

BALUN TRANSFORMER APPLICATION NOTES



What is a Balun Transformer?

MPS Balun Transformers are mostly used in broadband frequency, transferring the signals from an unbalanced impedance input to a balanced impedance output, or vice versa.

What is unbalanced impedance input?

It is a two terminal transmission device with one of the terminals connected to the ground. Signal must transmit and receive from the center conductor but not the outside shielding.

Coaxial cables are considered as unbalanced impedance cables.

What is balanced impedance output?

It is a two terminal reciprocal device with neither one of its terminals connected to the ground. Signals can transmit or receive from either one of the terminals or both terminals.

Twisted pair cables are considered as balanced impedance cables.

General uses of Balun Transformer:

1. Impedance matching to achieve maximum power transfer
2. Step up or step down of signal amplitude
3. DC Isolation
4. Common Mode Rejection
5. RF Splitter and Combiner
6. Push-Pull Amplifier
7. Directional Coupler
8. Double Balanced Mixer

MPS Balun Transformers operate from Mega Hertz (MHz) to Giga Hertz (GHz). We design and manufacture different kinds of Balun Transformers, Directional Couplers, Balanced Mixers and Power Splitters with different power levels and bandwidths.

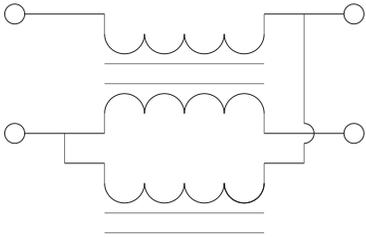
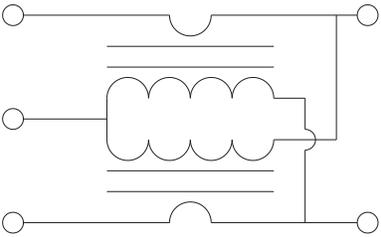
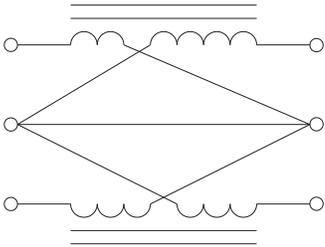
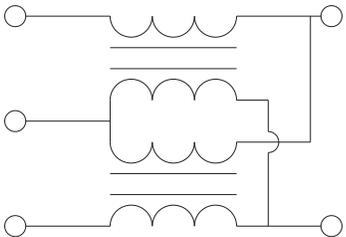
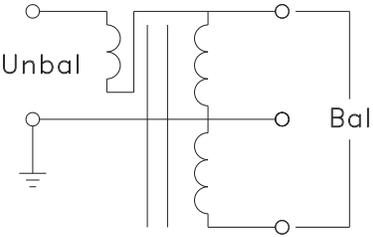
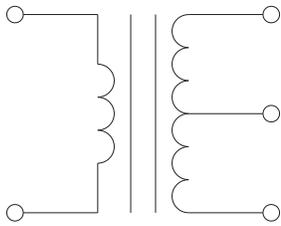
The most common application of Balun Transformers is to interface an unbalanced signal to a balanced transmission line for long distance communications. Differential signaling on balanced transmission lines is more immune to noise and crosstalk, and it is lower cost than single-ended signaling on coaxial cables.

MPS Balun products are used in various applications, including antenna systems, CATV, satellite set-top box, cable modem, video equipment, fiber to cable termination devices and HD-SDI. Our products also comply with DOCSIS standards and welcomed by our customers with excellent quality and service.

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Balun Transformer types commonly used and supported by MPS (custom design available):

| Transmission Line | Directional Coupler | Power Divider |
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|  |  |  |
| Double Balanced Mixer | Unbalanced to Balanced Auto Transformer | Unbalanced to Balanced Isolated Transformer |
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