

Filter Modules

Twisted pair integrated Filter Modules and Isolation Shaping Units for LAN applications.

10BASE-T Filters

Part Number	Description and Comments	Xlmr & Filter Network	Common Mode Choke		Resistor Network ⁽¹⁾	Schematic ⁽²⁾	Max Insertion Loss ⁽⁹⁾ (dB)
			Xmit	Rcv			
PT3877	100 ohm cable	✓				F1	0.8
PT3882	150 ohm cable	✓				F1	X:1.0 R:0.8
PT3984	PT3877 in DIP	✓				F2	0.8
ST3984	PT3877 in SMD	✓				F2	0.8
FL1012	PT3877 with 1 CMC	✓	✓			F3	X:1.0 R:0.8
FL1066	PT3877 with 2 CMC	✓	✓	✓		F3	1.0
SF1012	SMD FL1066	✓	✓	✓		F4	1.0
FL1003	FL1066 in SIL	✓	✓	✓		F5	1.0
FL1037	FL1003 variant	✓	✓	✓		F6	1.0
FL1027	FL1003 variant	✓	✓	✓		F7	1.0
FL1046	Smaller FL1003	✓	✓	✓		F8	1.0
FL1034	Elliptical filter	✓	✓	✓		F9	0.8
FL1039	Elliptical filter	✓	✓	✓		F22	1.0
FL1020	FL1012 with resistors	✓	✓	✓	✓	F10	X:4.5 R:1.0
SF1020	SMD FL1020	✓	✓	✓	✓	F10	X:4.5 R:1.0
FL1019	FL1020 variant ⁽¹⁾	✓	✓	✓	✓	F11	1.0
SF1019	SF1020 variant ⁽¹⁾	✓	✓	✓	✓	F11	1.0
FL1059	FL1020 variant ⁽¹⁾	✓	✓	✓	✓	F12	1.0
FL1061	PCMCIA FL1020	✓	✓	✓	✓	F23	X:4.5 R:1.0
FL1065	FL1020 in SIL	✓	✓	✓	✓	F13	X:4.5 R:1.0
FL1006	Dual filter (FL1020 x 2)	✓	✓	✓	✓	(5)	X:4.5 R:1.0
FL1010-004	Quad filter (FL1020 x 4) ⁽¹³⁾	✓	✓	✓	✓	(5)	X:4.5
FL1010-002	SMD Quad filter ⁽¹³⁾	✓	✓	✓	✓	(5)	R:1.0
FL1060	FL1010 Quad variant ⁽¹³⁾	✓	✓	✓	✓	(5)	X:5.0 R:1.0
FL1057-002	Low cost Quad filter ⁽¹³⁾	✓	✓	✓	✓	(5)	X:5.0
FL1057-001	SMD FL1057 ⁽¹³⁾	✓	✓	✓	✓	(5)	R:1.0

⁽¹⁾ Additional standard filter modules are available utilizing different resistor values for different chip sets. PT3884 and FL1023 filters are for current-mode transceivers. Consult factory.

⁽²⁾ Dimensions represent maximum package envelope including standoff height. Package drawings shown on pages 17 - 21.

⁽³⁾ Referenced to filter output at 5.0 MHz.

⁽⁴⁾ Input-to-output minimum isolation voltage is 1500 Vrms.

⁽⁵⁾ Consult individual data sheet or factory for schematic and pin out.

⁽⁶⁾ Characteristic impedance for all types is 100 Ω.

⁽⁷⁾ Cutoff frequency is 17 MHz for all types except FL1034 and FL1039 elliptical filters.

