



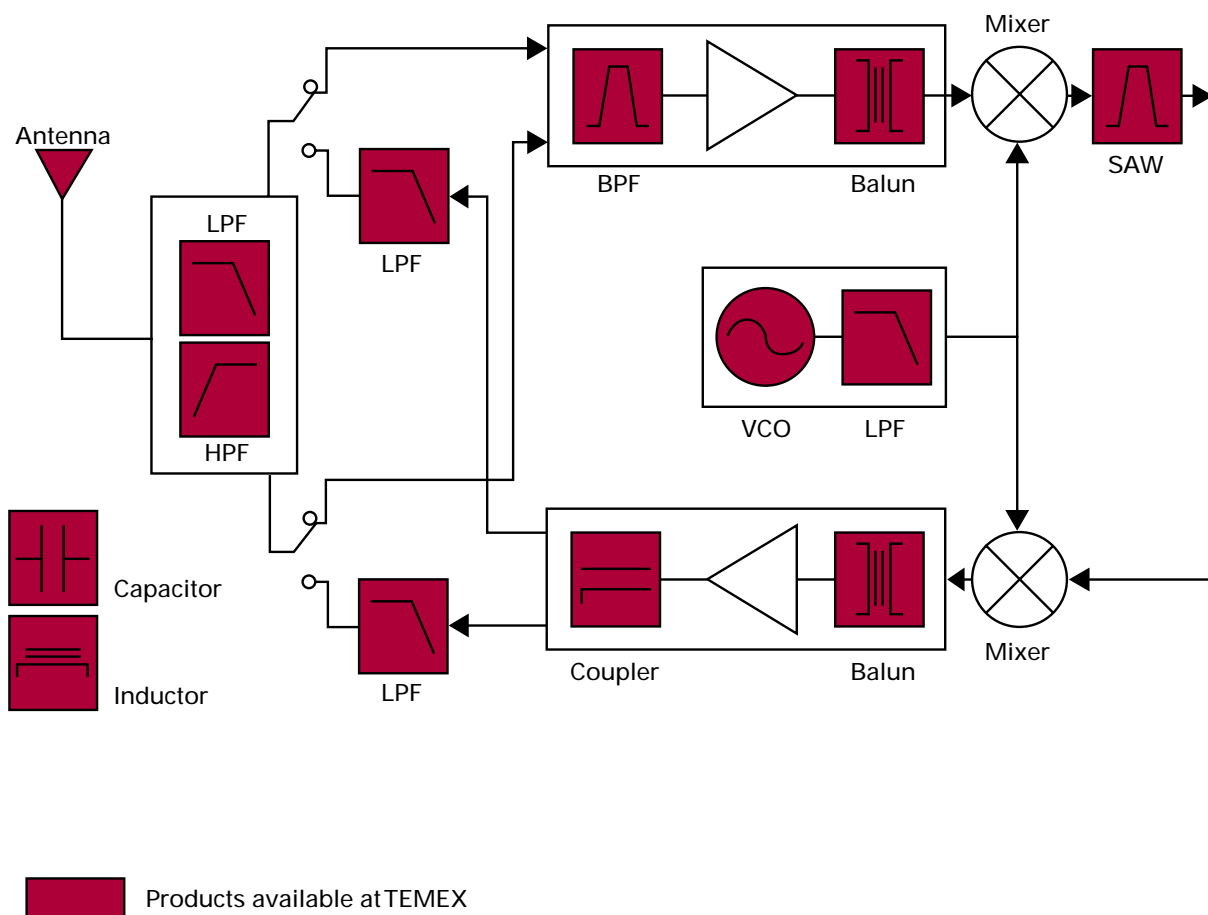
DIELECTRIC MATERIALS

Synoptic

SYNOPTIC

PRELIMINARY

TEMEX, a Worldwide global supplier, can provide all the RF front-end components for standard applications like GSM cellular phones, Bluetooth, Wi-Fi, W-Lan, Alarm Sensors...





