

LAN Coupling Transformers (10Base-T and Ethernet)

FEATURES:

- Supports Industry Standard 10Base-T and Ethernet Transceivers
- Operating Temperature Range of -40° C to 85° C Available
- Excellent Return & Insertion Loss Characteristics
- Meets Standard Dielectric Withstanding Voltage Requirements
- Through-hole & Surface Mountable Configurations Available¹
- Designs Support Multiple Data Rate Applications
- Conforms to IEEE/ISO8802.3 Standards Requirements

PERFORMANCE SPECIFICATIONS @ 25°

10BASE-T FILTER CONFIGURATIONS

P/N ¹	TURNS RATIO ^{3,4} (±2%)	OCL MHz (μH MIN)	R _L (dB) ⁵ MHz 5 - 10	I _L (dB) MHz 1 - 10	X-Talk _(dB) MHz 5 - 10	CMR _(dB) MHz			C _{ww} (pF max) 200	Cir	Pkg
						5 - 10	50	100			
ALAN-106 ²	1CT:1CT	140	18	1.0	35	60	55	50	40	5	D
ALAN-107 ²	1CT:1CT	200	18	1.0	35	60	55	50	40	6	D
ALAN-109 ²	1CT:1.41	200	18	5.0 ⁶	50	55	40	35	30	7	E
ALAN-111 ²	1CT:1.41CT	200	18	1.0	35	35	45	45	30	8	D
ALAN-115 ²	1CT:1CT	200	20	1.0	35	45	40	30	30	9	F

10BASE-T TRANSFORMER CONFIGURATIONS

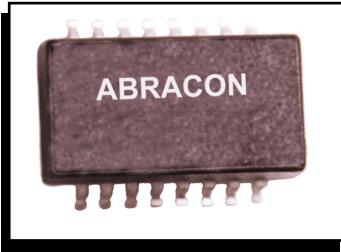
P/N ¹	TURNS RATIO ^{3,4} (± 2%)	OCL MHz (μH MIN)	PRIMARY PINS ³			L _L (uH MAX)	Hipot V _{RMS} (MIN)	DCR (Ω MAX)	Cir	Pkg	
			XMIT		RCV						
APT-114	1CT:1.41CT	140	6-7-8	--	1-2-3	12	0.2	2000	0.3	3	B
APT-122	1CT:1.41CT	110	6-7-8	--	1-2-3	15	0.4	1500	1.0	4	B

ETHERNET TRANSFORMER CONFIGURATIONS

P/N ¹	TURNS RATIO ^{3,4} (± 2%)	OCL MHz (μH ±20%)	PRIMARY PINS ³			C _{ww} (pF max)	L _L (uH MAX)	Hipot V _{RMS} (MIN)	DCR (Ω MAX)	Cir	Pkg
			XMIT	Col Det	RCV						
APT-117	1:1 (X3)	150	1-2	7-8	4-5	12	0.2	2000	0.3	2	B
APT-120	1:1 (X3)	350	1-2	7-8	4-5	16	0.3	2000	0.35	2	B
APT-123-101	1:1 (X3)	100	1-2	7-8	4-5	10	0.25	2000	0.25	2	B
APT-123-151	1:1 (X3)	150	1-2	7-8	4-5	10	0.3	2000	0.3	2	B
APT-123-750	1:1 (X3)	75	1-2	7-8	4-5	10	0.2	2000	0.2	2	B
APT-124-101	1:1 (X3)	100	1-2	--	4-5	10	0.25	2000	0.25	2	C
APT-124-151	1:1 (X3)	150	1-2	--	4-5	10	0.3	2000	0.3	2	C
APT-124-750	1:1 (X3)	75	1-2	--	4-5	10	0.2	2000	0.2	2	C
APT-16001	1:1 (X4)	20	1-2,3-4	--	5-6,7-8	6	0.2	1500	0.2	1	A
APT-16002	1:1 (X4)	35	1-2,3-4	--	5-6,7-8	8	0.2	1500	0.2	1	A
APT-16003	1:1 (X4)	50	1-2,3-4	--	5-6,7-8	9	0.35	1500	0.3	1	A
APT-16004	1:1 (X4)	75	1-2,3-5	--	5-6,7-8	10	0.35	1500	0.3	1	A
APT-16005	1:1 (X4)	100	1-2,3-4	--	5-6,7-8	10	0.4	1500	0.35	1	A
APT-16006	1:1 (X4)	150	1-2,3-4	--	5-6,7-8	12	0.4	1500	0.35	1	A
APT-16007	1:1 (X4)	200	1-2,3-4	--	5-6,7-8	15	0.45	1500	0.45	1	A
APT-16008	1:1 (X4)	500	1-2,3-4	--	5-6,7-8	25	0.5	1500	0.45	1	A

