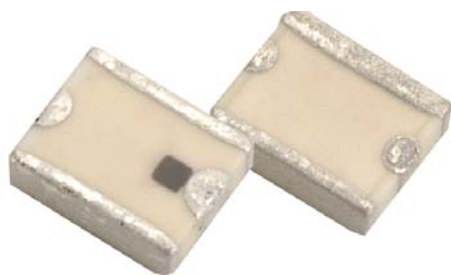


Low Temperature Cofired Ceramic LTCC Series

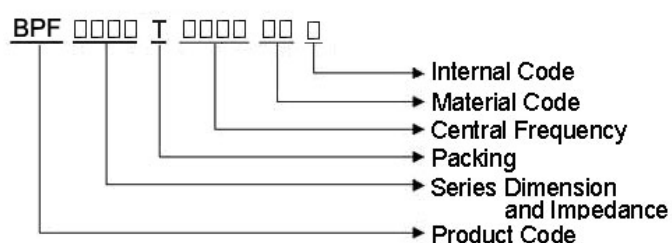
BPF Series



Features

- RoHS Compliant
- Miniaturized
- Low insertion loss
- High rejection at lower stop band and 2nd harmonic band

Product Identification

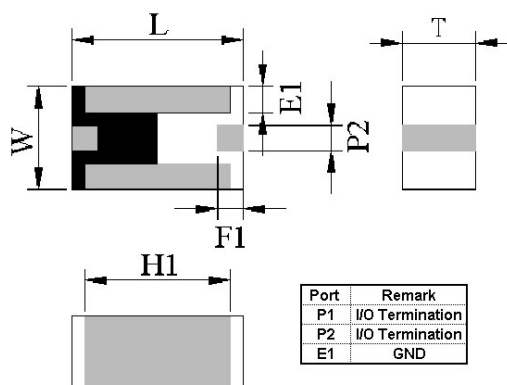


Applications

- 2.4GHz ISM band WLAN and Bluetooth

- Series Dimension and Impedance:
1608= 1.6mm*0.8 mm , Impedance:50/50Ω
2520= 2.5mm*2.0 mm , Impedance:50/50Ω
- Packing : T=Taping , B=Bulk
- Central Frequency: 2450=2.45GHz

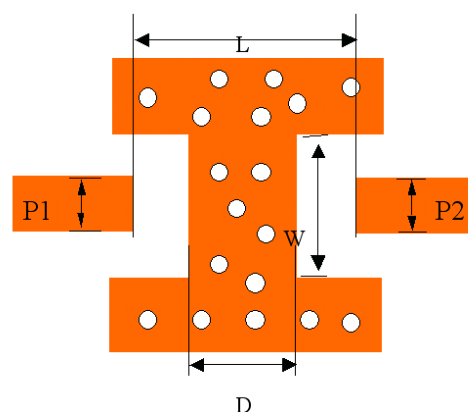
Shapes and Dimensions



Dimension in mm

TYPE	L	W	T	P1~P2	E1	F1	H1
BPF1608T2450HA3	1.6±0.15	0.8±0.15	0.6±0.15	0.25±0.2	0.2±0.15	0.2±0.15	1.40±0.15
BPF1608T2450HA4	1.6±0.15	0.8±0.15	0.65±0.15	0.25±0.2	0.2±0.15	0.2±0.15	1.25±0.2
BPF1608T2450NA5	1.6±0.15	0.8±0.15	0.65±0.15	0.25±0.2	0.2±0.15	0.2±0.15	1.25±0.2
BPF1608T2450NA6	1.6±0.15	0.8±0.15	0.65±0.15	0.25±0.2	0.2±0.15	0.2±0.15	1.25±0.2
BPF1608T2450NA7	1.6±0.15	0.8±0.15	0.65±0.15	0.25±0.2	0.2±0.15	0.2±0.15	1.25±0.2
BPF1608T2450NA8	1.6±0.15	0.8±0.15	0.55±0.15	0.30±0.2	0.3±0.15	0.3±0.15	1.40±0.2
BPF1608T3600NA1	1.6±0.15	0.8±0.15	0.65±0.15	0.25±0.2	0.2±0.15	0.2±0.15	1.25±0.2

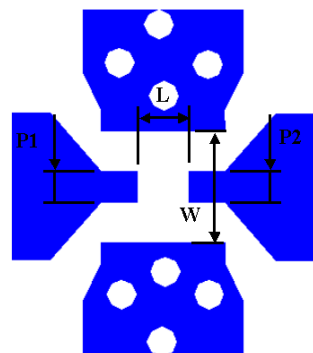
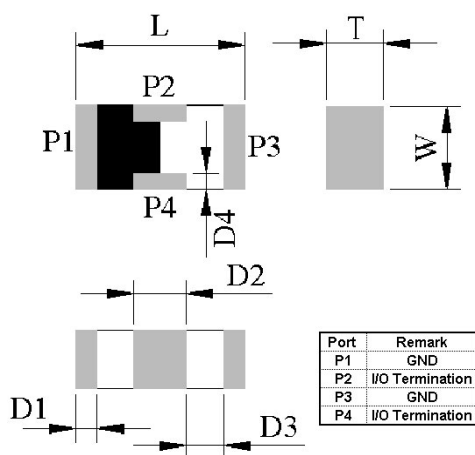
Recommended Pattern



Dimension in mm

TYPE	L	W	P1	P2	D
BPF1608T2450HA3	1.2±0.1	0.7±0.1	0.3±0.1	0.3±0.1	0.6±0.1
BPF1608T2450HA4	1.2±0.1	0.7±0.1	0.3±0.1	0.3±0.1	0.6±0.1
BPF1608T2450NA5	1.2±0.1	0.7±0.1	0.3±0.1	0.3±0.1	0.6±0.1
BPF1608T2450NA6	1.2±0.1	0.7±0.1	0.3±0.1	0.3±0.1	0.6±0.1
BPF1608T2450NA7	1.2±0.1	0.7±0.1	0.3±0.1	0.3±0.1	0.6±0.1
BPF1608T2450NA8	1.2±0.1	0.7±0.1	0.3±0.1	0.3±0.1	0.6±0.1
BPF1608T3600NA1	1.2±0.1	0.7±0.1	0.3±0.1	0.3±0.1	0.6±0.1

