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# **DIRECT**

## **Electronics Tech.**

### **(TCB5FL) RF Baluns Transformer**

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► **Product Introduction**

**RF Balun transformer handles the work associated with interfacing differential RF circuits to single-ended ones.**

**Features :**

- Pair wire coil for higher stability and optimum balance.
- Available in tape & reel for automatic surface mounting..

**Applications :**

- Double Balance Mixers.
- Broad-Band Transformers.
- Impedance Transformers, Frequency Mixer.
- Balun Transformers, Common Mode Filter.

A Balun is actually a device that typically transforms balanced impedance to unbalanced and the other. What is more, baluns have the ability to as well furnish impedance transformation, that's why the title Balun Transformers.

Direct makes use of the most up-to-date turning technique utilizing coupled wiring for top consistency along with permitting one of the most cost-effective products when it comes to producing surface mount baluns.

Direct (TCB5FL) baluns are primarily designed for choking power lines and conform to the RoHS compliant and Lead-free. SMD (TCB5FL) feature with ultra-compact size, wide inductance selection, and low-resistance coils. SMD (TCB5FL) can be customized designs and tighter tolerances available on request.



Application of RF balun transformer specific designs also available including different inductance values and Q specifications adjusted to frequency requirements. Base pins are end processed to allow direct mounting on PCB. Ideal for use in double balanced mixers, and as broad band transformers, transistors and for impedance conversion.

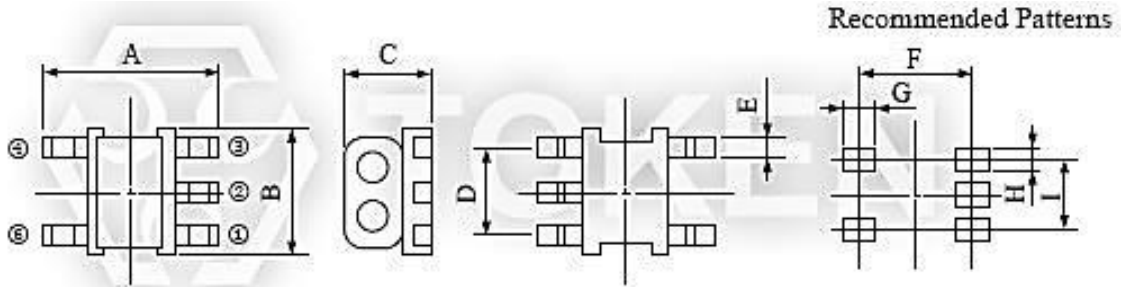
Direct will also produce devices outside these specifications to meet customer requirements, with comprehensive application engineering and design support available for customers worldwide. Please contact our sales or link to Direct official website "[SMD Balun Transformers](#)" for more information.



► **Configurations & Dimensions**

**Configurations & Dimensions (TCB5FL)**

Type	A (max)	B (max)	C (max)	D	E	F	G	H	I
TCB5FL	6.9	6.9	3.6	4.0	5-0.6	5.7	1.7	1.2	4.0