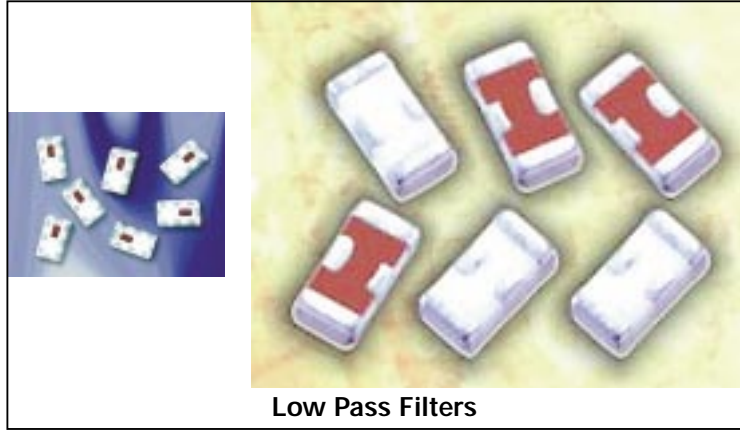
▶ LOW COST LTCC COMPONENTS

Available products:

- [Filters](#)
- [Diplexers](#)
- [Couplers](#)
- [Baluns](#)
- [Antennas](#)

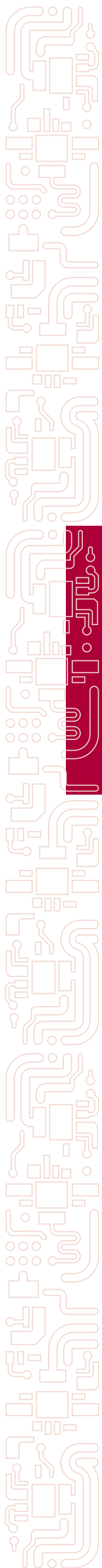
Applications:

- GSM
- BLUETOOTH
- Wi-Fi
- 802.11



Low Pass Filters

***LTCC MODULES ALSO AVAILABLE
SEVERAL FUNCTIONS FOR THE PRICE OF A SINGLE COMPONENT !***



DIELECTRIC MATERIALS

Low cost LTCC components

Low Pass Filters

Part Number	Frequency Range (MHz)	Dimensions (mm/inch)			Insertion Loss @BW (dB)	Attenuation (dB)			VSWR @ BW	Qty per Reel
		Length	Width	Thickness		@ 2.Fo	@ 3.Fo	@ 4.Fo		
LPF 0870 T 1608	824 / 915	1.60 / 0.063	0.80 / 0.031	0.60 / 0.024	0.6 max	20 min	15 min	-	1.8 max	4,000
LPF 0898 T 3216	880 / 915	3.20 / 0.126	1.60 / 0.063	0.85 / 0.033	0.6 max	30 min	18 min	-	1.8 max	3,000
LPF 1748 T 3216	1'710 / 1'785	3.20 / 0.126	1.60 / 0.063	0.85 / 0.033	0.6 max	30 min	18 min	-	1.8 max	3,000
LPF 1810 T 1608	1'710 / 1'910	1.60 / 0.063	0.80 / 0.031	0.60 / 0.024	0.6 max	25 min	20 min	-	1.7 max	
LPF 1880 T 1608	1'850 / 1'910	1.60 / 0.063	0.80 / 0.031	0.60 / 0.024	0.6 max	27 min	19 min	-	1.7 max	4,000
LPF 2442 T 3216	2'400 / 2'483	3.20 / 0.126	1.60 / 0.063	0.85 / 0.033	0.6 max	30 min	18 min	-	1.8 max	3,000
LPF 2450 T 2012	2'400 / 2'500	2.00 / 0.079	1.25 / 0.049	0.85 / 0.033	0.5 max	27 min	25 min	25 min	1.8 max	4,000
LPF 5513 T 2012	5'150 / 5'875	2.00 / 0.079	1.25 / 0.049	0.85 / 0.033	0.6 max	25 min	20 min	-	1.8 max	4,000