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Min Attenuation ^(3, 10) (dB)	Min Crosstalk Attenuation ⁽⁹⁾ (dB)	Min CMRR (dB)	Input Impedance ⁽¹⁾ (ohms)	Package ⁽²⁾ (dimensions in inches)			
				Length	Width	Height	Outline
X:32 R:20	30	-	-	1.0	0.40	0.25	L4 16-pin DIL
X:32 R:20	30	-	-	1.0	0.40	0.25	L4 16-pin DIL
X:32 R:20	30	-	-	1.0	0.30	0.20	N4 20-pin DIP
X:32 R:20	30	-	-	1.0	0.30	0.20	Q4 20-pin SMD
X:32 R:20	30	30 at 30-100	-	1.0	0.40	0.35	L3 16-pin DIL
X:30 R:20	30	30 at 30-70	-	1.0	0.40	0.35	L3 16-pin DIL
X:30 R:20	30	30 at 1-100	-	1.0	0.30	0.25	Q5 20-pin SMD
X:32 R:20	30	40 at 30-70 30 at 70-100	-	1.5	0.30	0.45	J2 14-pin SIL
X:32 R:20	30	40 at 30-70 30 at 70-100	-	1.5	0.30	0.45	J2 14-pin SIL
X:32 R:20	30	40 at 30-70 30 at 70-100	-	2.0	0.34	0.55	J3 18-pin SIL
X:32 R:20	30	40 at 30-70 30 at 70-100	-	1.1	0.30	0.45	J1 10-pin SIL
45 at 33 35 at 100	-	25 at 1-100	-	1.28	0.58	0.35	N5 24-pin DIP
35	50	35 at 50	-	1.13	0.60	0.35	L9 16-pin DIL
X:30 R:16	35	30 at 1-100	-	1.0	0.40	0.35	L3 16-pin DIL
X:30 R:16	35	30 at 1-100	-	0.9	0.40	0.38	Q3 16-pin SMD
X:30 R:20	30	30 at 1-100	X:400 R:100	1.0	0.40	0.35	L3 16-pin DIL
X:30 R:16	35	30 at 1-100	X:170 R:100	0.9	0.40	0.38	Q3 16-pin SMD
X:30 R:16	35	30 at 1-100	X:170 R:100	1.0	0.40	0.35	L3 16-pin DIL
X:30 R:16	35	30 at 1-100	X:198 R:100	0.91	0.54	0.11	V 16-pin SMD
X:30 R:20	30	30 at 1-100	X:198 R:100	1.28	0.33	0.43	J8 12-pin SIL
X:30 R:16	35	26 at 20-40	X:198 R:100	0.9	1.03	0.40	G 30-pin Dual
X:30 R:16	35	30 at 30-100	X:198 R:100	1.7	1.03	0.40	H1 60-pin Quad
X:30 R:16	35	30 at 30-100	X:189 R:100	1.7	1.03	0.43	I1 60-pin SMD
X:30 R:16	35	30 at 30-100	X:189 R:100	1.7	1.03	0.40	H1 60-pin Quad
X:30 R:16	35	30 at 30-100	X:198 R:100	1.7	1.03	0.45	H2 60-pin Quad
X:30 R:16	35	30 at 30-100	X:198 R:100	1.7	1.03	0.48	I2 60-pin SMD

Filter Module Features

- Low insertion loss, low delay distortion and high attenuation in stop band
- 500 V rms and 2000 V rms isolation
- EMI filtering and noise suppression
- Signal isolation
- Impedance matching
- Signal conditioning and shaping
- Overvoltage protection
- Through-hole and surface-mount packages
- Quad and dual packages available
- Custom designs available for specific applications
- Low cost makes them perfect for workstations & personal computers, adapter/interface cards, MAU transceivers, repeaters and concentrators.

See Page 22 for 10BASE-T Filter typical performance curves

⁽⁸⁾ Minimum return loss is 15 dB for all types over frequency range of 5-10 MHz except for F1.1034; 1-10 MHz.

⁽⁹⁾ Insertion loss and crosstalk attenuation is over frequency range of 1-10 MHz except where noted otherwise.

⁽¹⁰⁾ Attenuation specified at 30 MHz except where noted otherwise.

⁽¹¹⁾ Xmit or X denotes transmit side, Rcv or R denotes receive side.

⁽¹²⁾ Filter module schematics are shown on pages 12 - 15.

⁽¹³⁾ Quad filter modules are available in varied configurations with resistor values for different chip sets. Consult factory.