

Thin Film Chip LC Filter

TLF series



Low top max. 0.35mm
Excellent frequency characteristic

RoHS compliant

Completely lead free

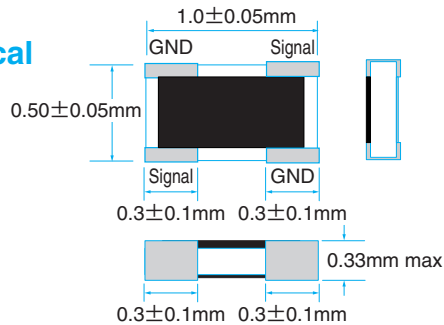


Example of application and its Characteristic

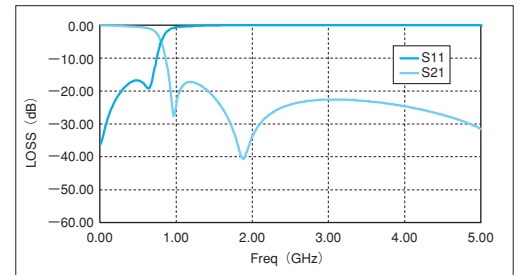
●Low Pass filter (LPF) for digital terrestrial broadcasting receiver

TLF-1005-077-***

Mechanical



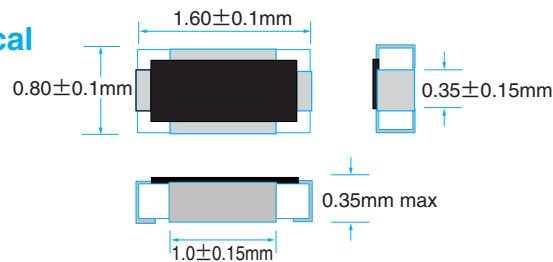
Electrical



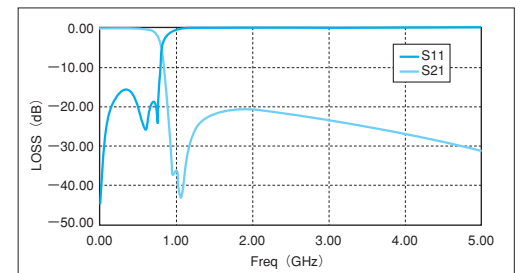
specification	Insertion Loss		Attenuation	
	470~710MHz	710~770MHz	830~840MHz	1500~7200MHz
TLF-1005-077-S2	2.0dB max	3.5dB max	6.0dB min	15.0dB min

TLF-1608-077-***

Mechanical



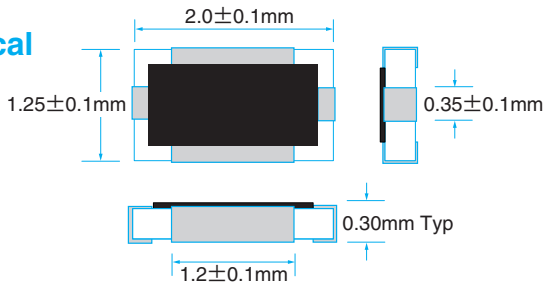
Electrical



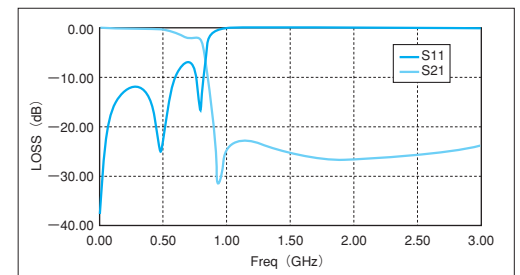
specification	Insertion Loss			Attenuation
	470~600MHz	600~710MHz	710~770MHz	890MHz~2.5GHz
Simulation	1.0dB max	1.8dB max	3.5dB max	20dB min