Band Pass Filters

Part Number	Frequency Range (MHz)	Dimensions (mm/inch)			Insertion Loss @BW (dB)	Attenuation (min)		
		Length	Width	Thickness		I (dB)	II (dB)	III (dB)
BPF 2450 T 2520 A	2'400 / 2'500	2.50 / 0.098	2.00 / 0.079	0.90 / 0.035	1.8 max	30@880/915	30@1710/1785	25@1850/1910
BPF 2450 T 2520 B	2'400 / 2'500	2.50 / 0.098	2.00 / 0.079	0.90 / 0.035	2.5 max	40@880/915	42@1710/1990	30@2100
BPF 2450 T 3216 A	2'400 / 2'500	3.20 / 0.126	1.60 / 0.063	0.85 / 0.033	2.5 max	-	30@1750	25@2100
BPF 2450 T 3216 B	2'400 / 2'500	3.20 / 0.126	1.60 / 0.063	0.85 / 0.033	2.5 max	-	40@1200/1800	25@2100
BPF 2450 T 3216 C	2'400 / 2'500	3.20 / 0.126	1.60 / 0.063	0.85 / 0.033	2.5 max	40@900/928	30@1200/1800	25@2100
BPF 2450 T 3225 A	2'400 / 2'500	3.20 / 0.126	2.50 / 0.098	1.50 / 0.059	2.5 max	40@1200/1800	30@2100	12@2200
BPF 2450 T 3225 B	2'400 / 2'500	3.20 / 0.126	2.50 / 0.098	1.50 / 0.059	2.3 max	40@1200/1800	30@2100	12@2200
BPF 2450 T 3225 C	2'400 / 2'500	3.20 / 0.126	2.50 / 0.098	1.50 / 0.059	1.3 max	30@880/915	30@1710/1785	20@1850/1910
BPF 5488 T 2012 A	5'150 / 5'825	2.00 / 0.079	1.25 / 0.049	0.85 / 0.033	1.8 max	35@2570/2900	22@10300/11650	30@15450/17475
BPF 5488 T 2012 B	5'150 / 5'825	2.00 / 0.079	1.25 / 0.049	0.85 / 0.033	2.8 max	30@500/4000	20@4600	25@10300/11800
BPF 5488 T 2012 C	5'150 / 5'825	2.00 / 0.079	1.25 / 0.049	0.85 / 0.033	1.8 max	35@2570/2900	27@10300/11650	20@15450/17475
BPF 5513 T 2012 A	5'150 / 5'875	2.00 / 0.079	1.25 / 0.049	0.85 / 0.033	1.5 max	30@3500	-	-
BPF 5513 T 2012 B	5'150 / 5'875	2.00 / 0.079	1.25 / 0.049	0.85 / 0.033	2.5 max	30@500/4000	20@ 4600	15@10300/11800

Part Number	VSWR @ BW	Qty per Reel
BPF 2450 T 2520 A	2.0 max	3,000
BPF 2450 T 2520 B	2.0 max	3,000
BPF 2450 T 3216 A	2.0 max	3,000
BPF 2450 T 3216 B	2.0 max	3,000
BPF 2450 T 3216 C	2.0 max	3,000
BPF 2450 T 3225 A	2.0 max	2,000
BPF 2450 T 3225 B	2.0 max	2,000
BPF 2450 T 3225 C	2.0 max	2,000
BPF 5488 T 2012 A	2.0 max	4,000
BPF 5488 T 2012 B	2.0 max	4,000
BPF 5488 T 2012 C	2.0 max	4,000
BPF 5513 T 2012 A	2.0 max	4,000
BPF 5513 T 2012 B	2.2 max	4,000



DIELECTRIC MATERIALS

Low cost LTCC components

Diplexers

Part Number	Pass Band (MHz)	Dimensions (mm/inch)			Attenuation (dB)		Pass Band Return Loss	Qty per Reel
		Length	Width	Thickness	@ low band	@ high band		
DIP 0859 T 3216	824 / 894	3.20 / 0.126	2.00 / 0.079	0.85 / 0.033	0.55 max	20 min	12 min	3,000
	1'850 / 1'900				20 min	0.5 max	12 min	
DIP 0920 T 3216	880 / 960	3.20 / 0.126	2.00 / 0.079	0.85 / 0.033	0.75 max	20 min	12 min	3,000
	1'710 / 1'880				20 min	0.55 max	12 min	
DIP 0967 T 3216	954 / 980	3.20 / 0.126	2.00 / 0.079	0.85 / 0.033	0.75 max	20 min	12 min	3,000
	1'710 / 1'880				20 min	0.55 max	12 min	
DIP 2450 T 2012	2'400 / 2'500	2.00 / 0.079	1.25 / 0.049	0.85 / 0.033	0.7 max	15 min	10 min	4,000
	5'150 / 5'875				20 min	0.9 max	10 min	



DIELECTRIC MATERIALS

Low cost LTCC components

Couplers

Part Number	Frequency Range (MHz)	Dimensions (mm/inch)			Insertion Loss @BW (dB)	Coupling (dB)	Isolation (dB)	Attenuation	
		Length	Width	Thickness				@ 2.Fo (dB)	@ 3.Fo (dB)
CPR 0898 T 1608	880 / 915	1.60 / 0.063	0.80 / 0.031	0.60 / 0.024	0.28 max	18 ± 1	26 min	-	-
CPR 0898 T 2012	880 / 915	2.00 / 0.079	1.25 / 0.049	0.85 / 0.033	0.5 max	20 ± 1	25 min	-	-
CPR 1748 T 1608	1'710 / 1'785	1.60 / 0.063	0.80 / 0.031	0.60 / 0.024	0.44 max	14.5 ± 1	25 min	-	-
CPR 1748 T 2012	1'710 / 1'785	2.00 / 0.079	1.25 / 0.049	0.85 / 0.033	0.5 max	20 ± 1	25 min	-	-

