

The continuous need of higher currents and availability of better switching transistors that offer very low RDSON and higher upper operating frequencies has boosted the development of transformers and chokes that match today's power designers' needs. Higher power, lower output voltages, lack of available space and high efficiency are common requirements in switch power systems.

The JQL planar transformers are optimised for power supplies of high performance DC/DC converters. Due to an optimised core, winding geometry and interleaving technology, they are able to offer a high efficiency and high power density of 600 watts per cubic inch, high efficiency, lower DCR and very low leakage inductance. They all are for SMD packaging concept, to provide the high quality at a greatly reduced assembly cost. They are intended for use in DC/DC converter power supply with forward, full-bridge, half-bridge and push-pull and power supplies.

The advantages of JQL planar transformer

- Lower profile
- Low weight
- Very low leakage inductance
- Low interwinding capacitances
- Low losses
- Excellent repeatability
- Improved thermal characteristics
- High reliability
- Excellent solderability
- High power handling
- Easier to cool
- SMD automatic assembly



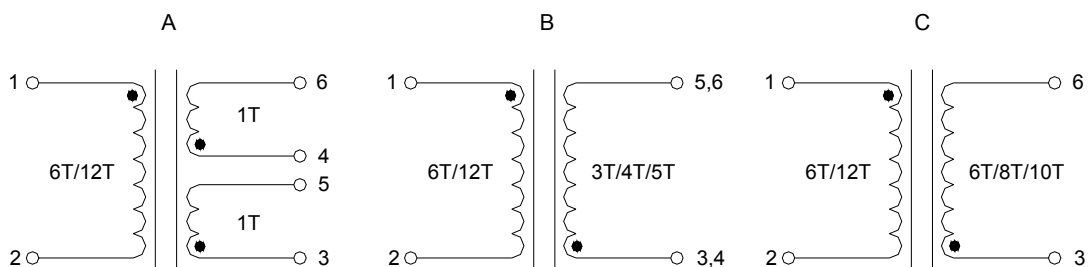
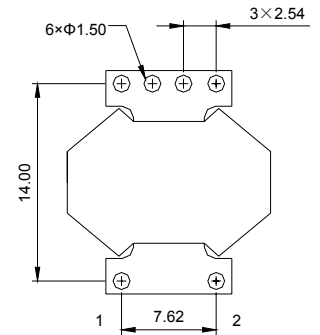
JPB14A SERIES HIGH FREQUENCY 15 WATTS PLANAR TRANSFORMERS

FEATURES

- Power Rating Up to 15 Watts
- High Efficiency
- Footprint 14.60 mm X 16.58 mm
- Lower Profile of 5.80 mm
- High Isolation (operational) 1500 Vdc
- High Frequency 200 kHz – 3.0 MHz
- Operating Temperature -40° C to +125° C
- Rohs compliance



ELECTRICAL SPECIFICATIONS										RECOMMENDED PCB LAYOUT	
Part Number	Primary ¹ Inductance (uH Min)	Leakage ² Inductance (uH Max)	DC Resistance (m Ω Max)			Turns Ratio		Figure	M. Height		
			Primary			Sec	Pri				Secondary
			A	B	AUX						
JPB14A0001	30.00	0.50	46	N/A	N/A	1.8	6 T	1T // 1T	A	5.8 mm	
JPB14A0002	30.00	0.50	46	N/A	N/A	3.6	6 T	2 T	A		
JPB14A0003	30.00	0.50	46	N/A	N/A	20	6 T	3 T	B		
JPB14A0004	30.00	0.45	46	N/A	N/A	40	6 T	6 T	C		
JPB14A0005	30.00	0.45	46	N/A	N/A	55	6 T	8 T	C		
JPB14A0006	30.00	0.45	46	N/A	N/A	100	6 T	10 T	C		
JPB14A0007	120.0	1.00	150	N/A	N/A	1.8	12 T	1T // 1T	A	5.8 mm	
JPB14A0008	120.0	1.00	150	N/A	N/A	3.6	12 T	2 T	A		
JPB14A0009	120.0	1.00	150	N/A	N/A	20	12 T	3 T	B		
JPB14A0010	120.0	0.95	150	N/A	N/A	40	12 T	6 T	C		
JPB14A0011	120.0	0.95	150	N/A	N/A	55	12 T	8 T	C		
JPB14A0012	120.0	0.95	150	N/A	N/A	100	12 T	10 T	C		



SCHEMATICS

NOTES:

1. The inductance is measured between Pin (1--2) at 100 kHz, 100 mVrms
2. The leakage inductance is measured in primary winding Pin(1--2) with secondary winding shorted.
3. All specifications typical at T_A=25° C ±5° C.