Low Temperature Cofired Ceramic LTCC Series

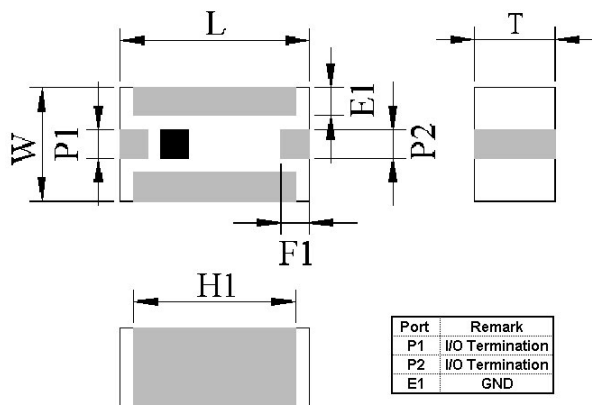


Dimension in mm

TYPE	L	W	T	P1	P2	P3	P4
BPF1608T2450HA2	1.6±0.15	0.8±0.15	0.6±0.15	0.8±0.2	0.5±0.2	0.8±0.2	0.5±0.2

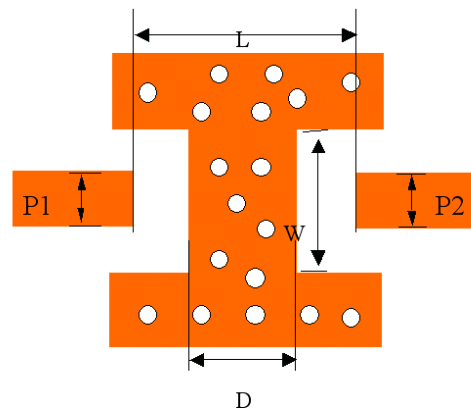
Dimension in mm

TYPE	L	W	P1	P2
BPF1608T2450HA2	0.5±0.1	1.1±0.1	0.3±0.1	0.3±0.1



Dimension in mm

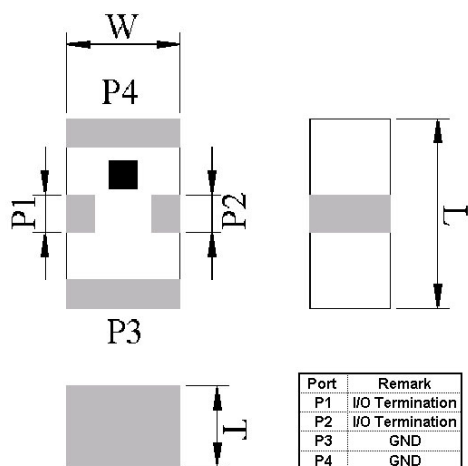
TYPE	L	W	T	P1~P2	E1	F1	H1
BPF2012T2450HA1	2.0±0.15	1.25±0.15	0.85±0.15	0.3±0.2	0.3±0.2	0.3±0.2	1.7±0.2
BPF2012T2450HA2	2.0±0.15	1.25±0.15	0.85±0.15	0.3±0.2	0.3±0.2	0.3±0.2	1.7±0.2
BPF2012T2450HA8	2.0±0.15	1.25±0.15	0.65±0.15	0.3±0.2	0.3±0.2	0.3±0.2	1.4±0.2
BPF2012T2450HA9	2.0±0.15	1.25±0.15	0.90±0.15	0.3±0.2	0.3±0.2	0.3±0.2	1.4±0.2
BPF2012T2600HA1	2.0±0.15	1.25±0.15	0.85±0.15	0.3±0.2	0.3±0.2	0.3±0.2	1.7±0.2
BPF2012T3500HA1	2.0±0.15	1.25±0.15	0.80±0.15	0.3±0.2	0.3±0.2	0.3±0.2	1.4±0.2
BPF2012T5500HA1	2.0±0.15	1.25±0.15	0.60±0.15	0.3±0.2	0.3±0.2	0.3±0.2	1.4±0.2
BPF2012T5500HA2	2.0±0.15	1.25±0.15	0.60±0.15	0.3±0.2	0.3±0.2	0.3±0.2	1.4±0.2
BPF2012T5500HA3	2.0±0.15	1.25±0.15	0.65±0.15	0.3±0.2	0.3±0.2	0.3±0.2	1.4±0.2
BPF2012T5500HA4	2.0±0.15	1.25±0.15	1.00±0.15	0.3±0.2	0.3±0.2	0.3±0.2	1.4±0.2



Dimension in mm

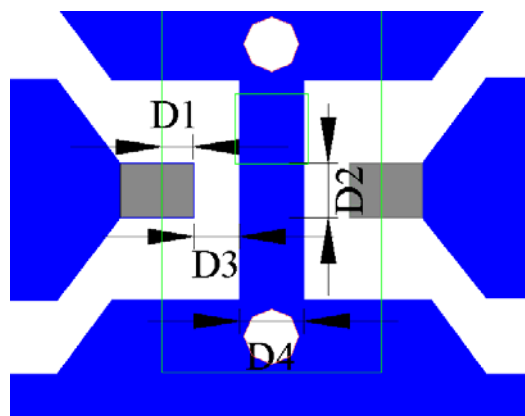
TYPE	L	W	P1	P2	D
BPF2012T2450HA1	1.6±0.1	0.9±0.1	0.3±0.1	0.3±0.1	0.5±0.1
BPF2012T2450HA2	1.6±0.1	0.9±0.1	0.3±0.1	0.3±0.1	0.5±0.1
BPF2012T2450HA8	1.6±0.1	0.9±0.1	0.3±0.1	0.3±0.1	0.5±0.1
BPF2012T2450HA9	1.6±0.1	0.9±0.1	0.3±0.1	0.3±0.1	0.5±0.1
BPF2012T2600HA1	1.6±0.1	0.9±0.1	0.3±0.1	0.3±0.1	0.5±0.1
BPF2012T3500HA1	1.6±0.1	0.9±0.1	0.3±0.1	0.3±0.1	0.5±0.1
BPF2012T5500HA1	1.6±0.1	0.9±0.1	0.3±0.1	0.3±0.1	0.5±0.1
BPF2012T5500HA2	1.6±0.1	0.9±0.1	0.3±0.1	0.3±0.1	0.5±0.1
BPF2012T5500HA3	1.6±0.1	0.9±0.1	0.3±0.1	0.3±0.1	0.5±0.1
BPF2012T5500HA4	1.6±0.1	0.9±0.1	0.3±0.1	0.3±0.1	0.5±0.1