Part Number	VSWR @ BW	Qty per Reel
CPR 0898 T 1608	1.4 max	4,000
CPR 0898 T 2012	1.5 max	4,000
CPR 1748 T 1608	1.4 max	4,000
CPR 1748 T 2012	1.5 max	4,000

Couplers with Low Pass Filters

Part Number	Frequency Range (MHz)	Dimensions (mm/inch)			Insertion Loss @BW (dB)	Coupling (dB)	Isolation (dB)	Attenuation	
		Length	Width	Thickness				@ 2.Fo (dB)	@ 3.Fo (dB)
CLP 0898 T 2012	880 / 915	2.00 / 0.079	1.25 / 0.049	0.85 / 0.033	0.7 max	20 ± 1	25 min	22 min	17 min
CLP 1748 T 2012	1'710 / 1'785	2.00 / 0.079	1.25 / 0.049	0.85 / 0.033	0.5 max	20 ± 1	25 min	22 min	17 min

Part Number	VSWR @ BW	Qty per Reel
CLP 0898 T 2012	1.5 max	4,000
CLP 1748 T 2012	1.5 max	4,000

Couplers Dual Band

Part Number	Frequency Range (MHz)	Dimensions (mm/inch)			Insertion Loss @BW (dB)	Coupling (dB)	Isolation (dB)	Attenuation	
		Length	Width	Thickness				@ 2.Fo (dB)	@ 3.Fo (dB)
CDB 0898 T 2012 A	880 / 915	2.00 / 0.079	1.25 / 0.049	0.85 / 0.033	0.7 max	20 ± 1	25 min	22 min	17 min
	1'710 / 1'785								
CDB 0898 T 2012 B	880 / 915	2.00 / 0.079	1.25 / 0.049	0.85 / 0.033	0.5 max	20 ± 1	25 min	22 min	17 min
	1'710 / 1'785								

Part Number	VSWR @ BW	Qty per Reel
CDB 0898 T 2012 A	1.5 max	4,000
CDB 0898 T 2012 B	1.5 max	4,000



Baluns

Part Number	Frequency Range (MHz)	Dimensions (mm/inch)			Impedance		Insertion Loss (dB)	VSWR @ BW
		Length	Width	Thickness	Balanced (Ω)	Unbalanced (Ω)		
BLN 0900 T 3216 Z100	800 / 1'000	3.20 / 0.126	1.60 / 0.063	0.85 / 0.033	50	100	1.0 max	2.0 max
BLN 0900 T 3216 Z200	800 / 1'000	3.20 / 0.126	1.60 / 0.063	0.85 / 0.033	50	200	1.0 max	2.0 max
BLN 1450 T 2012 Z200	1'400 / 1'500	2.00 / 0.079	1.25 / 0.049	0.85 / 0.033	50	200	1.0 max	2.0 max
BLN 1800 T 3216 Z200	1'700 / 1'900	3.20 / 0.126	1.60 / 0.063	0.85 / 0.033	50	200	0.8 max	2.0 max
BLN 1850 T 2012 Z050	1'700 / 2'000	2.00 / 0.079	1.25 / 0.049	0.85 / 0.033	50	50	1.0 max	2.0 max
BLN 1850 T 2012 Z100	1'700 / 2'000	2.00 / 0.079	1.25 / 0.049	0.85 / 0.033	50	100	1.0 max	2.0 max
BLN 1850 T 2012 Z200	1'700 / 2'000	2.00 / 0.079	1.25 / 0.049	0.85 / 0.033	50	200	1.0 max	2.0 max
BLN 2100 T 3216 Z200	2'000 / 2'200	3.20 / 0.126	1.60 / 0.063	0.85 / 0.033	50	200	0.8 max	2.0 max
BLN 2450 T 2012 Z050	2'400 / 2'500	2.00 / 0.079	1.25 / 0.049	0.85 / 0.033	50	50	1.0 max	2.0 max
BLN 2450 T 2012 Z100	2'400 / 2'500	2.00 / 0.079	1.25 / 0.049	0.85 / 0.033	50	100	1.0 max	2.0 max
BLN 2450 T 2012 Z200	2'400 / 2'500	2.00 / 0.079	1.25 / 0.049	0.85 / 0.033	50	200	1.0 max	2.0 max
BLN 3700 T 2012 Z050	3'400 / 4'000	2.00 / 0.079	1.25 / 0.049	0.85 / 0.033	50	50	1.2 max	2.0 max
BLN 3700 T 2012 Z100	3'400 / 4'000	2.00 / 0.079	1.25 / 0.049	0.85 / 0.033	50	100	1.0 max	2.0 max
BLN 5050 T 2012 Z050	4'900 / 5'200	2.00 / 0.079	1.25 / 0.049	0.85 / 0.033	50	50	1.0 max	2.0 max
BLN 5250 T 2012 Z100	5'150 / 5'350	2.00 / 0.079	1.25 / 0.049	0.85 / 0.033	50	100	1.2 max	2.0 max
BLN 5325 T 2012 Z050	5'150 / 5'500	2.00 / 0.079	1.25 / 0.049	0.85 / 0.033	50	50	1.0 max	2.0 max
BLN 5513 T 2012 Z100	5'150 / 5'875	2.00 / 0.079	1.25 / 0.049	0.85 / 0.033	50	100	1.0 max	2.0 max
BLN 5800 T 2012 Z100	5'725 / 5'875	2.00 / 0.079	1.25 / 0.049	0.85 / 0.033	50	100	1.0 max	2.0 max

