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# **DIRECT**

## **Electronics Tech.**

### **(TCB5F)**

# **SMD RF Baluns Transformer**

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**▶ Product Introduction**

**Balun transformer covers the task of interfacing differential RF circuits to single-ended ones.**

**Features :**

- Pair wire coil for high balance and higher consistency.
- Offered in tape & reel for automatic surface mounting..

**Applications :**

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

Direct takes advantage of the most recent turning expertise utilizing coupled wiring for top consistency in addition to allowing one of the most cost-effective products throughout developing surface mount baluns.

Bottom portion pinastre are generally finish manufactured to let for straight installation on PCB (printed circuit board). Excellent for use as double balanced mixers, broad band transformers, transistors as well as impedance transformation.

Direct (TCB5F) balun is particularly for choking power lines and also in accordance the RoHS compliant and in addition Lead-free. SMD (TCB5F) include while having ultra-compact size, extensive inductance choice, and low-resistance coils. Chip (TCB5F) can be customized designs together with more restrictive tolerances available on request.

Application of RF Transformer specific designs also available including different inductance values and Q specifications adjusted to frequency requirements.

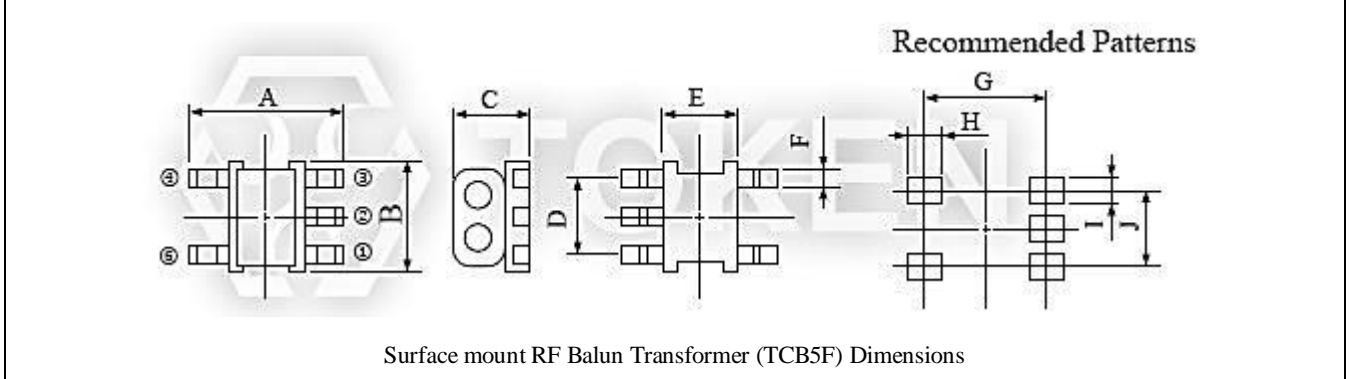
Direct is equipped to design and produce custom components to meet many design and reliability demands. Custom parts are available on request. Direct will also produce devices outside these specifications to meet specific customer requirements, please contact our sales or link to Direct official website "[SMD Balun Transformers](http://www.direct-token.com)" for more information.



► **Configurations & Dimensions**

**Configurations & Dimensions (TCB5F)**

Type	A (max)	B (max)	C (max)	D	E	F	G	H	I	J
TCB5F	6.9	6.9	4.4	4.0	3.8	0.6	5.7	1.7	1.2	4.0