Low Temperature Cofired Ceramic LTCC Series



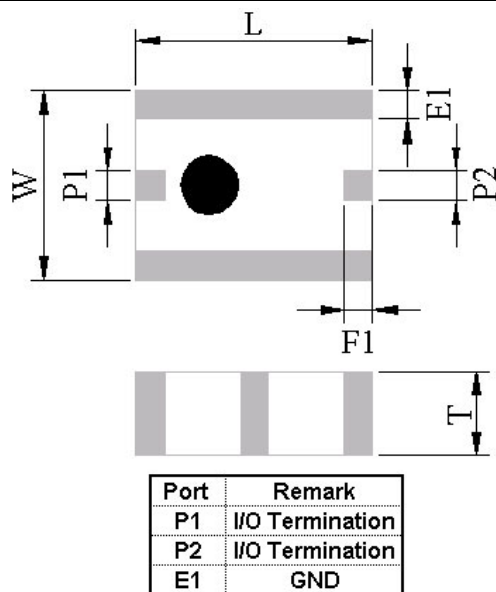
Dimension in mm

TYPE	L	W	T	P1-P2	P3-P4
BPF2012T2450HA3	2.0±0.15	1.25±0.15	0.9±0.15	0.4±0.2	1.25±0.15
BPF2012T2450HA4	2.0±0.15	1.25±0.15	0.9±0.15	0.4±0.2	1.25±0.15
BPF2012T2450HA6	2.0±0.15	1.25±0.15	0.9±0.15	0.4±0.2	1.25±0.15
BPF2012T2450HAA	2.0±0.15	1.25±0.15	0.9±0.15	0.4±0.2	1.25±0.15
BPF2012T2450HAB	2.0±0.15	1.25±0.15	0.9±0.15	0.4±0.2	1.25±0.15



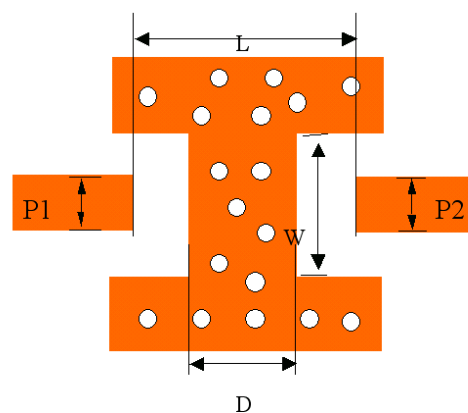
Dimension in mm

TYPE	D1	D2	D3	D4
BPF2012T2450HA3	0.15±0.1	0.3±0.1	0.3±0.1	0.35±0.1
BPF2012T2450HA4	0.15±0.1	0.3±0.1	0.3±0.1	0.35±0.1
BPF2012T2450HA6	0.15±0.1	0.3±0.1	0.3±0.1	0.35±0.1
BPF2012T2450HAA	0.15±0.1	0.3±0.1	0.3±0.1	0.35±0.1
BPF2012T2450HAB	0.15±0.1	0.3±0.1	0.3±0.1	0.35±0.1



Dimension in mm

TYPE	L	W	T	P1-P2	E1	F1
BPF2520T2450HA1	2.5±0.15	2.0±0.15	0.75±0.15	0.6±0.2	0.3±0.15	0.3±0.15
BPF2520T2450HA2	2.5±0.15	2.0±0.15	0.75±0.15	0.6±0.2	0.3±0.15	0.3±0.15
BPF2520T2450HA3	2.5±0.15	2.0±0.15	0.90±0.15	0.6±0.2	0.3±0.15	0.3±0.15



Dimension in mm

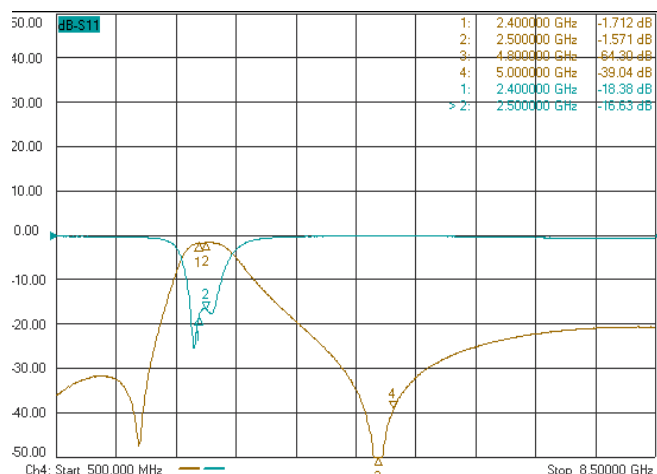
TYPE	L	W	P1	P2	D
BPF2520T2450HA1	2.3±0.1	1.4±0.1	0.76±0.1	0.76±0.1	1.5±0.1
BPF2520T2450HA2	2.3±0.1	1.4±0.1	0.76±0.1	0.76±0.1	1.5±0.1
BPF2520T2450HA3	2.3±0.1	1.4±0.1	0.76±0.1	0.76±0.1	1.5±0.1

Electrical Characteristics

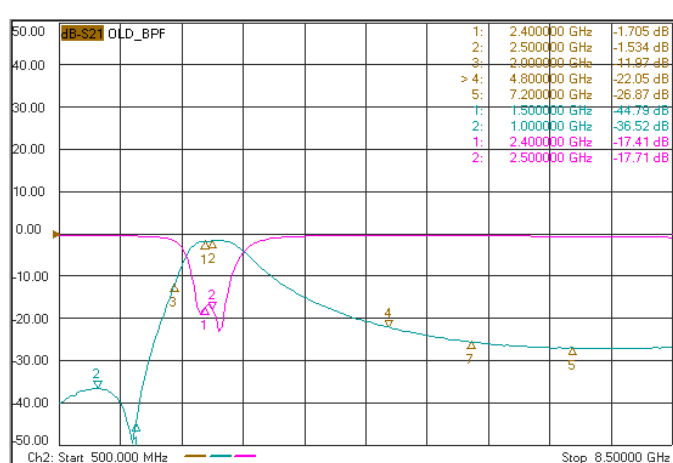
Part Number	Pass Band (GHz)	Impedance (Ω)	VSWR	IL (dB)	Ripple (dB)	Attenuation
BPF1608T2450HA 2	2.4-2.5	50	2	2.0	0.6	30dB Min @ 880-1600MHz 12dB Min @2000MHz 35dB Min @ 4800-5000MHz 20dB Min @ 7200-7500MHz
BPF1608T2450HA 3	2.4-2.5	50	2	2.1	0.6	30dB Min @ 880-960MHz 12.5dB Min @ 1710-1990MHz 20dB Min @ 4800-5000MHz 25dB Min @ 7200-7500MHz
BPF1608T2450HA 4	2.4-2.5	50	2	2.4	0.6	24.5dB Min @ 880-960MHz 18dB Min @ 1710-1990MHz 8.5dB Min @ 2170MHz 22dB Min @ 4800-5000MHz 22dB Min @ 7200-7500MHz
BPF1608T2450NA 5	2.4-2.5	50	2	3.0	0.6	30dB Min @ 695-800MHz 24dB Min @ 1910MHz 35dB Min @ 3200MHz 25dB Min @ 4800-5000MHz 25dB Min @ 7200-7500MHz
BPF1608T2450NA 6	2.4~2.5	50	2	2.4	0.6	25dB Min @ 880-960MHz 30dB Min @ 1710-1910MHz 8.5dB Min @ 2110-2170MHz 20dB Min @ 4800-5000MHz 20dB Min @ 7200-7500MHz
BPF1608T2450NA 7	2.4~2.5	50	2	2.6	0.6	35dB Min @ 880-960MHz 38dB Min @ 1710-1910MHz 8.5dB Min @ 2110-2170MHz 25dB Min @ 4800-5000MHz 20dB Min @ 7200-7500MHz
BPF1608T2450NA 8	2.4~2.5	50	2	3.0	0.6	30dB Min @ 695-800MHz 21dB Min @ 1910MHz 35dB Min @ 3200MHz 25dB Min @ 4800-5000MHz 25dB Min @ 7200-7500MHz
BPF1608T3600NA 1	3.3-3.7	50	2	1.9	0.6	30dB Min @ 806-915MHz 30dB Min @ 1710-1785MHz 30dB Min @ 1850-1910MHz 30dB Min @ 1920-1980MHz 23dB Min @ 2400-2500MHz 13dB Min @ 4900-5900MHz

