

# Thin Film Chip LC Filter

## TLF series



Low top max. 0.35mm  
Excellent frequency characteristic

RoHS compliant Completely lead free

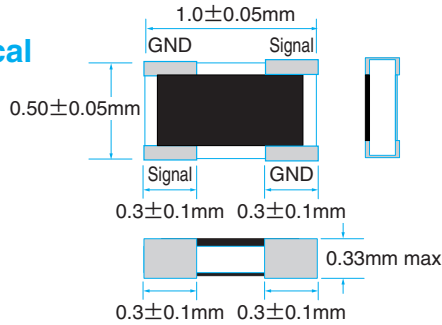


### Example of application and its Characteristic

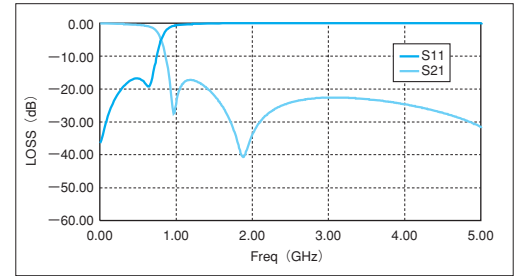
#### ● Low Pass filter (LPF) for digital terrestrial broadcasting receiver

TLF-1005-077-\*\*\*

#### Mechanical



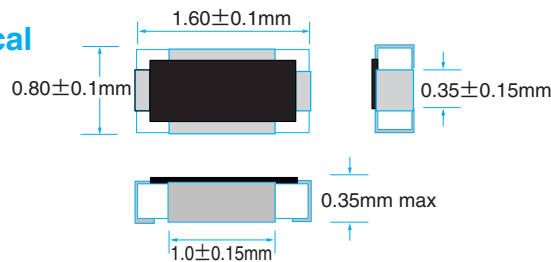
#### Electrical



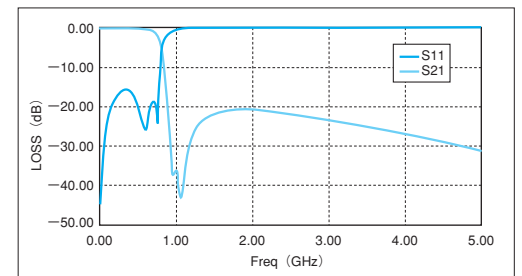
specification	Insertion Loss		Attenuation	
	470~710MHz	710~770MHz	830~840MHz	1500~7200MHz
TLF-1005-077-S2	2.0dB max	3.5dB max	6.0dB min	15.0dB min

TLF-1608-077-\*\*\*

#### Mechanical



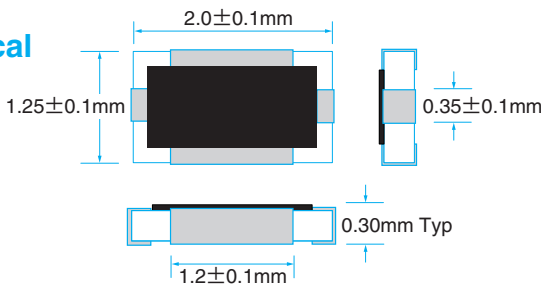
#### Electrical



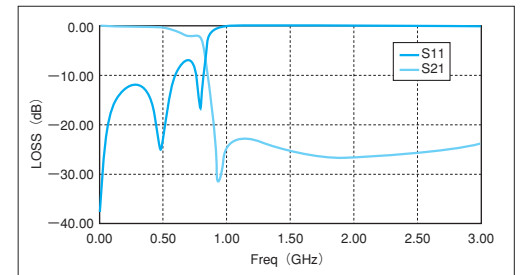
specification	Insertion Loss		Attenuation	
	470~600MHz	600~710MHz	710~770MHz	890MHz~2.5GHz
Simulation	1.0dB max	1.8dB max	3.5dB max	20dB min

TLF-2012-077-\*\*\*

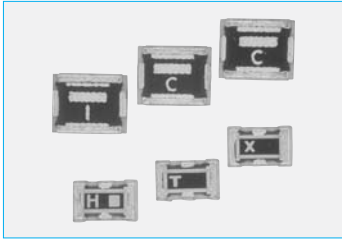
#### Mechanical



#### Electrical



specification	Insertion Loss		Attenuation	
	470~570MHz	570~670MHz	670~770MHz	880MHz~2.5GHz
Simulation	1.5dB max	2.0dB max	3.5dB max	15dB min



# Thin Film Chip LC Filter

W-LAN, Bluetooth (Band-Pass Filter)  
TBF series

NEW



Low top max. 0.4mm and small size.  
Excellent loss characteristics.

