

Thin Film Balun Transformers

For DVB-H/T, ISDB-T

TTB Series

Type: TTB16G11 (1.6×0.8×0.4mm)

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 TTB16G11

FEATURES

- This is an optimal, thin film chip balun transformer for 50 to 200Ω 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

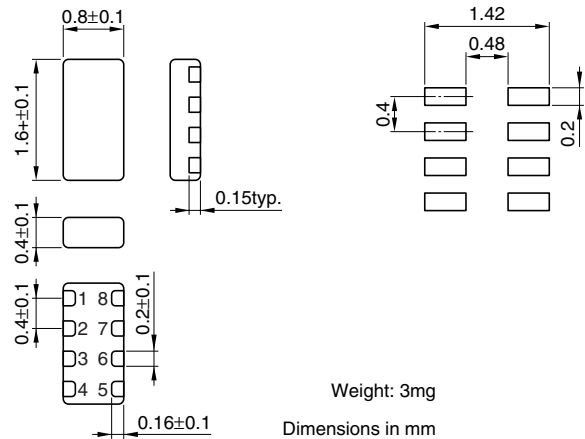
TTB	16	G11	-	201	-	4P	-	T	20
(1)	(2)	(3)	(4)	(5)	(6)	(7)			

- (1) Series name
 (2) Case size
 (3) Product identification number
 G11: $Z_0=100\Omega$
 (4) Common mode impedance
 201: 200Ω/900: 90Ω [at 100MHz]
 (5) Number of line
 4P: 4-line
 (6) Packaging style
 T: $\varnothing 180\text{mm}$ reel taping
 (7) TDK internal code

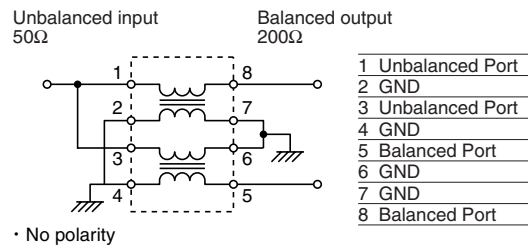
PACKAGING STYLE AND QUANTITIES

Packaging style	Quantity
Taping	4000 pieces/reel

SHAPES AND DIMENSIONS/RECOMMENDED PC BOARD PATTERN



CIRCUIT DIAGRAM



ELECTRICAL CHARACTERISTICS

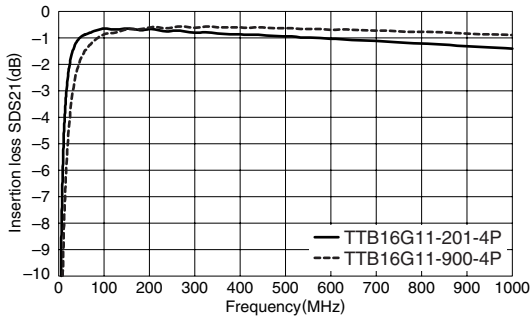
Part No.	TTB16G11-201-4P	TTB16G11-900-4P
Characteristics impedance	100Ω typ.	100Ω typ.
DC resistance [1 line]	4.0Ω±30%	1.5Ω±30%
Rated current I_{dc}	0.05A max.	0.1A max.
Rated voltage E_{dc}	5V max.	5V max.
Insulation resistance	10MΩ min.	10MΩ min.
Amplitude balance at balanced port [100 to 860MHz]	0±2.0dB	0±2.0dB
Phase balance at balanced port [100 to 860MHz]	180±15deg.	180±15deg.
Insertion loss [100 to 860MHz]	3.5dB max.	3.0dB max.
Operating temperature ranges	-25 to +85°C	-25 to +85°C

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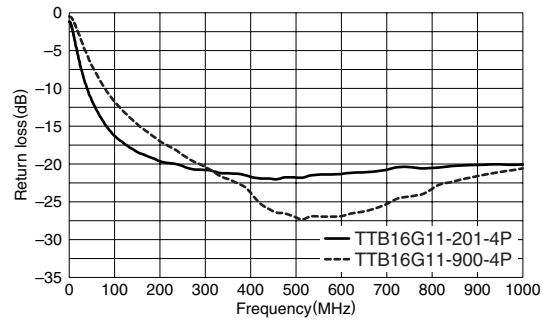
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FREQUENCY CHARACTERISTICS

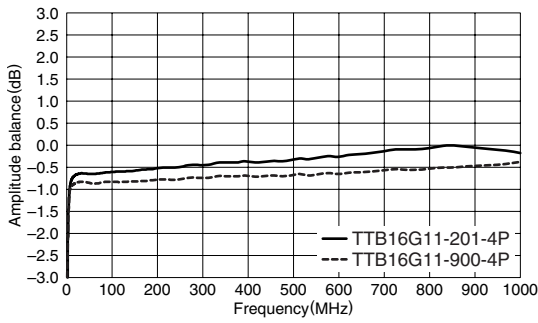
INSERTION LOSS



RETURN LOSS



AMPLITUDE BALANCE at BALANCED PORT



PHASE BALANCE at BALANCED PORT

