MONOLITH MAGNETICS

IT-02 interstage transformer

Balanced Interstage transformer

(1+1):(1+1)
Bifilar wound interstage transformer

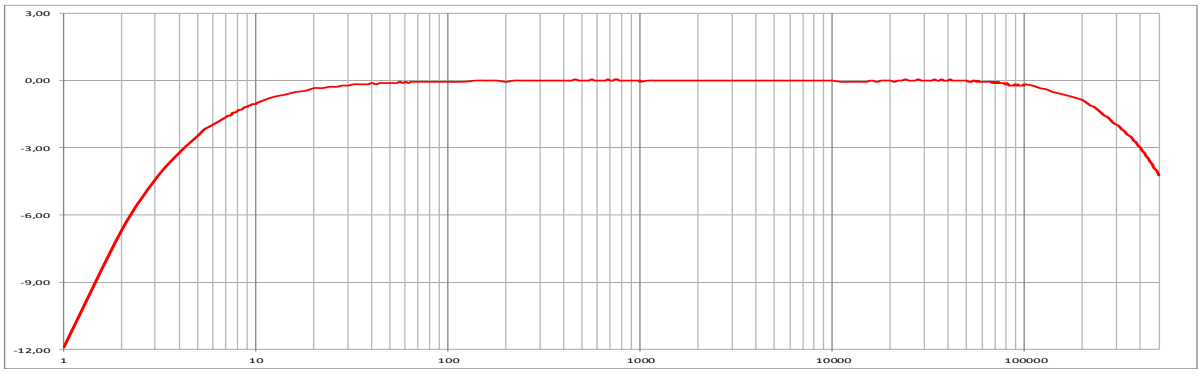
- Hi-grade FeSi grain oriented dual C-core
- Bifilar winding scheme
- (1+1):(1+1) winding ratio
- Gapless design (no dc current allowed)
- 4 – 400,000 Hz bandwidth

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 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 maintaining 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 resulting in rock solid biasing. Bandwidth is around 4 Hz .. .> 400 kHz when using an dual ECC99 triode to drive a 300B PP power stage.

ELECTRICAL DATA

Winding ratio	1+1:1+1
Bandwidth (-3 dB @ 1W, sec. grounded)	4 – 400,000 Hz
Core saturation	10 Hz @ 80 Vrms
Primary inductance	250 Hy
Leakage inductance	x.x mH
Shunt capacitance sec. grounded	xxx pF
Shunt capacitance sec. floating	xxx pF
Primary DC resistance	170 Ω
Sec. DC resistance	170 Ω
Maximum recommended P/S DC voltage	375 V

level (dB) vs. frequency (Hz) 2K2 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**
700	1.3	> 1 MHz
2200	4.0	396
3300	6.0	273
4700	8.5	201

Mechanical data & electrical connections

CASE-1
preliminary new case layout datasheet