

# SHENZHEN HIGHSTARTECH ELECTRONICS CO., LTD

## HS-TP20B SERIES

### 1. FEATURES:

- (1) Power Rating Up to 75 Watts.
- (2) High Efficiency of Over 98%.
- (3) Footprint 20.3mm X 18.50mm.
- (4) Lower Profile of 6.6mm.
- (5) High Isolation (operational) 1500 Vdc.
- (6) High Frequency 200 kHz - 700 kHz.
- (7) Operating Temperature -40°C to + 125°C.

### 2. APPLICATIONS:

The HS-TP20B series of 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 efficiencies up to over 98 percent, high power density of 500 watts per cubic inch, but lower profile of 6.6mm. The series consist of 12 part numbers. They are intended for use of DC-DC converters supply with forward, full-bridge, half-bridge and push - pull power supplies. Topologies in application with input voltages between 18 and 75 volts, and output voltages from 18 volts down to 1.2 volts.

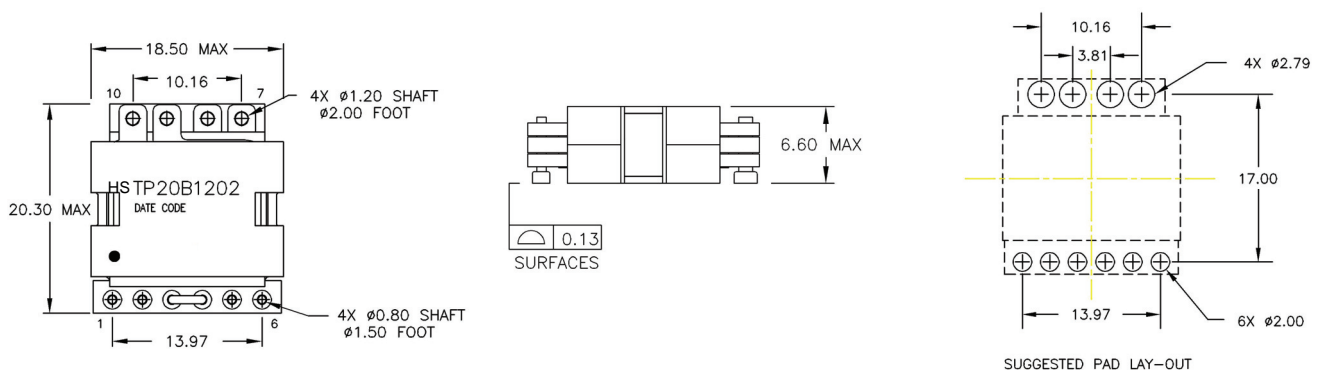
### 3. PART NUMBER SYSTEM:

HS-TP - 20B - 0601

(1)        (2)        (3)

- (1) Series name.
- (2) 20B is size.
- (3) 0601 is sequence number.

### 4. PHYSICAL CHARACTERISTICS:



# SHENZHEN HIGHSTARTECH ELECTRONICS CO., LTD

## HS-TP20B SERIES

### 5. ELECTRICAL CHARACTERISTICS:

ELECTRICAL SPECIFICATIONS											
Part Number	Primary <sup>1</sup> Inductance (uH Min )	Leakage <sup>2</sup> Inductance ( uH Max )	DC Resistance (mΩ Max)				Turns Ratio		primary Second Hi --Pot	Figure	M. Height
			Primary			Secondary	Primary	Secondary			
			A	B	AUX						
HS-TP20B0601	54	0.20	20.0	N/A	103	1.5&1.5	6 T	1T // 1T	1500 VDC	A	6.6 mm
HS-TP20B0602	54	0.20	20.0	N/A	103	3.00	6 T	1T+1T		B	
HS-TP20B0603	54	0.20	20.0	N/A	103	4.5.0	6 T	3 T		C	
HS-TP20B0606	54	0.20	40.0	N/A	206	8.50	6 T	6 T			
HS-TP20B0608	54	0.15	40.0	N/A	206	15.0	6 T	8 T			
HS-TP20B0610	54	0.15	40.0	N/A	206	23.0	6 T	10 T			
HS-TP20B1201	216	0.85	70.0	N/A	150	1.5&1.5	12 T	1T // 1T	1500 VDC	A	6.6 mm
HS-TP20B1202	216	0.85	70.0	N/A	150	3.00	12 T	1T+1T		B	
HS-TP20B1203	216	0.60	70.0	N/A	150	4.5.0	12 T	3 T		C	
HS-TP20B1206	216	0.30	140	N/A	300	8.50	12 T	6 T			
HS-TP20B1208	216	0.25	140	N/A	300	15.0	12 T	8 T			
HS-TP20B1210	216	0.25	140	N/A	300	23.0	12 T	10 T			

The following is a matrix of the winding configurations. They are ideally suited to hand between 35-75 watts of power supply on DC-CD converters application.

APPLICATION OF CONFIGURATION					
Part Number	Vin	Vout & Iout	Part Number	Vin	Vout & Iout
HS-TP20B0601	18 – 36 Vdc	1.2V@41.6A --1.8V@37.5A	HS-TP20B1201	36 – 75 Vdc	1.2V@41.6A --1.8V@37.5A
HS-TP20B0602	18 – 36 Vdc	2.5V@25.5A -- 3.3V@22.7A	HS-TP20B1202	36 – 75 Vdc	2.5V@25.5A -- 3.3V@22.7A
HS-TP20B0603	18 – 36 Vdc	5.0 V @ 15 A	HS-TP20B1203	36 – 75 Vdc	5.0 V @ 15 A
HS-TP20B0606	18 – 36 Vdc	8.0V@9.37A -- 10V@7.50A	HS-TP20B1206	36 – 75 Vdc	8.0V@9.37A -- 10V@7.50A
HS-TP20B0608	18 – 36 Vdc	12V@6.25A -- 15V@5.00A	HS-TP20B1208	36 – 75 Vdc	12V@6.25A -- 15V@5.00A
HS-TP20B0610	18 – 36 Vdc	16V@4.68A -- 18V@4.16A	HS-TP20B1210	36 – 75 Vdc	16V@4.68A -- 18V@4.16A

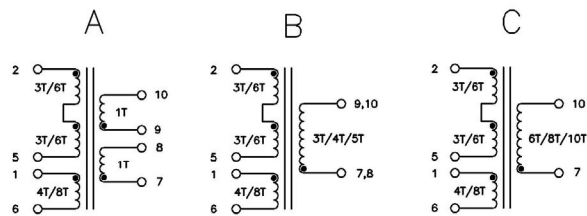
#### NOTES:

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<sub>A</sub>=25° C.

# SHENZHEN HIGHSTARTECH ELECTRONICS CO., LTD

## HS-TP20B SERIES

### 5. SCHEMATICS:



SCHEMATICS