5	17	
BZY 85/C18	18	16.8 to 19.1	55	226	<100	>9.5	15	
BZY 85/C20	20	18.8 to 21.2	55	275	<100	>9.5	14	
BZY 85/C22	22	20.8 to 23.3	55	319	<100	>11.5	12.5	
BZY 85/C24	24	22.8 to 25.6	80	408	<100	>11.5	11	
BZY 85/D1 ³⁾	0.7	0.62 to 0.78	8	7.6	-	>1	200	
BZY 85/D4V7	4.7	4.1 to 5.2	85	95	1000	>1	55	
BZY 85/D5V6	5.6	5.0 to 6.3	75	85	<500	>1	49	
BZY 85/D6V8	6.8	6.0 to 7.5	15	33	<100	>1.5	45	
BZY 85/D8V2	8.2	7.3 to 9.2	10	43	<100	>3	41	
BZY 85/D10	10	8.8 to 11.0	15	65	<100	>4.5	28	
BZY 85/D12	12	10.7 to 13.4	30	110	<100	>6.5	22.5	
BZY 85/D15	15	13 to 16.5	55	185	<100	>9.5	19	
BZY 85/D18	18	16 to 20	55	255	<100	>9.5	15	
BZY 85/D22	22	19.6 to 24.4	55	355	<100	>9.5	12.5	

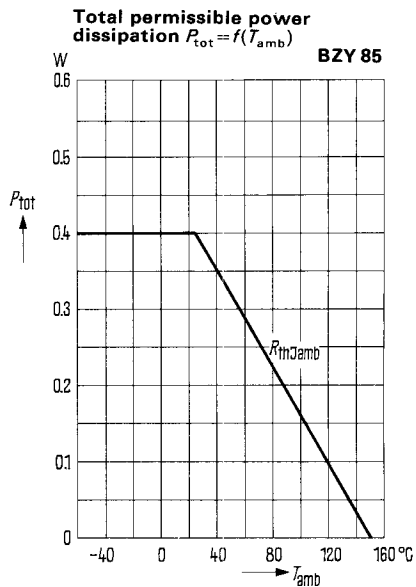
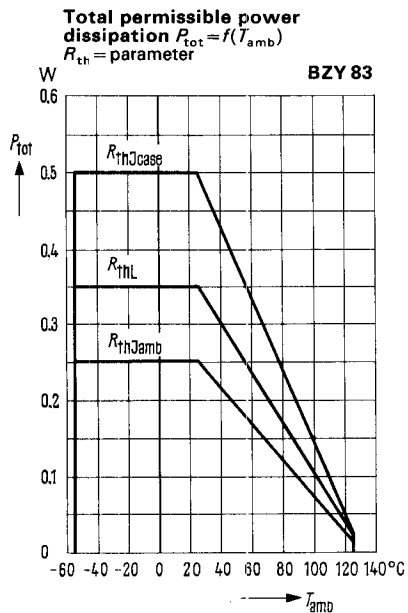
¹⁾ Clearance case soldering point 4 mm ($T_{case} = \text{max. } 45\text{ °C}$)

²⁾ T_L = temperature at soldered joint 4 mm away from case

³⁾ The BZY 85/D1 is a diode with very small tolerances to be used in forward direction. The anode is marked by a colour ring

* AQL=0.65%

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