Test Instruments : Agilent E5071B/N5230A Vector Network Analyzer

BPF1608T2450HA2



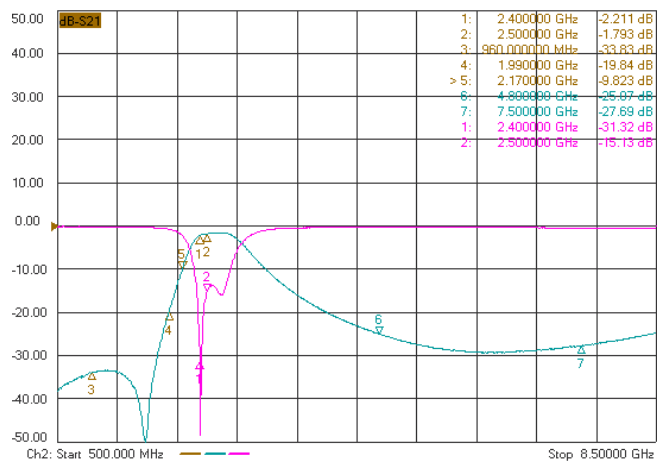
BPF1608T2450HA3



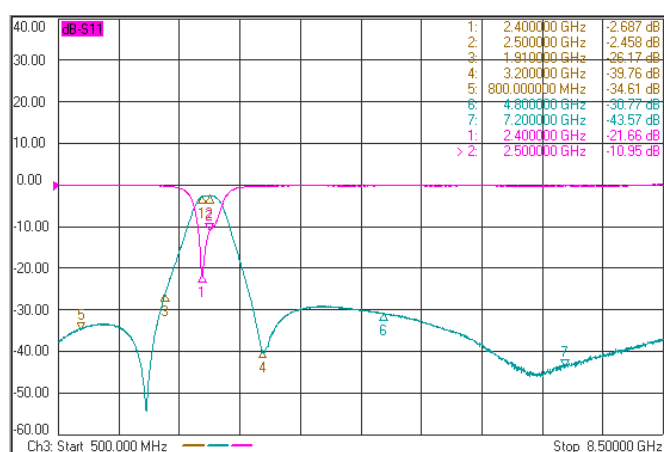
CHILISIN ELECTRONICS CORP.

