



# IT - 03 / 60 interstage transformer

---

## Interstage transformer

1:1

### Non-Bifilar wound interstage transformer

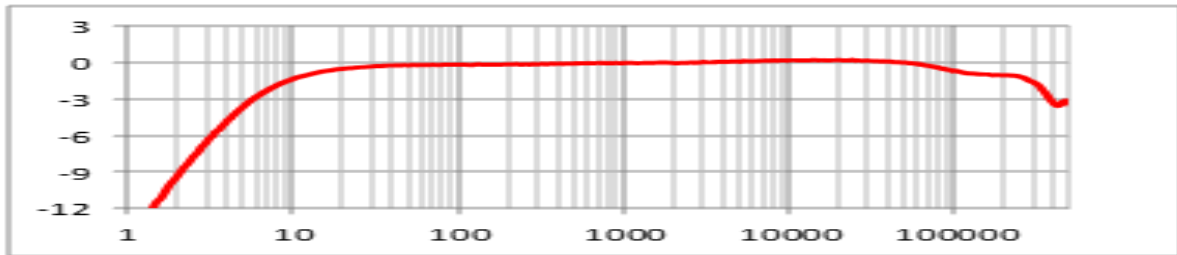
- Hi-grade FeSi grain oriented dual C-core
- Non-Bifilar winding scheme
- For high current low impedance driver tubes
- Driving large power tubes: 845, 211, GM-70
- Allows A2 operation
- 6 - 370,000 Hz bandwidth
- 60 mA nominal DC current

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 5 Hz ... > 300 kHz when using a 300B to drive a GM-70 power tube. Typical driver tubes are 300B, 2A3, 6EM7, KT-88 etc ..

### E L E C T R I C A L   D A T A

Winding ratio	1:1
Bandwidth (-3 dB @ 1W, sec. grounded)	6 - 370,000 Hz
Core saturation	20 Hz @ 140 Vrms 15 Hz @ 100 Vrms
Primary inductance	29 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) 700R generator resistance  
100K // 100 pF load resistance



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

<b>Rgen (ohm)</b>	<b>f-3dB (Hz) LF</b>	<b>f-3dB (kHz) HF</b>
700	5.6	370
1500	10.0	230

Mechanical data & electrical connections

CASE-1  
[preliminary new case layout datasheet](#)