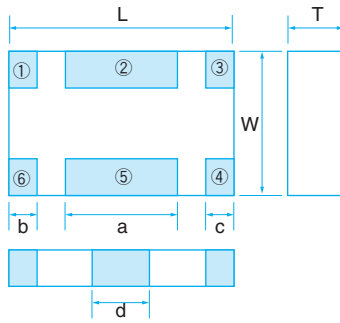
RoHS compliant

Completely lead free

## SPECIFICATIONS

### Mechanical

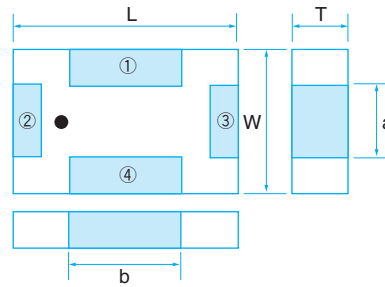
TBF-1005-245-F1



Dimension (mm)	TBF1005-245-F1
L	1.0±0.1
W	0.5±0.1
T	0.4±0.1
a	0.4±0.1
b	0.15±0.05
c	0.15±0.05
d	0.25±0.05

	F1
①	Input
②	GND
③	Output
④	Output
⑤	GND
⑥	Input

TBFseries (except "TBF-1005-245-F1")



Dimension (mm)	TBF-1005	TBF-1608	TBF-2012
L	1.0±0.15	1.6±0.1	2.0±0.1
W	0.5±0.15	0.8±0.1	1.25±0.1
T	0.5 max	0.4 max	0.4 max
a	0.2±0.1	0.4±0.1	0.35±0.1
b	0.6±0.1	1.0±0.1	1.5±0.1

	TBF-1005	TBF-1608	TBF-2012-T1
①	GND	Input	GND
②	Input	GND	Input
③	Output	GND	Output
④	GND	Output	GND

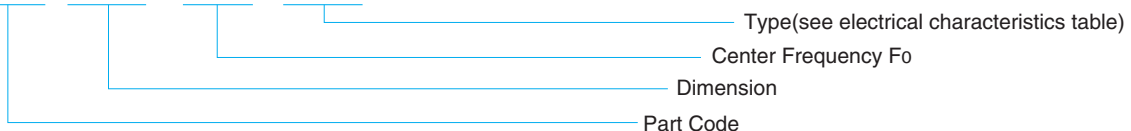
### Electrical

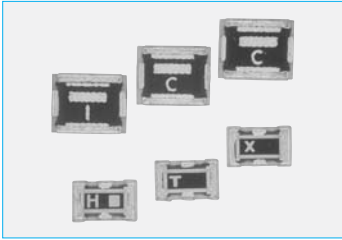
#### Band-Pass Filter

Type	TBF-1005-245-F1	TBF-1005-181-F1	TBF-1608-245-R1N	TBF-2012-537-T1
Application	For Bluetooth, W-LAN	For DCS	For Bluetooth, W-LAN	For Bluetooth, W-LAN
F0 (MHz)	2450	1810	2450	5370
Band (MHz)	2400~2500	1710~1910	2400~2500	4900~5850
Insertion Loss	2.5dB at 25°C	2.7dB at 25°C	1.7dB at 25°C	2.2dB at 25°C
	2.8dB at -40~85°C	2.3dB at -40~85°C	1.9dB at -40~85°C	—
Attenuation	30.0dB at 824~960MHz	20.0dB at 855~955MHz	20.0dB at 1710~1910MHz	40.0dB at 340~1195MHz
	10.0dB at 1700~1900MHz		30.0dB at 4800~5000MHz	21.0dB at 2140~3580MHz
	30.0dB at 4800~5000MHz	10.0dB at 2565~2865MHz	30.0dB at 7200~7500MHz	25.0dB at 6855~7150MHz
	20.0dB at 7200~7500MHz			20.0dB at 8570~8930MHz
VSWR in BW	2.0 Max.			
Impedance	50Ω			
Power	500mW Max.			

## PART NUMBER

### TBF 1608 - 245 - R1N





# Thin Film Chip LC Filter

W-LAN, Bluetooth, TBL series (Balun), **NEW**  
TBB series (Balance filter), TDP series (Diplexer)



Low top max. 0.4mm and small size.  
Excellent loss characteristics.