Part Number	Phase Difference (Degree)	Amplitude Difference (dB)	Quantity per Reel
BLN 0900 T 3216 Z100	180 ± 10	2.0 max	3,000
BLN 0900 T 3216 Z200	180 ± 10	2.0 max	3,000
BLN 1450 T 2012 Z200	180 ± 10	2.0 max	4,000
BLN 1800 T 3216 Z200	180 ± 10	2.0 max	3,000
BLN 1850 T 2012 Z050	180 ± 10	2.0 max	4,000
BLN 1850 T 2012 Z100	180 ± 10	2.0 max	4,000
BLN 1850 T 2012 Z200	180 ± 10	2.0 max	4,000
BLN 2100 T 3216 Z200	180 ± 10	2.0 max	3,000
BLN 2450 T 2012 Z050	180 ± 10	2.0 max	4,000
BLN 2450 T 2012 Z100	180 ± 10	2.0 max	4,000
BLN 2450 T 2012 Z200	180 ± 10	2.0 max	4,000
BLN 3700 T 2012 Z050	180 ± 25	2.0 max	4,000
BLN 3700 T 2012 Z100	180 ± 20	1.0 max	4,000
BLN 5050 T 2012 Z050	180 ± 8	0.75 max	4,000
BLN 5250 T 2012 Z100	180 ± 10	2.0 max	4,000
BLN 5325 T 2012 Z050	180 ± 10	2.0 max	4,000
BLN 5513 T 2012 Z100	180 ± 10	2.0 max	4,000
BLN 5800 T 2012 Z100	180 ± 8	0.75 max	4,000



TEMEX reserves the right to modify herein specifications and information at any time when necessary to provide optimum performance and cost.

DIELECTRIC MATERIALS

Low cost LTCC components

Antennas

Part Number	Frequency Range (MHz)	Dimensions (mm/inch)			Peak Gain (XZ-V)	Average Gain (XZ-V)@	VSWR @ BW	Quantity per Reel
		Length	Width	Thickness				
ANT-1575 T A030	1'555 / 1'595	10.00 / 0.394	3.00 / 0.118	0.77 / 0.030	-1.0 dBi typ	-3.0 dBi typ	2.0 max	1000
ANT 2450 T 7635	2'400 / 2'500	7.60 / 0.299	3.50 / 0.138	1.30 / 0.051	1.3 dBi typ	0.0 dBi typ	2.0 max	1000
ANT 2450 T 9520	2'400 / 2'500	9.50 / 0.374	2.00 / 0.079	1.20 / 0.047	1.5 dBi typ	0.0 dBi typ	2.0 max	1000
ANT 5250 T 7020	5'150 / 5'350	7.00 / 0.276	2.00 / 0.079	1.20 / 0.047	3.6 dBi typ	-2.3 dBi typ	2.0 max	1000
ANT 5775 T 7020	5'725 / 5'825	7.00 /	2.00 / 0.079	1.20 / 0.047	3.9 dBi typ	-1.3 dBi typ	2.0 max	1000

