

TEZ 0,51/D (EI30)

high-quality cast resin transformer for printed circuit boards

TEZ 0,51/D transformer is a **0,5VA** model characterized by a reduced housing height - **only 15mm high** - with a total dimension of 15x28x33mm. It is made with IP00 protection grade and thermal class insulation B (130°C). The maximum ambient temperature allowed for this model is 60°C.

TEZ 0,51/D transformer meets the requirements of the EN61558-2-1, EN61558-2-4 and EN61558-2-6 standards and has **ENEC certyficat**.

The most **important features** of **TEZ** transformers

- vacuum, three-stage resin pouring
- polyurethane resin maintaining thermal microplasticity throughout the product's life
- high heat transfer from the windings to the environment
- three-stage quality control of each transformer
- short lead times
- production of small series and non-standard products (according to customer parameters)



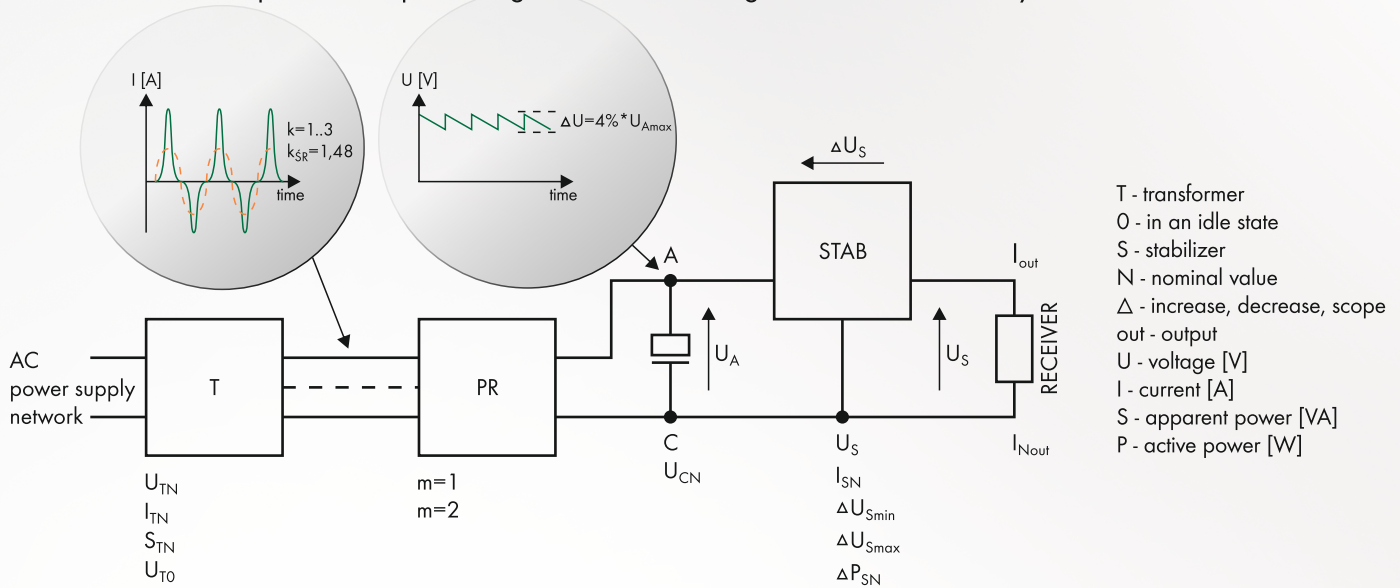
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Type	Power	ta	Dimensions [mm]*			Weight [kg]
	[VA]		[°C]	length	width	
TEZ 0,5/D	0,5	60	22	24	19	0,036
TEZ 0,51/D	0,5	60	28	33	15	0,044
TEZ 1,5/D	1,5	60	28	33	22	0,07
TEZ 1,8/D	1,8	40	28	33	22	0,07
TEZ 2,0/D	2,0	60	28	33	24	0,09
TEZ 2,5/D	2,5	40	28	33	27	0,10
TEZ 2,6/D	2,5	60	28	33	30	0,12
TEZ 3,0/D	3,0	40	28	33	30	0,12
TEZ 4,0/D	4,0	60	35	42	29	0,15
TEZ 4,5/D	4,5	60	35	42	29	0,15
TEZ 6,0/D	6,0	60	38	45	32	0,20
TEZ 10,0/D	10,0	60	44	52	35	0,28
TEZ 16,0/D	16,0	60	47	57	39	0,42
TEZ 20,0/D	20,0	60	53,8	63,6	47,2	0,60
TEZ 22,0/D	22,0	60	47,3	56,4	47,4	0,55
TEZ 25,0/D	25,0	60	53,8	63,6	51,5	0,70
TEZ 30,0/D	30,0	60	53,8	63,6	56,5	0,80
TEZ 40,0/D	40,0	60	61	70	50	0,80
TEZ 50,0/D	50,0	60	61	70	61	1,00