Low Temperature Cofired Ceramic LTCC Series

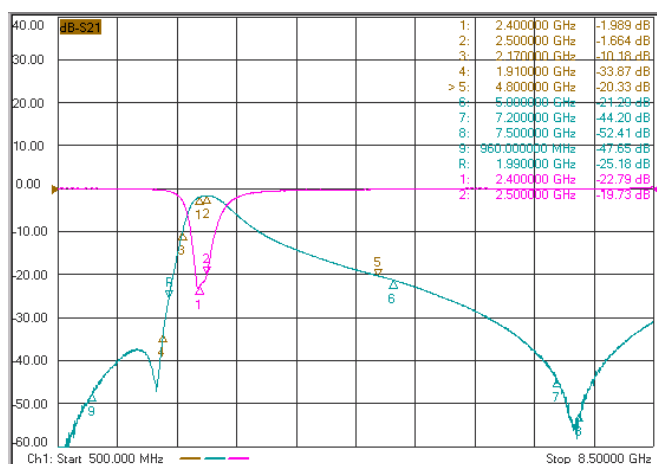
BPF1608T2450HA4



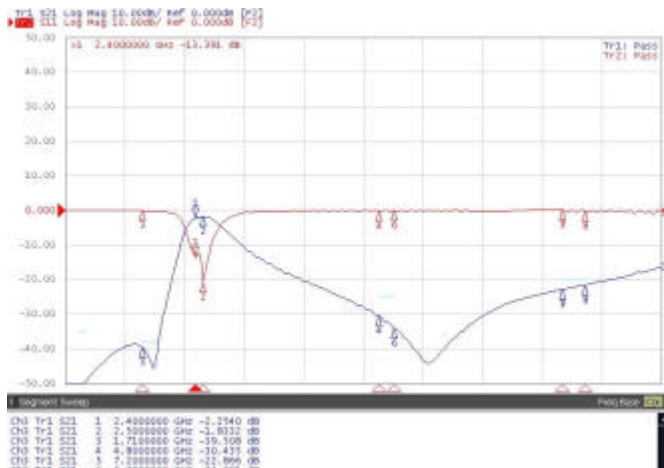
BPF1608T2450NA5



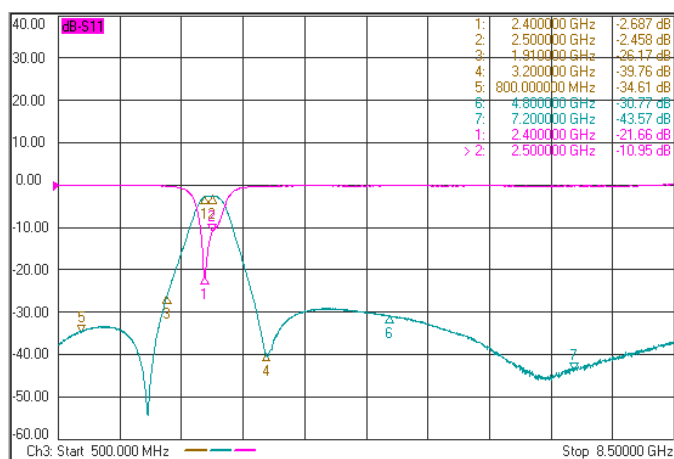
BPF1608T2450NA6



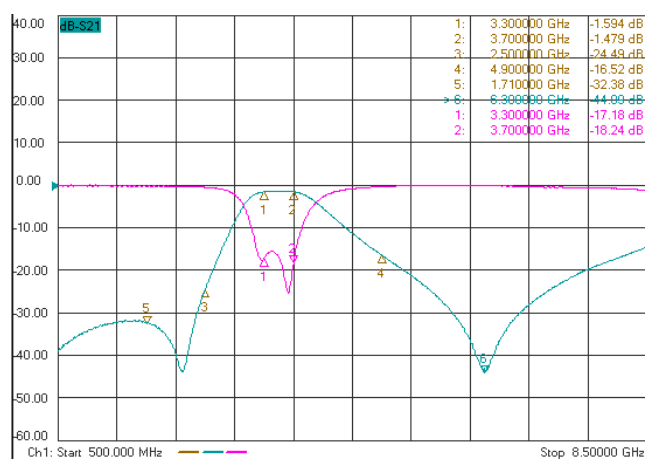
BPF1608T2450NA7



BPF1608T2450NA8



BPF1608T3600NA1



Electrical Characteristics

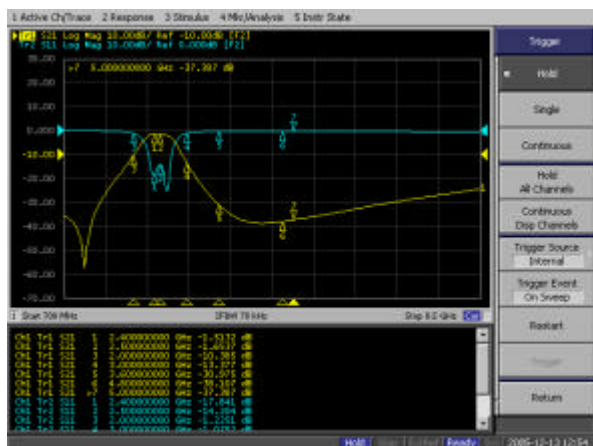
Part Number	Pass Band (GHz)	Impedance (Ω)	VSWR	IL (dB)	Ripple (dB)	Attenuation
BPF2012T2450HA1	2.4~2.5	50	2	1.8	1.0	10dB Min @ 2000MHz 12dB Min @ 3000MHz 25dB Min @ 3500~3600MHz 30dB Min @ 4800~5000MHz
BPF2012T2450HA2	2.4~2.5	50	2	2.8	1.0	25dB Min @ 695~800MHz 20dB Min @ 1900MHz 35dB Min @ 3200MHz 35dB Min @ 4800~5000MHz 20dB Min @ 7200~7500MHz
BPF2012T2450HA3	2.4~2.5	50	2	1.5	1.0	30dB Min @ 880~960MHz 25dB Min @ 1710~1910MHz 20dB Min @ 1910~1990MHz 30dB Min @ 4800~5000MHz 20dB Min @ 7200~7500MHz
BPF2012T2450HA4	2.4~2.5	50	2	2.5	1.0	30dB Min @ 880~960MHz 22dB Min @ 1710~1990MHz 15dB Min @ 2110~2170MHz 27dB Min @ 4800~5000MHz 20dB Min @ 7200~7500MHz
BPF2012T2450HA6	2.4~2.5	50	2	2.5	1.0	32dB Min @ 880~960MHz 36dB Min @ 1710~1990MHz 27dB Min @ 4800~5000MHz 20dB Min @ 7200~7500MHz
BPF2012T2450HA8	2.4~2.5	50	2	2.8	0.5	30dB Min @ 695~800MHz 24.5dB Min @ 1910MHz 35dB Min @ 3200MHz 25dB Min @ 4800~5000MHz 25dB Min @ 7200~7500MHz
BPF2012T2450HA9	2.4~2.5	50	2	2.8	0.5	30dB Min @ 695~800MHz 25dB Min @ 1910MHz 35dB Min @ 3200MHz 25dB Min @ 4800~5000MHz 25dB Min @ 7200~7500MHz
BPF2012T2450HAA	2.4~2.5	50	2	2.1	0.6	35dB Min @ 880~960MHz 35dB Min @ 1710~1990MHz 30dB Min @ 4800~5000MHz 30dB Min @ 7200~7500MHz
BPF2012T2450HAB	2.4~2.5	50	2	2.5	0.6	35dB Min @ 880~960MHz 40dB Min @ 1710~1990MHz 20dB Min @ 2110~2170MHz 30dB Min @ 4800~5000MHz 30dB Min @ 7200~7500MHz
BPF2012T2600HA1	2.4~2.7	50	2	2.1	1.0	9.5dB Min @ 2100MHz 12dB Min @ 3100MHz 25dB Min @ 3600~3700MHz 30dB Min @ 5000~5400MHz
BPF2012T3500HA1	3.3~3.9	50	2	2.0	0.5	15dB Min @ 100~2600MHz 3dB Min @ 4400~6000MHz 20dB Min @ 6000~9900MHz
BPF2012T5500HA2	4.9~5.950	50	2	2.0	0.5	40dB Min @ 1280~3300MHz 28dB Min @ 3300~4000MHz 7dB Min @ 4375~4465MHz 11dB Min @ 7300~8930MHz 20dB Min @ 9800~11900MHz

Low Temperature Cofired Ceramic LTCC Series

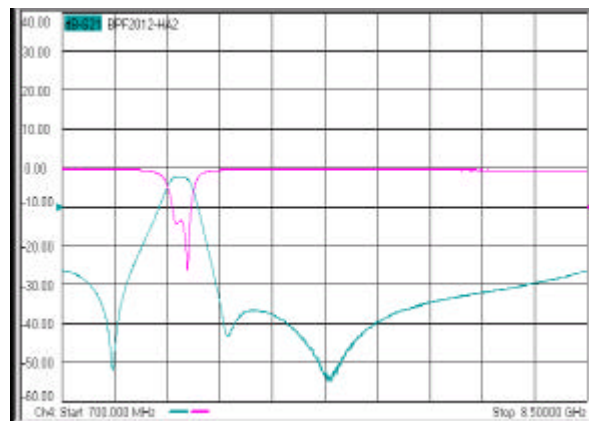
Part Number	Pass Band (GHz)	Impedance (Ω)	VSWR	IL (dB)	Ripple (dB)	Attenuation
BPF2012T5500HA3	5.15~5.875	50	2	3.0	2	35dB Min @ 4600MHz 35dB Min @ 4500MHz 35dB Min @ 4000MHz
BPF2012T5500HA4	4.9~5.850	50	2	2.2	2	30dB Min @ 340~1195MHz 15dB Min @ 2140~3580MHz 20dB Min @ 6855~7150MHz 20dB Min @ 8570~8930MHz

