T&C Power Conversion, Inc.
110 Halstead Street
Rochester, New York 14610 USA
Phone: 1 585 482 5551
Fax: 1 585 482 8487
e-mail: sales@TCPowerConversion.com

SUT 1k LF-6, STEP-DOWN/STEP-UP TRANSFORMERS FOR IMPEDANCE MATCHING

Most of RF Power Sources are designed and optimized to best deliver power into an impedance of 50 Ohms. In a power delivering system where the source and load impedance differs by more than 2:1 a matching element can improve efficiency.

T&C offers a range of LF Band matching transformers for high (and low) impedance load applications.

The table below presents some standard impedance ratios offers by T&C.

CASE OPTIONS:

1. W 8.3" x L 14" x H 3.5" (211mm x 356mm x 89mm). B style gray box from Lansing Instruments, 1 side vented.
2. Custom sizes and configurations on request.
3. Connectors: "N" type Input, Output custom made

SPECIFICATIONS

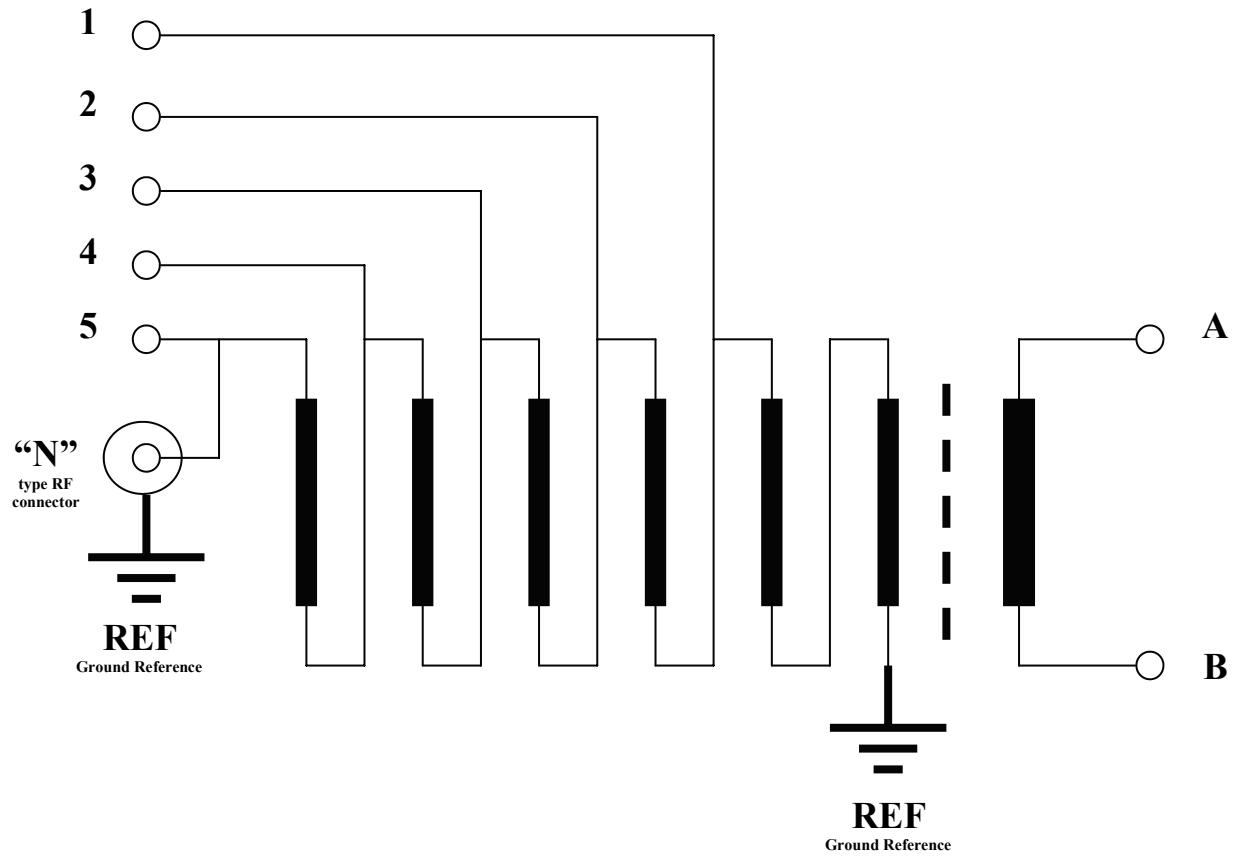
Step down matching. (**Z in** = 50 Ohms) Frequency Range 0.02 MHz to 0.5 MHz minimum.

