



ITA - 02 interstage transformer

Balanced Interstage transformer

(1+1):(1+1)

Bifilar wound interstage transformer

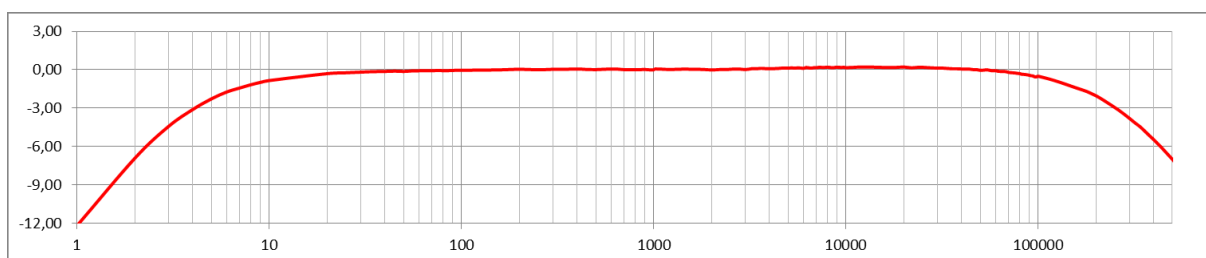
- Amorphous C-core
- Bifilar winding scheme
- For medium current/impedance driver tubes
- Used in 2A3, EL34 amplifiers
- 3 - 170,000 Hz bandwidth
- Gapless design (no dc current allowed)

Interstage coupling, if applied correctly, results in the most efficient coupling of the driver stage to the power tube and also has the benefit of substantially reduced supply voltages. In most cases, interstage transformers have a bad reputation with respect to bandwidth and the presence of resonances at higher frequencies. There is one specific topology that does not suffer from the aforementioned limitations: a bifilar wound 1:1 interstage transformer. When using a bifilar transformer the coupling between the two windings is that good that you can put as many as possible windings on it while still having very good high frequency behaviour. Actually, the number of turns is limited by the available room on the bobbin and the dc specification of the winding. Another benefit of using an interstage is the fact that you do not need to rely on large valued grid leakage resistors leading to rock solid biasing. You can even use this approach for an A2 application. Bandwidth is around 3 Hz >> 170 kHz when using an ECC99. Typical applications of this particular product are 2A3 output stages.

E L E C T R I C A L D A T A

Winding ratio	(1+1):(1+1)
Bandwidth (-3 dB @ 1W, sec. grounded)	3 - 170,000 Hz
Core saturation	20 Hz @ 50 Vrms
Primary inductance	204 Hy
Primary DC resistance	370 Ω
Sec. DC resistance	370 Ω
Maximum recommended P/S DC voltage	375 V

level (dB) vs. frequency (Hz): e.g. @ 1K5 generator resistance
100K // 50 pF load resistance



Bandwidth for various Rgen
RL=100K //50pF, secondary grounded

Rgen (ohm)	f-3dB (Hz) LF	f-3dB (kHz) HF
800	< 1.0	425
2200	1.7	170
5000	3.8	80

Mechanical data & electrical connections

CASE-1

[case layout datasheet](#)