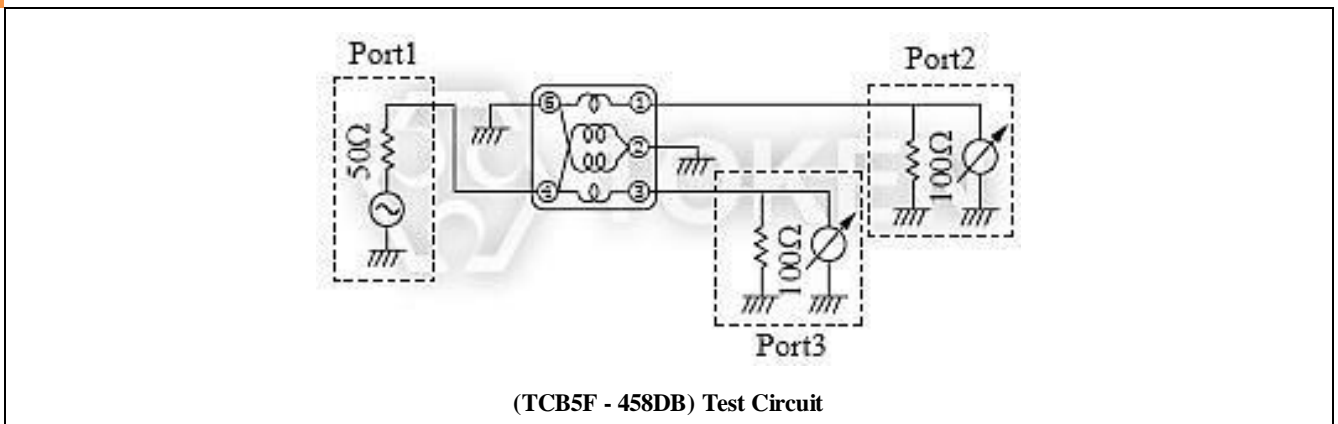
● **Note: Design as Customer's Requested Specifications.**

► **458DB Characteristics**

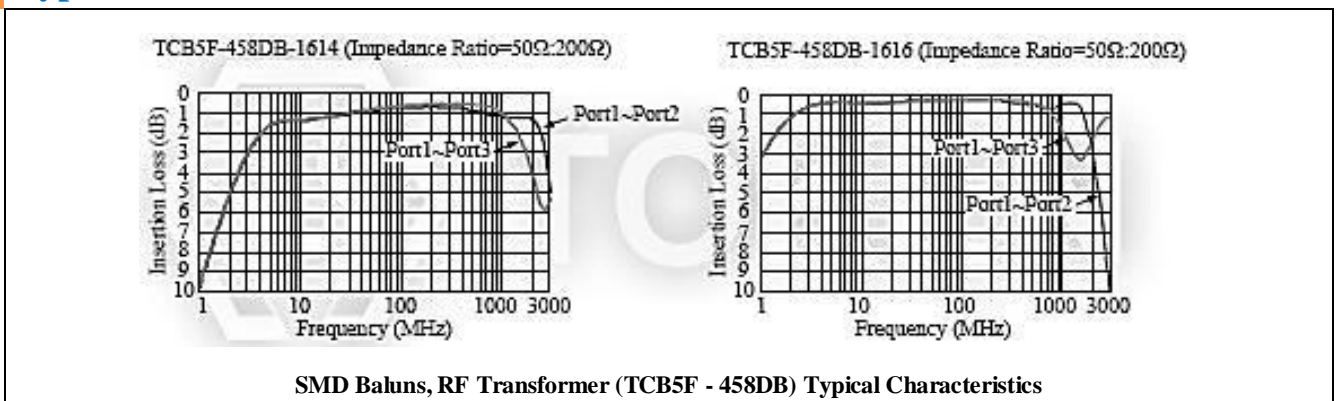
**Electrical Characteristics (TCB5F - 458DB)**

Part Number	Winding Turns 1-6=2-4=2-6=3-4	μiac
TCB5F - 458DB1614	2 1/2 T	300
TCB5F - 458DB1615	3 1/2 T	300
TCB5F - 458DB1616	4 1/2 T	300