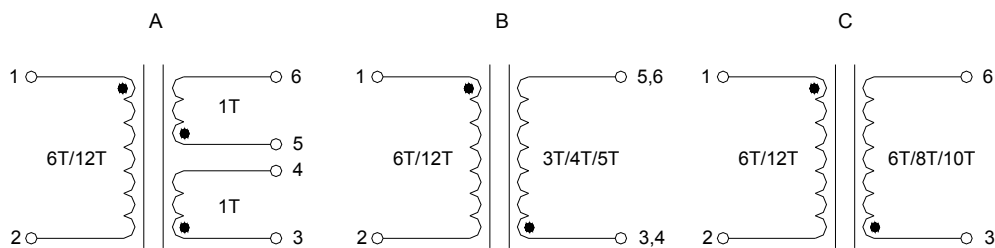
JPB18A SERIES HIGH FREQUENCY 30 WATTS PLANAR TRANSFORMERS

FEATURES

- Power Rating Up to 30 Watts
- High Efficiency
- Footprint 19.6 mm X 18.0 mm
- Lower Profile of 7.4 mm
- High Isolation (operational) 1500 Vdc
- High Frequency 300 kHz – 3.0 MHz
- Operating Temperature -40° C to +125° C
- RoHs compliance



ELECTRICAL SPECIFICATIONS										RECOMMENDED PCB LAYOUT		
Part Number	Primary ¹ Inductance (uH Min)	Leakage ² Inductance (uH Max)	DC Resistance (mΩ Max)			Turns Ratio		Figure	M. Height			
			Primary			Sec	Pri					Secondary
			A	B	AUX							
JPB18A0013	48.00	0.50	50	N/A	N/A	1.5	6 T	1T // 1T	A	7.4 mm		
JPB18A0014	48.00	0.50	50	N/A	N/A	3	6 T	1T+1T				
JPB18A0015	48.00	0.40	50	N/A	N/A	20	6 T	3 T				
JPB18A0016	48.00	0.40	50	N/A	N/A	40	6 T	6 T	C	7.4 mm		
JPB18A0017	48.00	0.30	50	N/A	N/A	60	6 T	8 T				
JPB18A0018	48.00	0.30	50	N/A	N/A	80	6 T	10 T				
JPB18A0019	190.0	1.50	156	N/A	N/A	1.5	12 T	1T // 1T	A	7.4 mm		
JPB18A0020	190.0	1.50	156	N/A	N/A	3	12 T	1T+1T				
JPB18A0021	190.0	1.30	156	N/A	N/A	20	12 T	3 T				
JPB18A0022	190.0	1.30	156	N/A	N/A	40	12 T	6 T	C	7.4 mm		
JPB18A0023	190.0	1.15	156	N/A	N/A	60	12 T	8 T				
JPB18A0024	190.0	1.15	156	N/A	N/A	80	12 T	10 T				



SCHEMATICS

NOTES:

1. The inductance is measured in primary windings Pin (1-2) at 100 kHz 100 mVrms.
2. The leakage inductance is measured in primary winding Pin (1 -2) with all other windings shorted.
3. All specifications typical at T_A=25° C.

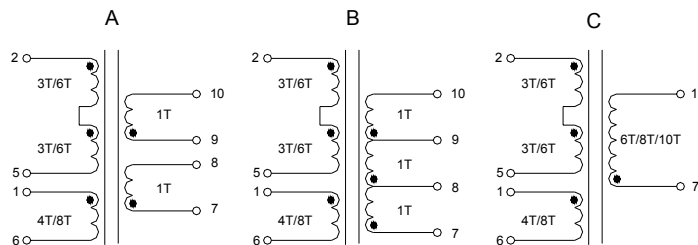
JPB20A SERIES HIGH FREQUENCY 100 WATTS PLANAR TRANSFORMERS

FEATURES

- Power Rating Up to 100 Watts
- High Efficiency
- Footprint 20.12 mm X 18.50 mm
- Lower Profile of 7.4 mm
- High Isolation (operational) 1500 Vdc
- High Frequency 200 kHz – 700 kHz
- Operating Temperature -40° C to +125° C
- RoHs compliance