Common Mode Surface Mount Balun Transformers (TCB5FL) Dimensions

- **Note: Design as Customer's Requested Specifications.**

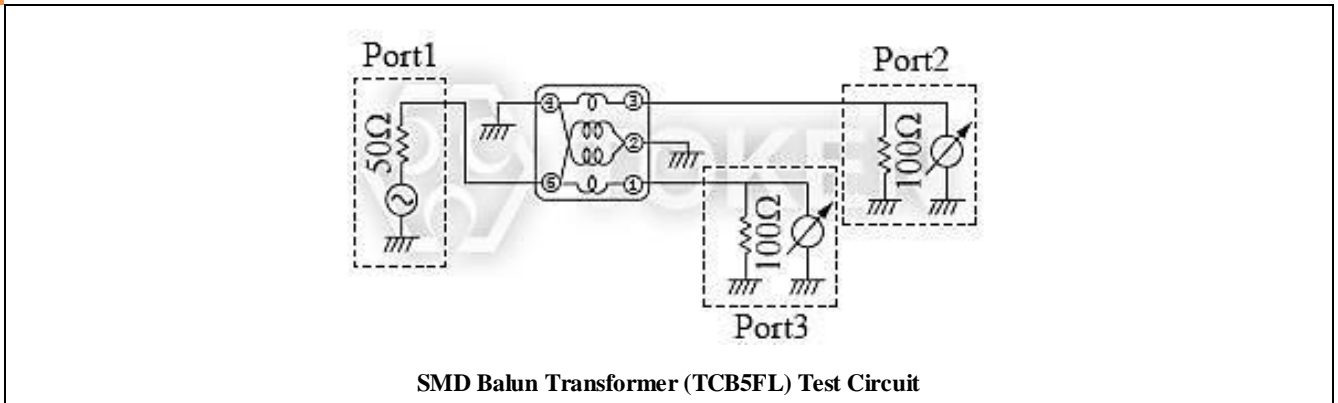


► **TCB5FL Characteristics**

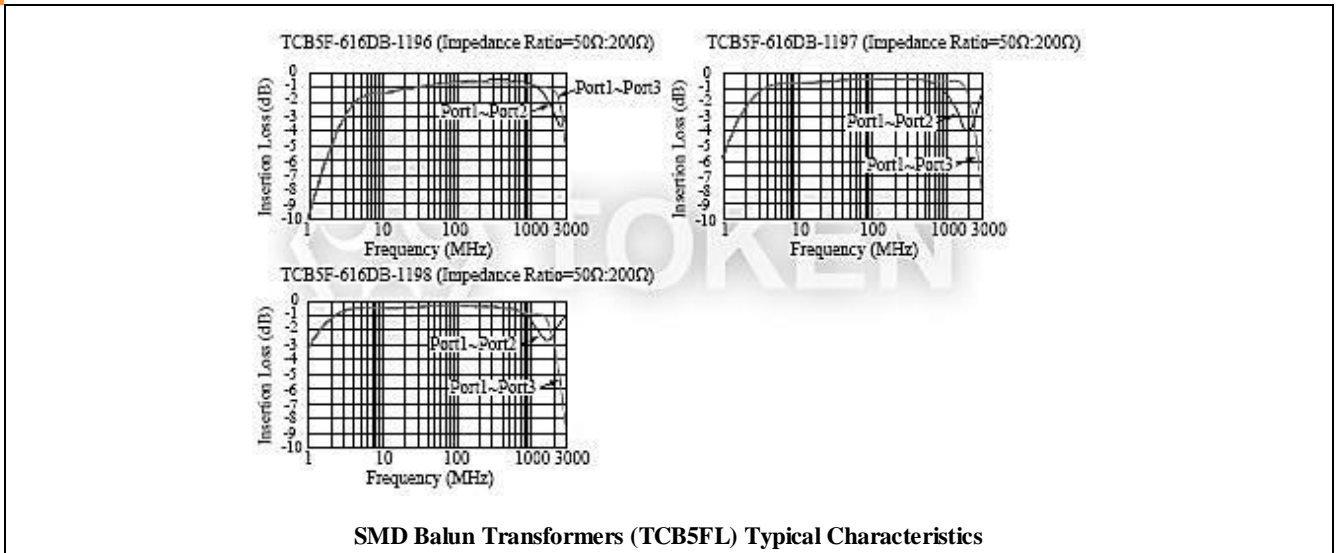
**Electrical Characteristics (TCB5FL)**

Part Number	Winding Turns 1-6=2-4=2-6=3-4	$\mu$ iac
TCB5FL - 616DB1196	2 1/2 T	300
TCB5FL - 616DB1197	3 1/2 T	300
TCB5FL - 616DB1198	4 1/2 T	300

**Test Circuit (TCB5FL)**



**Typical Characteristics (TCB5FL)**



▶ **Order Codes**

**Order Codes (TCB5FL)**

<b>TCB5F</b>	-	<b>616DB1196</b>	
Part Number		Type	
TCB5FL		616DB1196	Frequency Mixer
		616DB1197	Frequency Mixer

▶ **General Information**

**Applications of Baluns**

In a **RF balun transformer**, one pair of terminals is balanced, that is, the currents are equal in magnitude and opposite in phase. The other pair of terminals is unbalanced; one side is connected to electrical ground and the other carries the signal. Balun transformers can be used between various parts of a wireless or cable communications system. Some common applications denotes as following:

- Television receiver (Balanced) - coaxial cable network or Coaxial antenna system (Unbalanced)
- FM broadcast receiver (Balanced) - Coaxial antenna system (Unbalanced)
- Dipole antenna (Balanced) - Coaxial transmission line (Unbalanced)
- Parallel-wire transmission line (Balanced) - Coaxial transmitter output, or Coaxial receiver input (Unbalanced)

Direct's baluns provide impedance transformation in addition to conversion between balanced and unbalanced signal modes. Most television and FM broadcast receivers are designed for 300-ohm balanced systems, while coaxial cables have characteristic impedances of 50 or 75 ohms. Impedance-transformer baluns with larger ratios are available and used to match high-impedance balanced antennas to low-impedance unbalanced wireless receivers, transmitters, or transceivers.

