



IT - 03 / 25 interstage transformer

Interstage transformer

1:1

Non-Bifilar wound interstage transformer

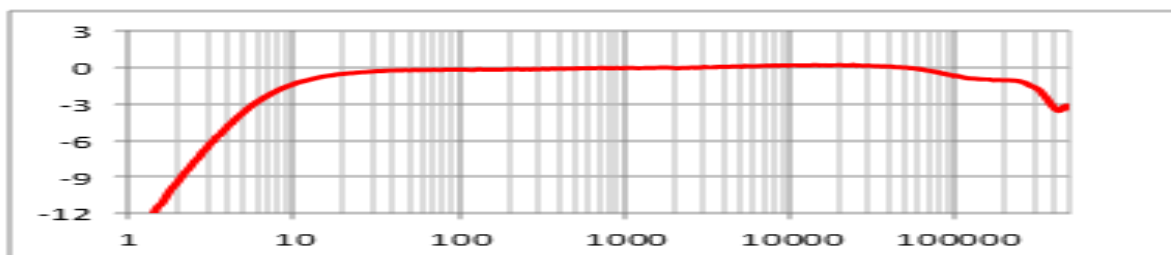
- Hi-grade FeSi grain oriented dual C-core
- Non-Bifilar winding scheme
- For medium current-impedance driver tubes
- Driving 2A3, 300B, KT-88, 211, 845, gm70 ...
- Allows A2 operation up to 20 mA
- 3 - 230,000 Hz bandwidth
- 25 mA nominal DC current

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 1:1 interstage transformer. Typically, a bifilar wound transformer is used for that purpose such as our excellent IT-01. It features outstanding technical performance with stellar frequency response but there is a limit with respect to the anode voltage that can be applied at the primary side because the P/S wires being close together over a substantial length. This model circumvents this problem and allows the use of higher anode voltages in a safe way and also sports impressive numbers in the datasheet. Another benefit of using an interstage transformer is the fact that you do not need to rely on large valued grid leakage resistors leading to rock solid biasing. Typical bandwidth is around 3 Hz ... > 150 kHz when using a ECC99 to drive a 300B power tube.

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

Winding ratio	1:1
Bandwidth (-3 dB @ 1W, sec. grounded)	3 - 230,000 Hz
Core saturation	20 Hz @ 140 Vrms 15 Hz @ 100 Vrms
Primary inductance	75 Hy
Leakage inductance	0.20 mH
Shunt capacitance sec. grounded	64 pF
Shunt capacitance sec. floating	55 pF
Primary DC resistance	285 Ω
Sec. DC resistance	285 Ω
Maximum recommended P/S DC voltage	750 V

level (dB) vs. frequency (Hz) 1500R generator resistance
100K // 100 pF load resistance



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

Rgen (ohm)	f-3dB (Hz) LF	f-3dB (kHz) HF
1500	3.2	230
3300	7.0	141

Mechanical data & electrical connections

CASE-1

[preliminary new case layout datasheet](#)