**Test Circuit (TCB5F - 458DB)**



**Typical Characteristics (TCB5F - 458DB)**

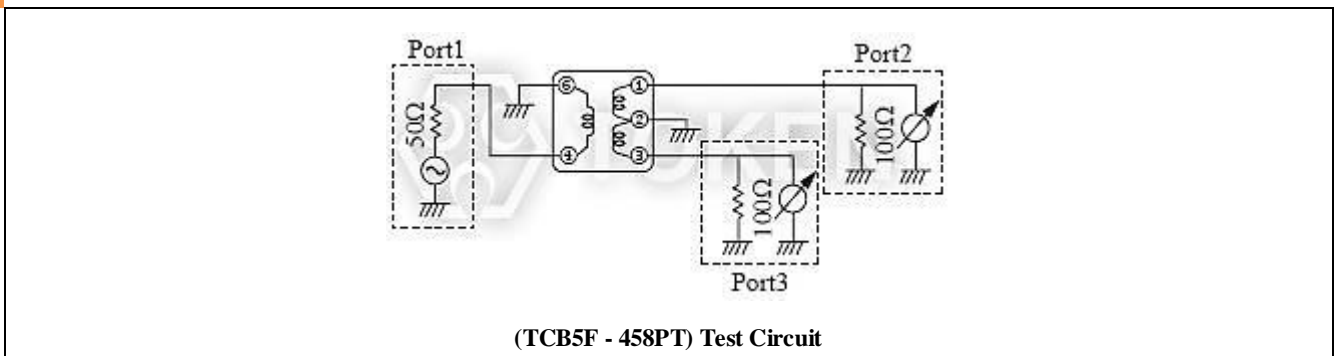


► **458PT Characteristics**

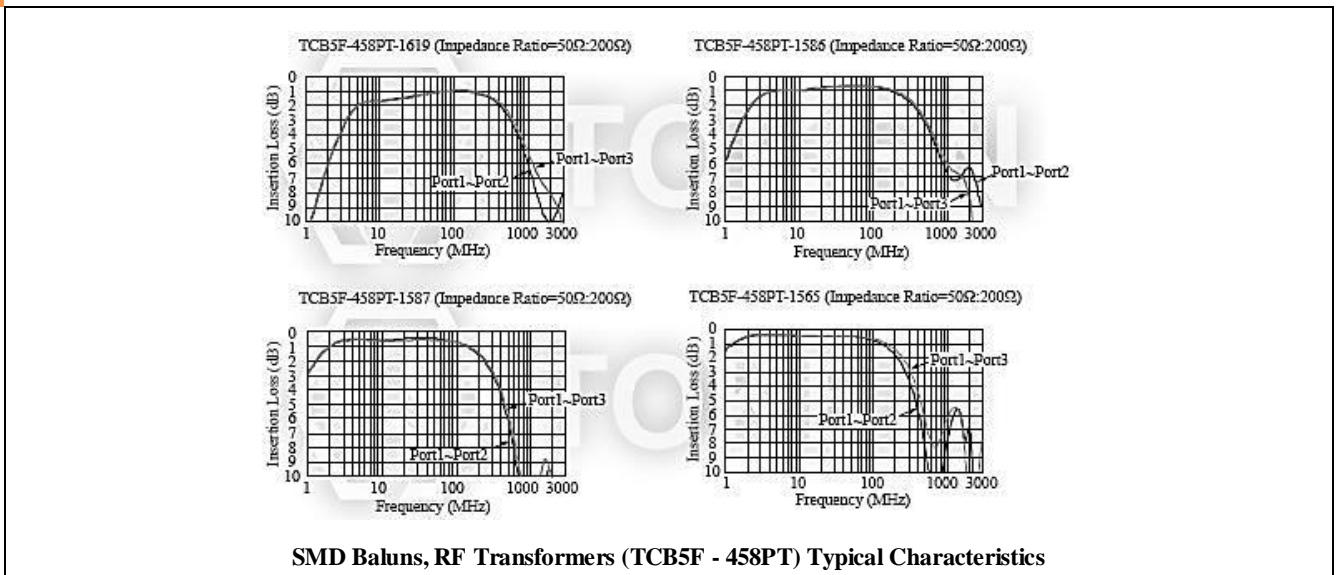
**Electrical Characteristics (TCB5F - 458PT)**

Part Number	Winding Turns 1-2=2-3=4-6	$\mu$ iac
TCB5F - 458PT1619	2 T	300
TCB5F - 458PT1586	3 T	230
TCB5F - 458PT1587	4 T	230
TCB5F - 458PT1565	5 T	230

**Test Circuit (TCB5F - 458PT)**



**Typical Characteristics (TCB5F - 458PT)**



**Order Codes**

**Order Codes (TCB5F)**

TCB5F	-	458DB1614	
Part Number		Type	
TCB5F		458DB1614	Frequency Mixer
		458DB1615	Frequency Mixer
		458PT1619	Frequency Mixer
		458PT1586	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.