Test Conditions:

1. OCL: 100 mV @ 100 KHz with appropriate I_{bc}
2. R_L/I_L measurements assume 100 Ω media interface
3. DWV: 1,500 VRMS for 1 minute min; greater isolation voltage available

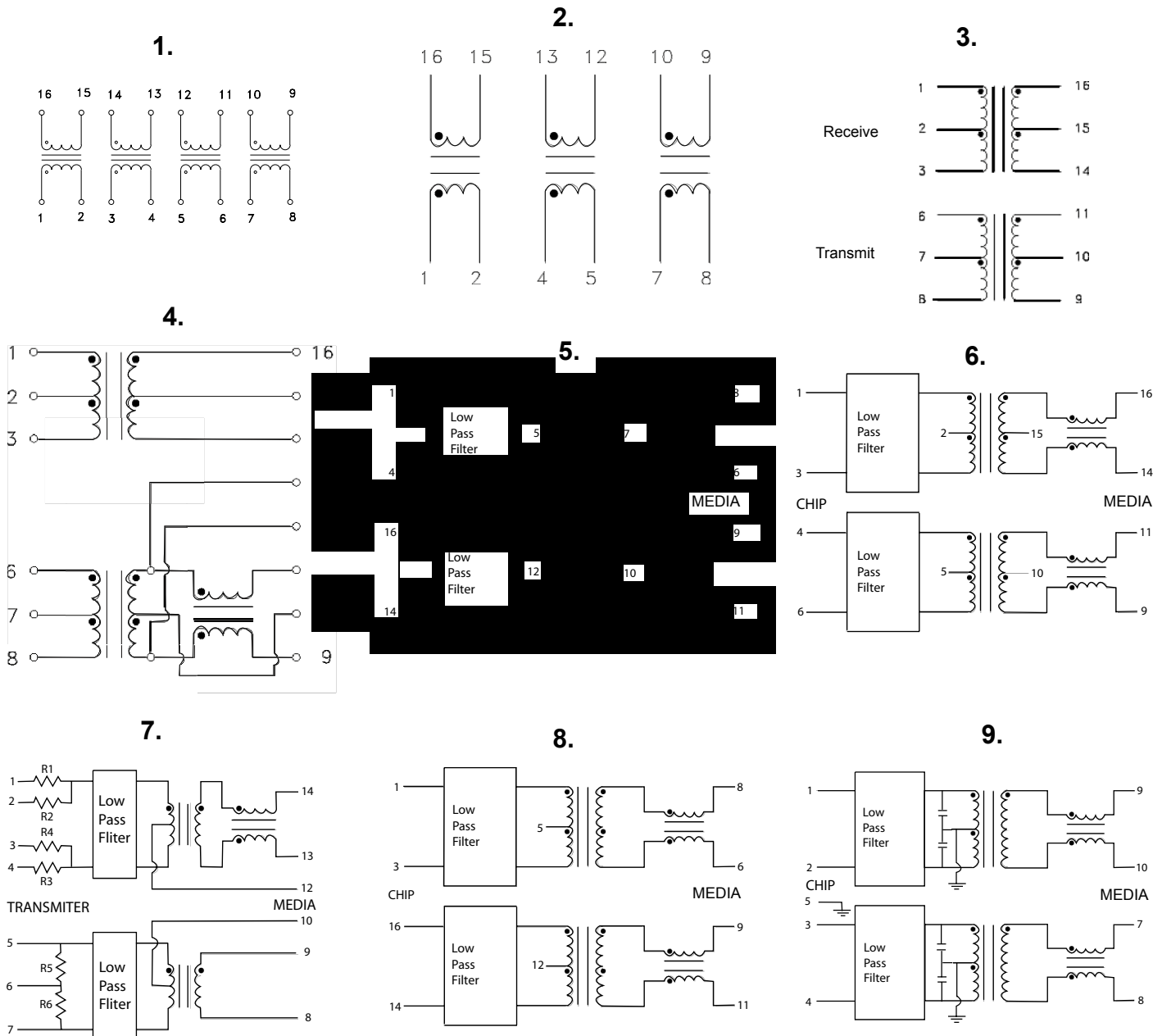


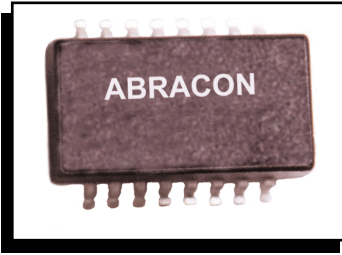
LAN Coupling Transformers (10Base-T and Ethernet)