Test Instruments : Agilent E5071B/N5230A Vector Network Analyzer

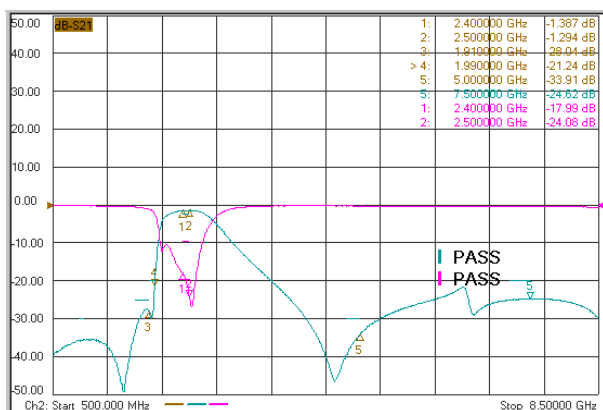
BPF2012T2450HA1



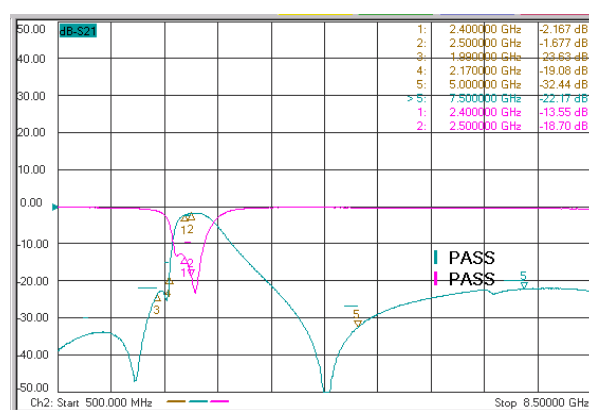
BPF2012T2450HA2



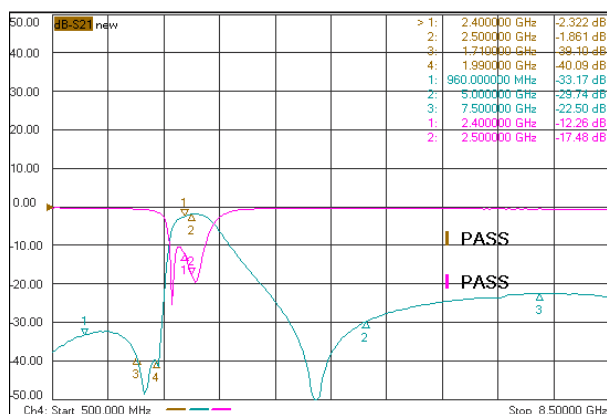
BPF2012T2450HA3



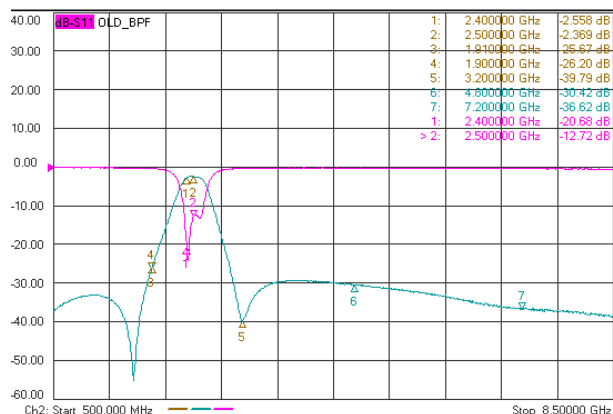
BPF2012T2450HA4



BPF2012T2450HA6

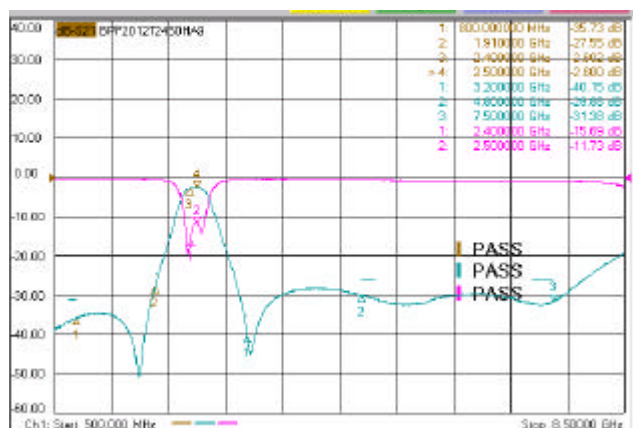


BPF2012T2450HA8

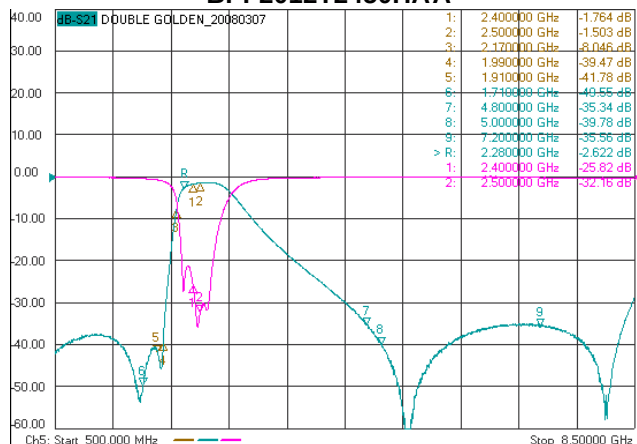


Low Temperature Cofired Ceramic LTCC Series

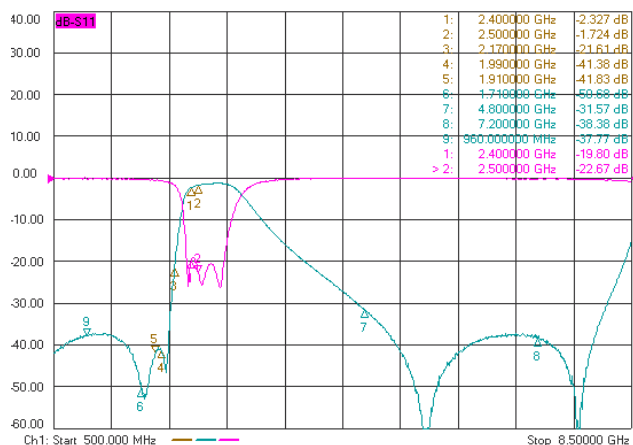
BPF2012T2450HA9



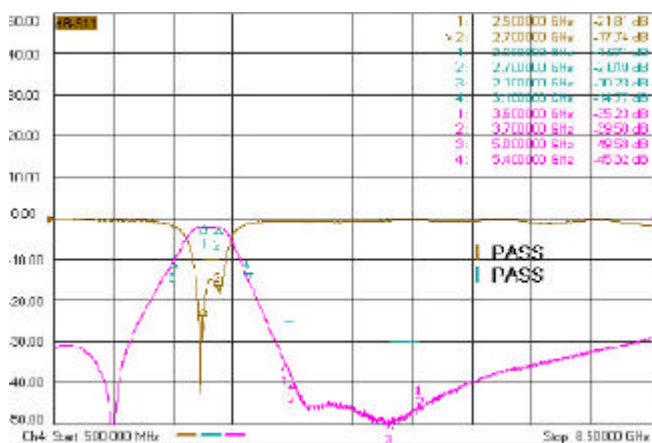
BPF2012T2450HAA



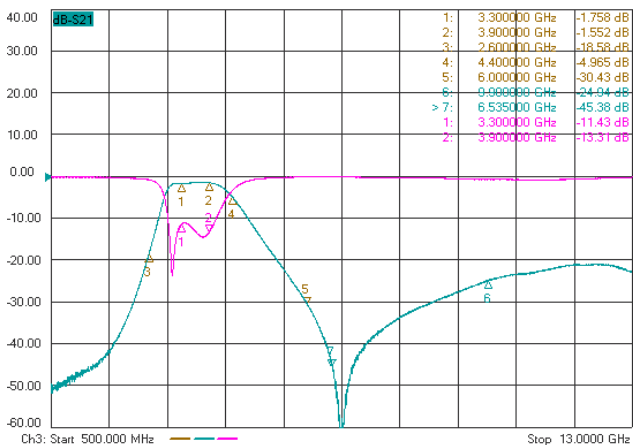
BPF2012T2450HAB



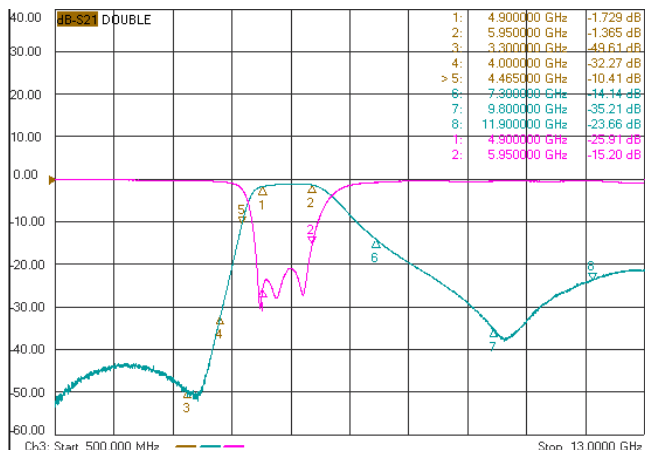
BPF2012T2600HA1



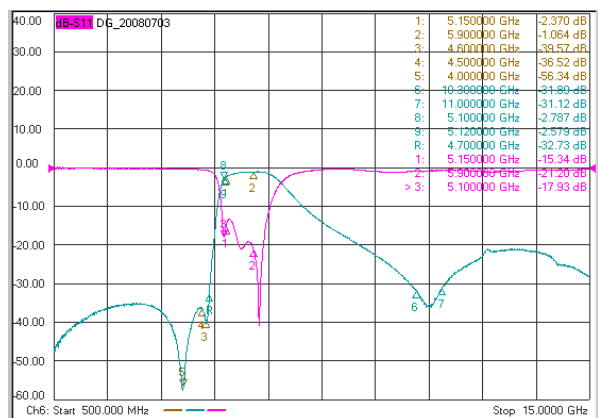
BPF2012T3500HA1



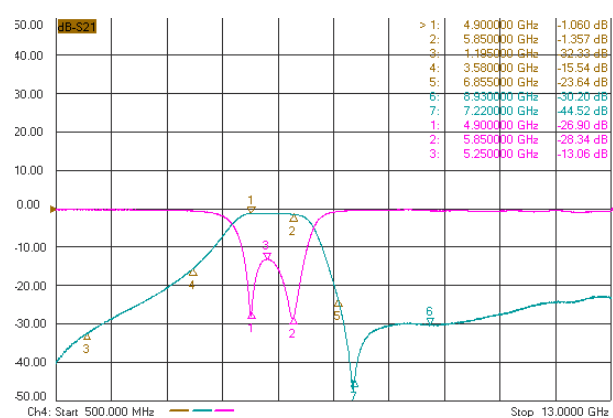