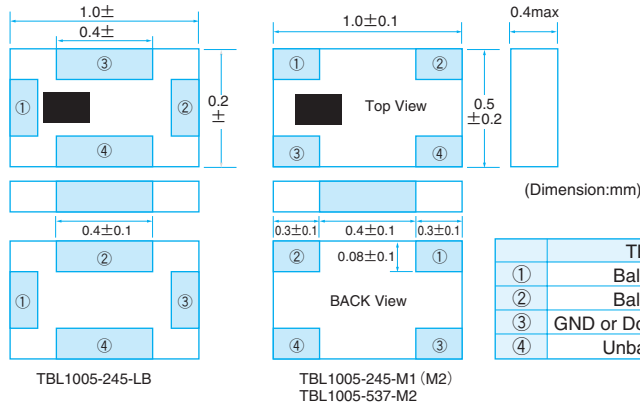
RoHS compliant

Completely lead free

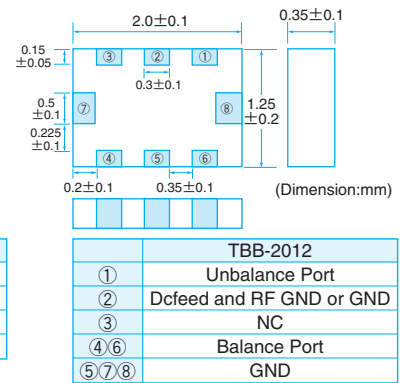
## SPECIFICATIONS

### Mechanical

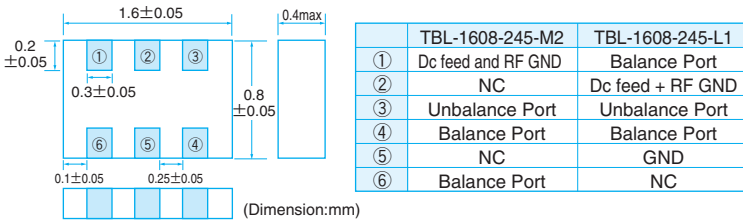
#### TBL1005 series



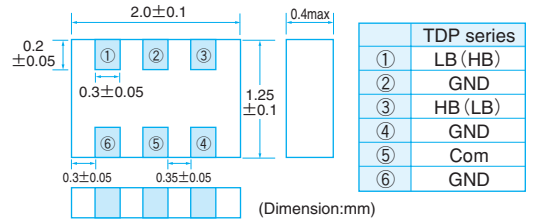
#### TBB2012 series



#### TBL1608 series



#### TDP series



### Electrical

#### Balun

Type	TBL-1005-245-M1	TBL-1005-245-LB	TBL-1005-245-M2	TBL-1005-537-M2	TBL-1608-245-M2	TBL-1608-245-L1
Application	For Bluetooth, W-LAN	For Bluetooth, W-LAN	For Bluetooth, W-LAN	For W-LAN	For Bluetooth, W-LAN	For Bluetooth, W-LAN
F0 (MHz)	2450	2450	2450	5375	2450	2450
Band (MHz)	2400~2500	2400~2500	2400~2500	4900~5850	2400~2500	2400~2500
Unbalance Port Impedance	50Ω	50Ω	50Ω	50Ω	50Ω	50Ω
balance Port Impedance	50Ω	75Ω	100Ω	100Ω	100Ω	50Ω
Phase	180±10deg	180±10deg	180±10deg	180±10deg	180±10deg	180±10deg
Insertion Loss	1.2dB Max at 25°C	1.2dB Max at 25°C	1.2dB Max at 25°C	1.2dB Max at 25°C	1.0dB Max at 25°C	1.2dB Max at 25°C
VSWR in BW	2.0 Max	2.0 Max	2.0 Max	2.0 Max	2.0 Max	2.0 Max
Power	500mW Max	500mW Max	500mW Max	500mW Max	500mW Max	500mW Max

#### Diplexer

Type	TDP-2012-205-W2	
Application	W-LAN	
Pass Band	Low	2400~2500MHz
	High	4900~5950MHz
Insertion Loss	Low	0.5dB Max at 25°C 0.8dB Max at -40~+85°C
	High	0.8dB Max at 25°C 1.1dB Max at -40~+85°C
Attenuation	Low	20dB Min at 4800~6000MHz 20dB Min at 7200~7500MHz
	High	25dB Min at 1800~2500MHz 25dB Min at 9800~11900MHz
VSWR in BW	Low	2.0 Max.
	High	2.0 Max.
Impedance	50Ω	

#### Balance filter

Type	TBB-2012-245-C2	
Application	For Bluetooth, W-LAN	
F0 (MHz)	2450	
Band (MHz)	2400~2500	
Unbalance Port Impedance	50Ω	
balance Port Impedance	Conjugate match to CSR series	
Phase	180±10deg	
VSWR at Unbalance Port in BW	2.0 Max	
Insertion Loss	3.5dB Max at 25°C	
Attenuation	35.0dB at 880~960MHz	
	20.0dB at 1700~1880MHz	
	12.0dB at 1880~1990MHz	
	15.0dB at 4800~5000MHz	
Power	500mW Max	

1608 size balance filter is available upon request.



### PART NUMBER

**TBL - 1608 - 245 - M2**

Part Code Dimension Center Frequency F0

Type(see electrical characteristics table)