*tolerance ± 0,4mm



An example of a simplified algorithm for selecting a transformer for a system with a linear stabilizer:



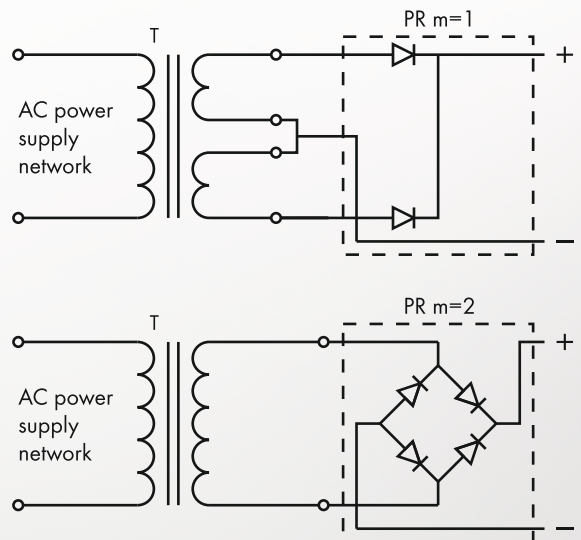
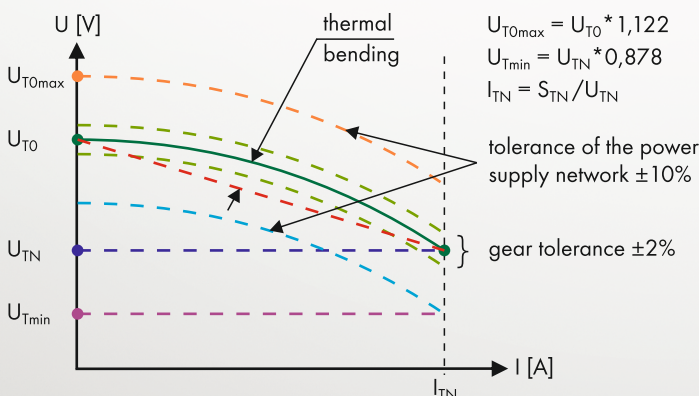
Selection of a low-power transformer.

- Determine U_S, I_{nout}
- Choose a stabilizer, read its I_{SN} ($I_{SN} \geq I_{nout}$)
- Read its $\Delta U_{Smin}, \Delta P_{SN}$
- Calculate $U_{Amin} = U_S + \Delta U_{Smin}$
- Calculate $U_{TNmin} = \frac{U_{Amin}}{1,41} + m * 0,65$
 $0,878$
- Select voltage U_{TN} from the catalog ($U_{TN} \geq U_{TNmin}$)
- Calculate the power of the transformer $S_T = k_{SR} * (U_{TN} - m * 0,65) * 1,41 * I_{nout}$
- Select the transformer power from the catalog $S_{TN} \geq S_T$
- Determine the voltage U_{T0} (see the table) $U_{T0} = U_{TN} * x$ (x from the table for S_{TN})
- Calculate the voltage U_{Amax} in point A $U_{Amax} = (1,122 * U_{T0} - m * 0,65) * 1,41$
- Check whether the stabilizer meets the requirements:
 $\Delta U_{Smax} > U_{Amax} - U_S$
 $\Delta P_{SN} > (U_{Amax} - U_S) * I_{nout}$
- If it does not meet the requirements, choose a stronger stabilizer
- If it meets the req., calculate the capacity C, determine the capacitor voltage
 $U_{CN} > 1,2 * U_{Amax}$ $C[\mu F] \approx \frac{10^4}{\Delta U_{Amax}[V]}$
- Build the system and proceed to actual tests, specifying the temperature increases of the windings.

TYPE	S_{TN} [VA]	t_a [°C]	x
TEZ 0,5	0,5	60B	1,7
TEZ 0,51	0,5	60B	1,6
TEZ 1,5	1,5	60B	1,6
TEZ 2,0	2,0	60B	1,5
TEZ 2,6	2,5	60B	1,8
TEZ 3,0	3,0	60B	1,7
TEZ 4,0	4,0	60B	1,4
TEZ 6,0	6,0	60B	1,4
TEZ 10,0	10,0	60B	1,3
TEZ 16,0	16,0	60B	1,3
TEZ 20,0	20,0	60B	1,2
TEZ 25,0	25,0	60B	1,2
TEZ 30,0	30,0	60B	1,2

$x = \frac{U_{T0}}{U_{TN}}$

ATTENTION! Remember that calculations are always an approximation of reality. In the case of an endless algorithm loop, choose the most reasonable set of elements and proceed to actual testing.



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