ELECTRICAL SPECIFICATIONS										RECOMMENDED PCB LAYOUT	
Part Number	Primary ¹ Inductance (uH Min)	Leakage ² Inductance (uH Max)	DC Resistance (mΩ Max)				Turns Ratio		Figure	M. Height	
			Primary			Sec	Pri	Sec			
			A	B	AUX						
JPB20A0025	62.00	0.30	11.5	N/A	55	0.6//0.6	6 T	1T // 1T	A	7.4 mm	
JPB20A0026	62.00	0.30	11.5	N/A	55	0.6+0.6	6 T	1T+1T			
JPB20A0027	62.00	0.30	11.5	N/A	55	3 2.00	6 T	3 T			
JPB20A0028	62.00	0.25	23	N/A	110	12	6 T	6 T	C	7.4 mm	
JPB20A0029	62.00	0.25	23	N/A	110	20	6 T	8 T			
JPB20A0030	62.00	0.25	23	N/A	110	35	6 T	10 T			
JPB20A0031	248.0	0.75	47.5	N/A	130	0.6//0.6	12 T	1T //1T	A	7.4 mm	
JPB20A0032	248.0	0.75	47.5	N/A	130	0.6+0.6	12 T	1T+1T			
JPB20A0033	248.0	0.75	47.5	N/A	130	3 2.00	12 T	3 T			B
JPB20A0034	248.0	0.70	95	N/A	260	12	12 T	6 T	C	7.4 mm	
JPB20A0035	248.0	0.70	95	N/A	260	20	12 T	8 T			
JPB20A0036	248.0	0.70	95	N/A	260	35	12 T	10 T			



SCHEMATICS

NOTES:

1. The inductance is measured in primary windings Pin (2-5).
2. The leakage inductance is measured in primary winding Pin (2 -5) with all other windings shorted.
3. All specifications typical at T_A=25° C.

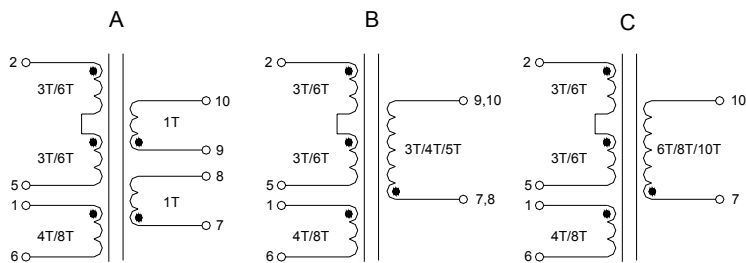
JPB20B SERIES HIGH FREQUENCY 75 WATTS PLANAR TRANSFORMERS

FEATURES

- Power Rating Up to 75 Watts
- High Efficiency of Over 98%
- Footprint 20.30 mm X 18.50 mm
- Lower Profile of 6.6 mm
- High Isolation (operational) 1500 Vdc
- High Frequency 200 kHz – 700 kHz
- Operating Temperature -40° C to +125° C
- RoHs compliance



ELECTRICAL SPECIFICATIONS										RECOMMENDED PCB LAYOUT	
Part Number	Primary ¹ Inductance (uH Min)	Leakage ² Inductance (uH Max)	DC Resistance (m Ω Max)				Turns Ratio		Figure		M. Height
			Primary			Sec	Pri	Sec			
			A	B	AUX						
JPB20B0037	54.00	0.20	20	N/A	103	1.5&1.5	6 T	1T // 1T	A	6.6 mm	
JPB20B0038	54.00	0.20	20	N/A	103	3.00	6 T	1T+1T	A		
JPB20B0039	54.00	0.20	20	N/A	103	4.50	6 T	3 T	B		
JPB20B0040	54.00	0.20	40	N/A	206	8.5	6 T	6 T	C		
JPB20B0041	54.00	0.15	40	N/A	206	15	6 T	8 T			
JPB20B0042	54.00	0.15	40	N/A	206	23.0	6 T	10 T	C		
JPB20B0043	216.0	0.85	70	N/A	150	1.5&1.5	12 T	1T // 1T	A	6.6 mm	
JPB20B0044	216.0	0.85	70	N/A	150	3.00	12 T	1T+1T	A		
JPB20B0045	216.0	0.60	70	N/A	150	4.50	12 T	3 T	B		
JPB20B0046	216.0	0.30	140	N/A	300	8.50	12 T	6 T	C		
JPB20B0047	216.0	0.25	140	N/A	300	15.0	12 T	8 T			
JPB20B0048	216.0	0.25	140	N/A	300	23.0	12 T	10 T	C		