BPF2012T5500HA2



BPF2012T5500HA3



BPF2012T5500HA4

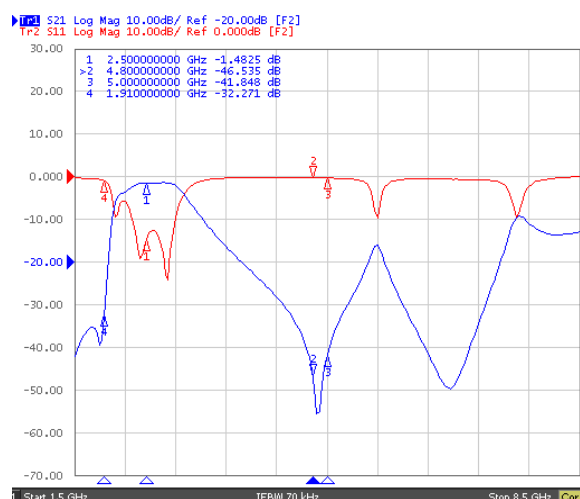


Electrical Characteristics

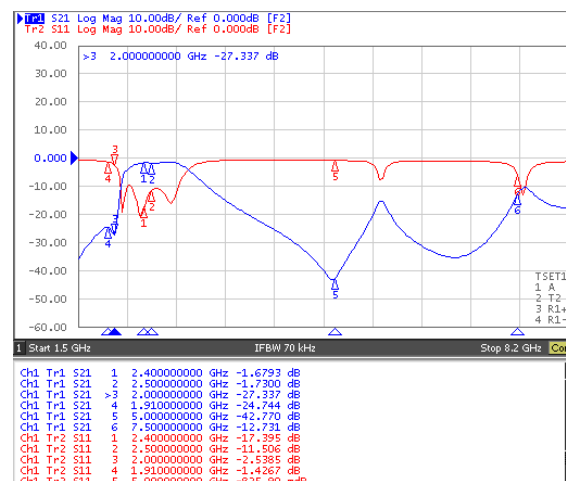
Part Number	Pass Band (GHz)	Impedance (Ω)	VSWR	IL (dB)	Ripple (dB)	Attenuation
BPF2520T2450HA 1	2.4~2.5	50	2	1.5	0.6	40dB Min @ 880~960MHz 50dB Min @ 1200MHz 30dB Min @ 1710~1785MHz 25dB Min @ 1850~1910MHz 30dB Min @ 4800~5000MHz
BPF2520T2450HA 2	2.4~2.5	50	2	2.0	0.6	25dB Min @ 1750MHz 20dB Min @ 2000MHz 27dB Min @ 4800~ 5000MHz
BPF2520T2450HA 3	2.4~2.5	50	2	2.5	0.5	35dB Min @ 880~ 915MHz ref. 18dB Min @ 1710~ 1990MHz 12dB Min @ 2100MHz 35dB Min @ 3200MHz 30dB Min @ 4800~ 5000MHz 30dB Min @ 7200~ 7500MHz

Test Instruments : Agilent E5071B/N5230A Vector Network Analyzer

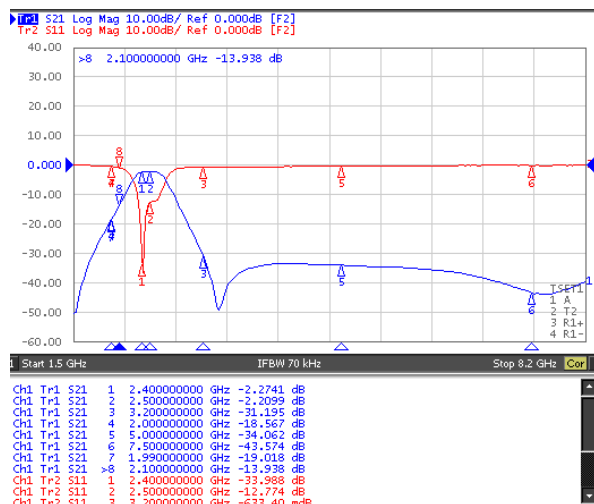
BPF2520T2450HA1



BPF2520T2450HA2