Zp IN	Zs OUT On A and B terminals	Impedance ratio	Max P IN (Without cooling)
IN 5 = 50 ohms	1.4 (+/- 20%) Ohms	1 : 36	1000 W
IN 4 = 50 ohms	2 (+/- 20%) Ohms	1 : 25	1000 W
IN 3 = 50 ohms	3 (+/- 20%) Ohms	1 : 16	1000 W
IN 2 = 50 ohms	5.6 (+/- 20%) Ohms	1 : 9	1000 W
IN 1 = 50 ohms	12.5 (+/- 20%) Ohms	1 : 4	1000 W

Step up matching. (**Z in** = 50 Ohms) Frequency Range 0.02 MHz to 0.5 MHz minimum.

Zp IN On A and B terminals	Zs OUT	Impedance ratio	Max P IN (Without cooling)
IN A/B = 50 ohms	1800 (+/- 20%) Ohms (OUT: 5 and REF)	36 : 1	1000 W
IN A/B = 50 ohms	1250 (+/- 20%) Ohms (OUT: 4 and REF)	25 : 1	1000 W
IN A/B = 50 ohms	800 (+/- 20%) Ohms (OUT: 3 and REF)	16 : 1	1000 W
IN A/B = 50 ohms	450 (+/- 20%) Ohms (OUT: 2 and REF)	9 : 1	1000 W
IN A/B = 50 ohms	200 (+/- 20%) Ohms (OUT: 1 and REF)	4 : 1	1000 W

SUT 1k LF-6, STEP-DOWN/STEP-UP TRANSFORMER INTERCONNECTION DIAGRAM



Examples of impedance matching:

If amplifier's output connected to:
"N" type or IN 5, Np = 6, Ns = 1, Zp = [Ns/Np]^2 x 50 Ohm = ~ 1.4 Ohm (+/- 20%)
IN 4, Np = 5, Ns = 1, Zp = [Ns/Np]^2 x 50 Ohm = ~ 2 Ohm (+/- 20%)
IN 3, Np = 4, Ns = 1, Zp = [Ns/Np]^2 x 50 Ohm = ~ 3.1 Ohm (+/- 20%)
IN 2, Np = 3, Ns = 1, Zp = [Ns/Np]^2 x 50 Ohm = ~ 5.6 Ohm (+/- 20%)
IN 1, Np = 2, Ns = 1, Zp = [Ns/Np]^2 x 50 Ohm = ~ 12.5 Ohm (+/- 20%)

If amplifier's output connected to:
IN A/B, Np = 1, Ns = 6, Zp = [Ns/Np]^2 x 50 Ohm = ~ 1800 Ohm (+/- 20%)
IN A/B, Np = 1, Ns = 5, Zp = [Ns/Np]^2 x 50 Ohm = ~ 1250 Ohm (+/- 20%)
IN A/B, Np = 1, Ns = 4, Zp = [Ns/Np]^2 x 50 Ohm = ~ 800 Ohm (+/- 20%)
IN A/B, Np = 1, Ns = 3, Zp = [Ns/Np]^2 x 50 Ohm = ~ 450 Ohm (+/- 20%)
IN A/B, Np = 1, Ns = 2, Zp = [Ns/Np]^2 x 50 Ohm = ~ 200 Ohm (+/- 20%)

Some other possible impedance combinations in autotransformer arrangement.
If amplifier's output connected to:
"N" type or IN 5, Np = 6, Ns = 5 (Terminal 4), Zp = [Ns/Np]^2 x 50 Ohm = ~ 35 Ohm (+/- 20%)
"N" type or IN 5, Np = 6, Ns = 4 (Terminal 3), Zp = [Ns/Np]^2 x 50 Ohm = ~ 22 Ohm (+/- 20%)
"N" type or IN 5, Np = 6, Ns = 3 (Terminal 2), Zp = [Ns/Np]^2 x 50 Ohm = 12.5 Ohm (+/- 20%)
"N" type or IN 5, Np = 6, Ns = 2 (Terminal 1), Zp = [Ns/Np]^2 x 50 Ohm = ~ 5.6 Ohm (+/- 20%)