Notes:

1. P/Ns with "T" as suffix are configured for through-hole applications
2. Designs include low-pass Butterworth filter arrays
3. Turns ratios are specified: "transceiver : media"
4. "CT" indicates a center-tapped winding, otherwise readings are intended to be across entire winding segment
5. Return loss measured in a 100 Ω circuit
6. Insertion loss measurement includes resistor array within filter section

CIRCUITS

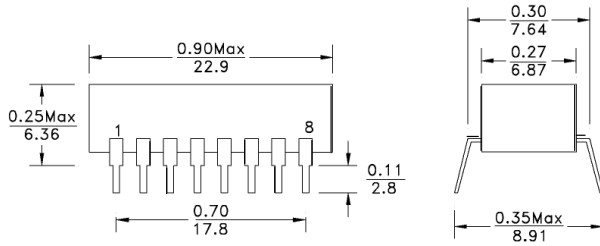




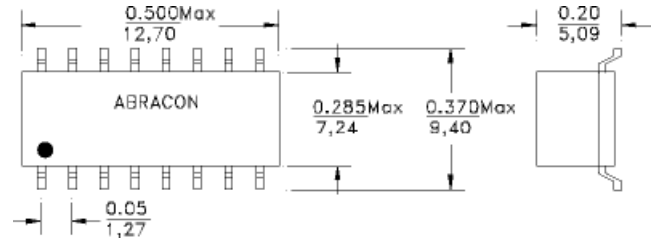
LAN Coupling Transformers (10Base-T CONFIGURATIONS)

PACKAGES

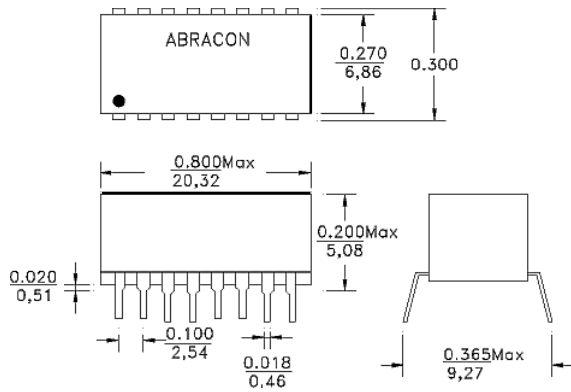
A.



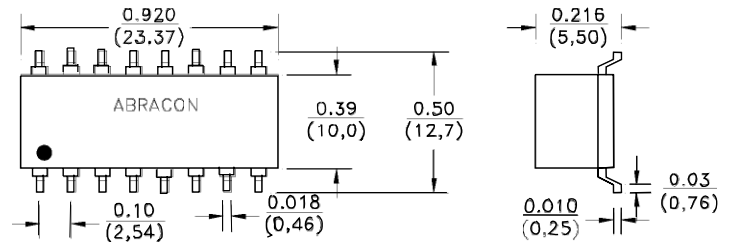
B.



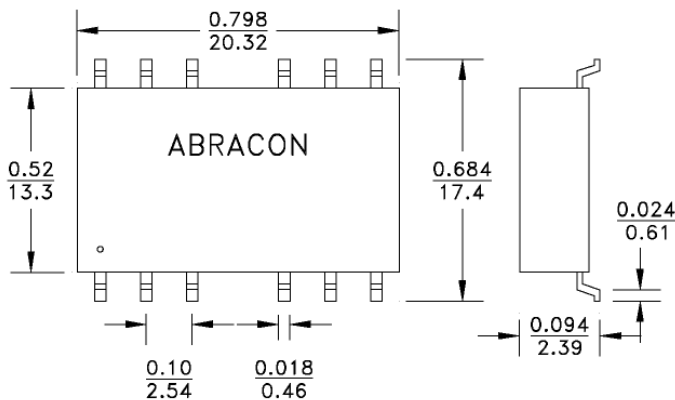
C.



D.



E.



F.