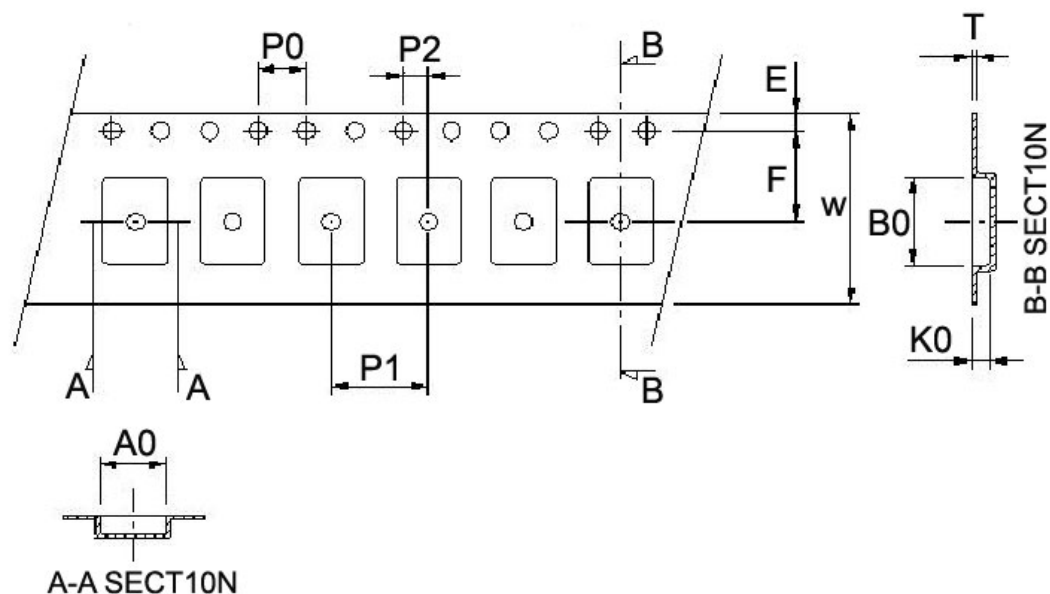


BPF2520T2450HA3

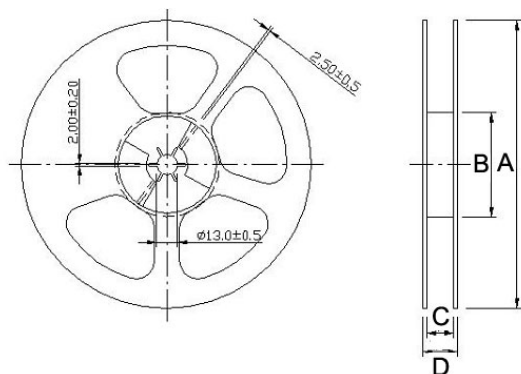


Packaging Specifications

Tape Dimensions



Reel Dimensions



Dimensions in mm

TYPE	Tape Dimensions										Reel Dimensions				Quantity
	A0	B0	T	E	W	P1	P2	F	K0	A	B	C	D Max	PCS / REEL	
BPF1608TXXXXHAX	0.95	1.80	0.22	1.75	8.1	4	2	3.5	0.75	178	62	8.4	14.4	4000	
BPF1608TXXXXNAX	0.95	1.80	0.22	1.75	8.1	4	2	3.5	0.75	178	62	8.4	14.4	4000	
BPF2012TXXXXHAX	1.45	2.30	0.22	1.75	8.1	4	2	3.5	1.13	178	62	8.4	14.4	4000	
BPF2012T2450HA8	1.42	2.25	0.22	1.75	8.1	4	2	3.5	0.80	178	62	8.4	14.4	4000	
BPF2012T3500HA1	1.42	2.25	0.22	1.75	8.1	4	2	3.5	0.80	178	62	8.4	14.4	4000	
BPF2012T5500HAX	1.42	2.25	0.22	1.75	8.1	4	2	3.5	0.80	178	62	8.4	14.4	4000	
BPF2520T2450HAX	2.10	2.65	0.22	1.75	8.1	4	2	3.5	0.85	178	62	8.4	14.4	3000	