SCHEMATICS

NOTES:

1. The inductance is measured in windings Pin (2-5) at 100 kHz 100 mVrms.
2. The leakage inductance is measured in winding Pin (2 -5) with all other windings shorted.
3. All specifications typical at T_A=25° C.

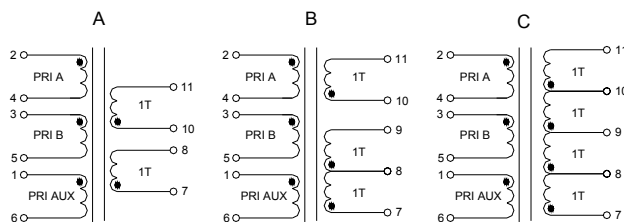
JPB25A SERIES HIGH FREQUENCY 150 WATTS PLANAR TRANSFORMERS

FEATURES

- Power Rating Up to 150 Watts
- High Efficiency of over 98%
- High Power Density of 600 Watts Per Cubic Inch
- Footprint 23.5 mm X 20.10 mm
- Lower Profile of 9.12 mm
- High Isolation (operational) 1500 Vdc
- High Frequency 200 kHz – 700 kHz
- Operating Temperature -40° C to +125° C
- RoHs compliance



ELECTRICAL SPECIFICATIONS											RECOMMENDED PCB LAYOUT	
Part Number	Primary ¹ Inductance (uH min.)	Leakage ² Inductance (uH max.)	DC Resistance (mΩ Max)			Sec	Turns Ratio		Figure	M. Height	9.12 mm Max	
			Primary				Pri (A/B)	Sec				
			A	B	AUX							
JPB25A0049	161.0	0.43	18	18	N/A	0.85 &0.85	4T/4T	1T&1T	A			
JPB25A0050	204.0	0.43	18	20	N/A		4T/5T					
JPB25A0051	252.0	0.48	20	20	N/A		5T/5T					
JPB25A0052	304.0	0.55	20	25	N/A		5T/6T					
JPB25A0053	362.0	0.60	25	25	N/A		6T/6T					
JPB25A0054	161.0	0.43	18	18	N/A	1.70 &1.70	4T/4T	2T&1T	B			
JPB25A0055	204.0	0.43	18	20	N/A		4T/5T					
JPB25A0056	252.0	0.48	20	20	N/A		5T/5T					
JPB25A0057	304.0	0.55	20	25	N/A		5T/6T					
JPB25A0058	362.0	0.60	25	25	N/A		6T/6T					
JPB25A0059	161.0	0.43	18	18	N/A	7.00	4T/4T	(1T:1T :1T:1T)	C			
JPB25A0060	204.0	0.43	18	20	N/A		4T/5T					
JPB25A0061	252.0	0.48	20	20	N/A		5T/5T					
JPB25A0062	304.0	0.55	20	25	N/A		5T/6T					
JPB25A0063	362.0	0.60	25	25	N/A		6T/6T					



SCHEMATICS

NOTES:

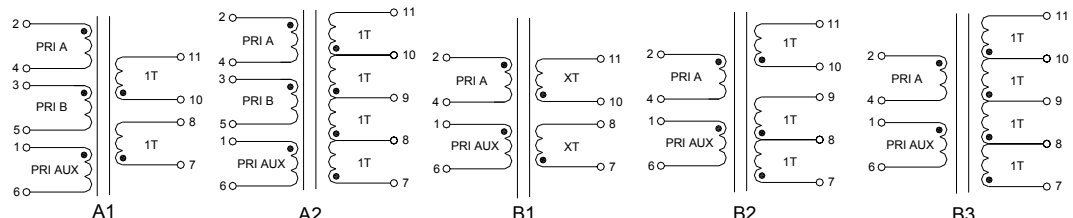
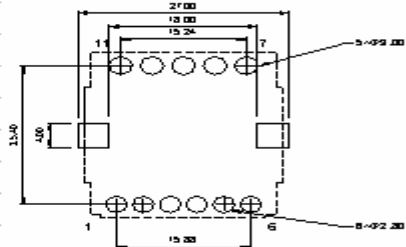
1. The inductance is measured with both primary windings connected in series Pin (2--5) with Pin (3--4) shorted.
2. The leakage inductance is measured in winding Pin (2 -4) with all other winding shorted.
3. All specifications typical at T_A=25° C.

JPB30A SERIES HIGH FREQUENCY 300 WATTS PLANAR TRANSFORMERS

- High efficiency 98%
- High Isolation (operational) 1500 Vdc
- High Frequency 200 kHz – 700 kHz
- Operating Temperature -40° C to +125° C
- RoHs compliance



ELECTRICAL SPECIFICATIONS										RECOMMENDED PCB LAYOUT	
Part Number	Primary ¹	Leakage ²	DC Resistance (mΩ Max)			Sec	Turns Ratio		Figure		Height
	Inductance (uH Min)	Inductance (uH Max)	A	B	AUX.		Primary	Sec			
JPB30A0064	46.00	0.30	10			1.20 &1.20	4T	1T&1T	B1	9.00 mm Max.	
JPB30A0065	73.00	0.30	12		468		5T (5T/aux)				
JPB30A0066	105.0	0.30	20		154		6T (2T/aux.)				
JPB30A0067	143.0	0.30	48		158		7T (3T/aux.)				
JPB30A0068	187.0	0.30	58			8T	2T&1T	B2			
JPB30A0069	46.00	0.30	10			4T					
JPB30A0070	73.00	0.30	12		468	5T (5T/aux)					
JPB30A0071	105.0	0.30	20		154	6T (2T/aux.)					
JPB30A0072	143.0	0.30	48		158	7T (3T/aux.)	4T	B3			
JPB30A0073	187.0	0.30	58			8T					
JPB30A0074	46.00	0.30	10			4T					
JPB30A0075	73.00	0.30	12		468	5T (5T/aux)					
JPB30A0076	105.0	0.30	20		154	6T (2T/aux.)	(1T:1T)	7T & 7T	B1		
JPB30A0077	143.0	0.30	48		158	7T (3T/aux.)	:1T:1T)				
JPB30A0078	187.0	0.30	58			8T					
JPB30A0079	46.00	0.30	10			4T					
JPB30A0080	73.00	0.30	12		468	42 &42	5T (5T/aux)	7T & 7T	B1		
JPB30A0081	105.0	0.30	20		154		6T (2T/aux.)				
JPB30A0082	143.0	0.30	48		158		7T (3T/aux.)				
JPB30A0083	187.0	0.30	58			8T	1T & 1T	A1	10.00 mm Max.		
JPB30A0084	187.0	0.30	10	10		4T&4T					
JPB30A0085	450.0	0.30	12	12	233	5T&5T (5T/aux)					
JPB30A0086	293.0	0.30	20	20	76	6T&6T (2T/aux)					
JPB30A0087	882.0	0.30	48	48	78	7T&7T (3T/aux)	4T	A2			
JPB30A0088	1152	0.30	58	58		8T&8T					
JPB30A0089	288.0	0.30	10	10		4T&4T					
JPB30A0090	450.0	0.30	12	12	233	5T&5T (5T/aux)					
JPB30A0091	648.0	0.30	20	20	76	6T&6T (2T/aux)	(1T:1T)	A2			
JPB30A0092	882.0	0.30	48	48	78	7T&7T (3T/aux)	:1T:1T)				
JPB30A0093	1152	0.30	58	58		8T&8T					



SCHEMATICS

NOTES:

- 1.The inductance is measured with both primary windings connected in series where applicable (type D: 2 to 5 with 3 and 4 shorted, type S: 2 to 4 only)..
- 2.The leakage inductance is measured with both primary windings connected in series where applicable in all other winding shorted.
- 3.All specifications typical at T_A=25° C