

# Thin Film Balun Transformers

For DVB-H/T, ISDB-T

## TTB Series

**Type:** TTB12G51 (1.25×1.0×0.6mm)

**Issue date:** December 2010

- All specifications are subject to change without notice.
  - Conformity to RoHS Directive: This means that, in conformity with EU Directive 2002/95/EC, lead, cadmium, mercury, hexavalent chromium, and specific bromine-based flame retardants, PBB and PBDE, have not been used, except for exempted applications.
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# Thin Film Chip Baluns For DVB-H/T and ISDB-T

Conformity to RoHS Directive

## TTB Series TTB12G51

### FEATURES

- This is an optimal, thin film chip balun transformer for 50 to 50Ω with low loss at DVB-H/T and ISDB-T frequency bands(174 to 860MHz).
- Does not contain lead and is compatible with lead-free soldering.
- It is a product conforming to RoHS directive.

### APPLICATIONS

Balanced/unbalanced conversion for DVB-H/T and ISDB-T radio frequency inputs

### PRODUCT IDENTIFICATION

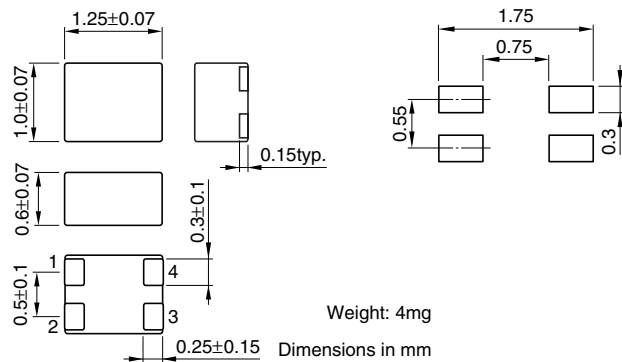
TTB	12	G51	- 900	- 2P	- T	20
(1)	(2)	(3)	(4)	(5)	(6)	(7)

- (1) Series name  
 (2) Case size  
 (3) Product identification number  
     G51:  $Z_0=50\Omega$   
 (4) Common mode impedance  
     900:  $90\Omega$  [at 100MHz]  
 (5) Number of line  
     2P: 2-line  
 (6) Packaging style  
     T:  $\phi 180\text{mm}$  reel taping  
 (7) TDK internal code

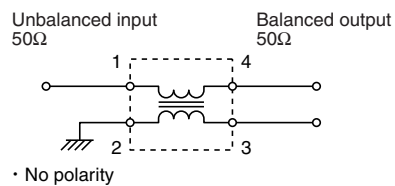
### PACKAGING STYLE AND QUANTITIES

Packaging style	Quantity
Taping	4000 pieces/reel

### SHAPES AND DIMENSIONS/RECOMMENDED PC BOARD PATTERN



### CIRCUIT DIAGRAM



### ELECTRICAL CHARACTERISTICS

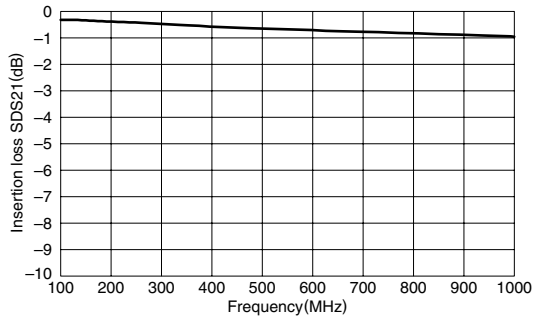
Part No.	TTB12G51-900-2P	
Characteristics impedance	$50\Omega$ typ.	
DC resistance	[1 line]	$1.7\Omega$ max.
Rated current $I_{dc}$	0.1A max.	
Rated voltage $E_{dc}$	10V max.	
Insulation resistance	$10M\Omega$ min.	
Amplitude balance at balanced port	[174 to 860MHz]	$0\pm 1.5\text{dB}$
Phase balance at balanced port	[174 to 860MHz]	$180\pm 15\text{deg.}$
Insertion loss	[174MHz]	0.5dB typ.
	[860MHz]	0.7dB typ.
Operating temperature ranges	$-25$ to $+85^\circ\text{C}$	

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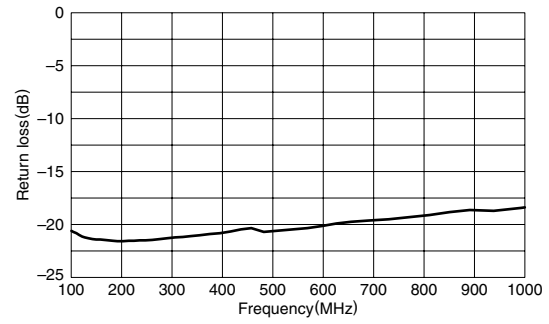
• All specifications are subject to change without notice.

## FREQUENCY CHARACTERISTICS

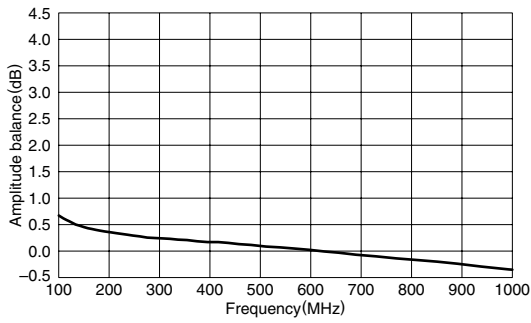
### INSERTION LOSS



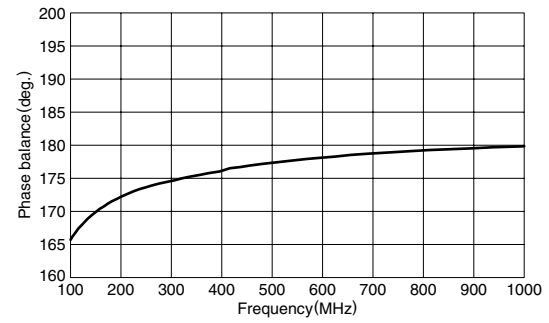
### RETURN LOSS



### AMPLITUDE BALANCE at BALANCED PORT



### PHASE BALANCE at BALANCED PORT



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Authorized Distributor

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TDK:

[TTB12G51-900-2P](#)