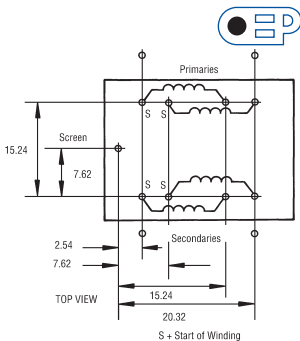


Audio Frequency

PCB Mounting High Performance



Transformer H = 22, W = 28, D = 23.
Screening can and cover H = 23, W = 29, D = 24.



A range of high performance, resin encapsulated, printed circuit board mounting miniature audio transformers. The transformers feature dual input and output windings for series or parallel connection enabling a wide range of input and output impedances to be matched.

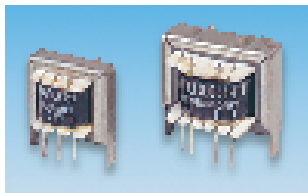
Ratings are 100mW @ 300Hz and 2.5mW at 50Hz. All the transformers feature an internal screen which when used in conjunction with the external screening can (Order Code 149-157) affords a 30dB reduction of external 50Hz field.

Impedance Matching Table

Turns Ratio	6.3+6.3 : 1+1		1+1 : 2+2		1+1 : 6.45+6.45	
	Primary	Secondary	Primary	Secondary	Primary	Secondary
Individual windings	150+150Ω	3.75+3.75Ω	150+150Ω	600+600Ω	150+150Ω	6.25+6.25kΩ
Series connected	600Ω	15Ω	600Ω	2.4kΩ	600Ω	25kΩ
Parallel connected	150Ω	3.75Ω	150Ω	600Ω	150Ω	6.25kΩ
dc resistance	10+10Ω	0.36+0.36Ω	10+10Ω	55+55Ω	9.6+10Ω	535+605kΩ
Freq. range (±3dB)	40Hz-35kHz	40Hz-35kHz	40Hz-35kHz	40Hz-35kHz	40Hz-25kHz	40Hz-25kHz

Ratio	Order Code	Price Each				
		1+	20+	50+	100+	250+
6.3+6.3 : 1+1	.149-840					
1+1 : 2+2	.149-155					
1+1 : 6.45+6.45	.149-156					
Screening can/cover	.149-157					

PCB Mounting, Miniature



A choice of two miniature PCB mounting audio matching transformers with ratios of either 1:1 centre tapped secondary or 3.6:1+1, split secondary.

Dimensions	H	W	D
177-893	19	16	16
177-894	27	20	21

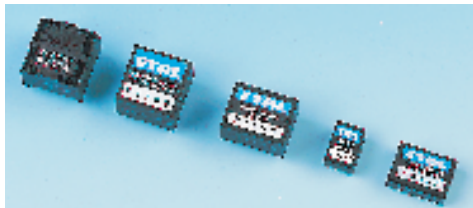
Turns Ratio	Primary Impedance	Secondary Impedance	Power Max.	DC Resistance Primary	DC Resistance Secondary	Frequency Range	Mftrs. List No.	Order Code
1:1CT	800Ω	800ΩCT	2mW	69	97	200Hz to 15kHz	E187A	177-893
3.6:1+1	3kΩ	250Ω	5mW	80	23+23	200Hz to 15kHz	E187B	177-894

Note: A feature of the design and construction of these transformers may cause the pin spacing to vary slightly.

Order Code	Price Each				
	1+	20+	50+	100+	500+
.177-893					
.177-894					

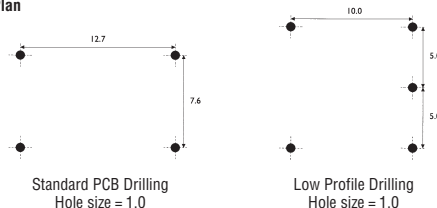
Isolating/Matching

600Ω Line Matching 1:1 PCB and Surface Mounting



Non-Encapsulated, Standard	Low profile	SMD Microprofile	SMD Hybrid
H = 12.6, W = 18, D = 18 Lead length = 3.5, Pin dia. = 0.65	H = 11, W = 15.5, D = 19 Lead length = 3.5, Pin dia. = 0.65	H = 7, W = 9, D = 12.7 Row spacing = 9.2 Pitch = 2.54	H = 7, W = 17.6, D = 12.7 Row spacing = 9.2 Pitch = 2.54