TLF-2012-077-***

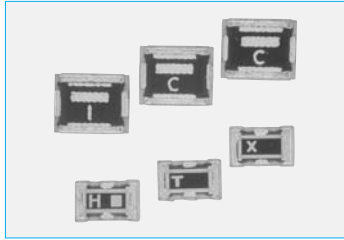
Mechanical



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

SSM
THIN FILM TECHNOLOGY

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

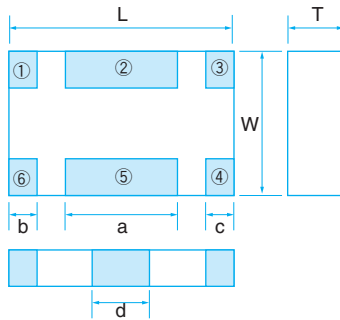
RoHS compliant

Completely lead free

SPECIFICATIONS

Mechanical

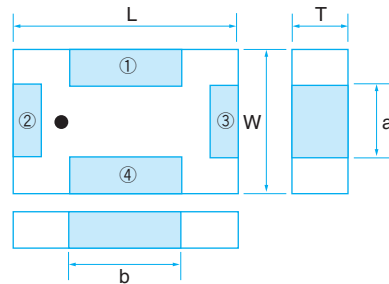
TBF-1005-245-F1



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 10.0dB at 2565~2865MHz	20.0dB at 1710~1910MHz 30.0dB at 4800~5000MHz 30.0dB at 7200~7500MHz	40.0dB at 340~1195MHz
	10.0dB at 1700~1900MHz			21.0dB at 2140~3580MHz
	30.0dB at 4800~5000MHz			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

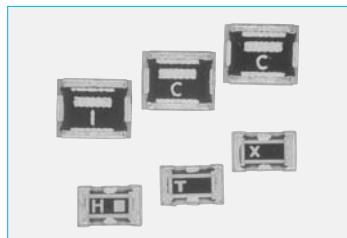
TBF 1608 - 245 - R1N

Type(see electrical characteristics table)

Center Frequency F0

Dimension

Part Code



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.

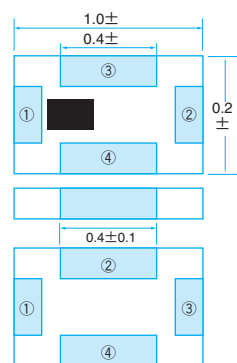
RoHS compliant

Completely lead free

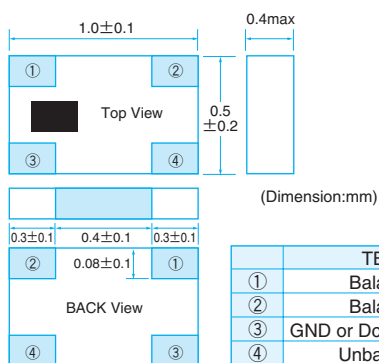
SPECIFICATIONS

Mechanical

TBL1005 series



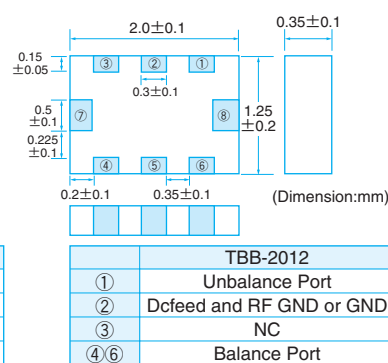
TBL1005-245-LB



TBL1005-245-M1 (M2)
TBL1005-537-M2

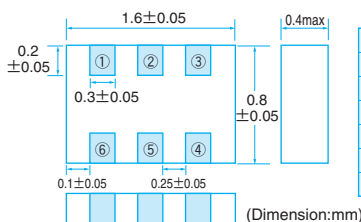
	TBL-1005
①	Balance Port
②	Balance Port
③	GND or Dc feed + RF GND
④	Unbalance Port

TBB2012 series



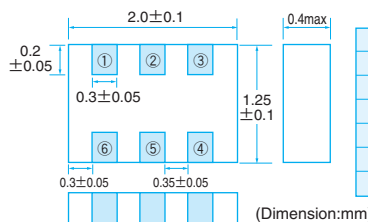
	TBB-2012
①	Unbalance Port
②	Dcfeed and RF GND or GND
③	NC
④⑥	Balance Port
⑤⑦⑧	GND

TBL1608 series



	TBL-1608-245-M2	TBL-1608-245-L1
①	Dc feed and RF GND	Balance Port
②	NC	Dc feed + RF GND
③	Unbalance Port	Unbalance Port
④	Balance Port	Balance Port
⑤	NC	GND
⑥	Balance Port	NC

TDP series



	TDP series
①	LB (HB)
②	GND
③	HB (LB)
④	GND
⑤	Com
⑥	GND

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)