PCB Drilling Plan



- A full range of encapsulated transformers for voice and data applications
- Approved to **EN 60950** (reinforced isolation) and **EN41003**
- **BABT** Certificate of Recognition
- **CSA/NRTL** certified to **CSA C22.2 No. 950-95/UL 1950**

Standard Products	Non-Encapsulated	Low Profile Products	SMD Microprofile Products	Mftrs. List No.	Order Code
Voice & Data to 14,400 bps (V32bis)	Voice & Data to 2,400 bps (V22 bis)	Voice & Data to 14,400 bps (V32bis), Data to 28,800 bps (V34)	Voice & Data to 14,400 bps (V32bis) Data to 28,800 bps (V34)	P1200	149-152
Internet Compatible 28,800 bps (V34), (-10 dBm in line)			High Quality, low distortion, Voice & Data to 2,400 bps (V22 bis) Cost Effective.	P3034	760-973
Professional Quality >28,800 bps (V34), (0 dBm in line)			Voice & Data to 28,800 bps (V34) Professional Quality.	P2001	523-094
			Voice & Data to 28,800 bps, (includes 2 to 4 wire Hybrid)	P3081	760-985
				P3188	309-7997
				P3191	309-8000
				P3000	523-112

Freq. Response 200Hz - 4kHz	±0.2dB
Isolation, 50Hz	>3.88kVrms
Saturation Voltage, 50Hz	<10Vrms, 65Vpk
Balance, DC-5kHz	>80dB

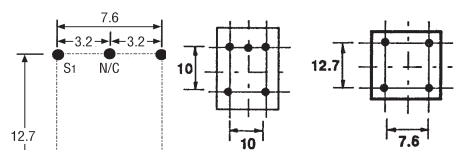
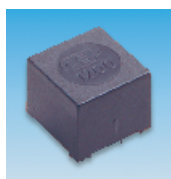
Order Code	Package	Return Loss*	Distortion**	D _c (per wdg)	Insertion Loss***
149-152	Std	>19dB	-91 dBm	59Ω - 73Ω	<1.5dB
760-973	Std	>19dB	-105 dBm	59Ω - 73Ω	<1.5dB
523-094	Std	>20dB	-110 dBm	59Ω - 73Ω	<1.5dB
309-8011	Non-encap	>16dB	-86 dBm	~95Ω	<1.8dB
180-000	LP	>20dB	-95 dBm	54Ω - 66Ω	<1.5dB
760-985	LP	>16dB	-100 dBm	85Ω - 105Ω	<3.0dB
523-100	SMD	>20dB	-89 dBm	102Ω - 123Ω	<2.0dB
760-997	SMD	>16dB	-96 dBm	135Ω - 165Ω	<4.0dB
309-7997	SMD	>18dB	-50 dBm 1	168Ω - 206Ω	<3.5dB
309-8000	SMD	>16dB	-93 dBm	270Ω - 340Ω	<4.5dB
523-112	SMD	>17dB	-100 dBm	N/A	<2.0dB

*300Hz - 3.4kHz 600Ω Network Terminating Impedance
**3rd Harmonic, -10dBm/600Ω @ 600Hz
† 3rd Harmonic, 0dB @ 450Hz
‡ Transhybrid Loss for 523-112 >30dB
***F = 2kHz, 600Ω

Standard Products	Order Code	Price Each				
		1+	10+	25+	50+	100+
V32 bis	149-152					
V34	760-973 ‡					
V34 Pro	523-094					
V22 bis (non-encap.)	309-8011					
Low Profile Products						
V32 bis	180-000					
V34	760-985 ‡					
SMD Products						
V32 bis	SMD 523-100					
V34	SMD 760-997 ‡					
V22 bis	SMD 309-7997					
V34	SMD 309-8000					
Hybrid	SMD 523-112					

‡ Not for new designs

600Ω Line Matching 1:1, High Speed BAPT Approved



482-330/482-341/136-890
482-328 (low profile):
177-497:

H = 15, W = 18, D = 18 (excl. pins)
H = 11, W = 19, D = 15 (excl. pins)
W = 18, D = 18, H = 12.7 (excl. pins)

177-497/482-330 /136-890

Fully encapsulated 600Ω 1:1 line isolating transformers for use in telecommunications data transmission as an isolation barrier between modems or similar devices connected to telecommunication lines. All the transformers are fully certified and approved to **BS415**, **EN60950** and **EN41003**, and carry a **BAPT** Certificate of Recognition.