4000VAC isolation test voltage, EPC13, flyback transformer



FEATURES

- 85 ~ 264VAC wide input voltage range
- EPC13 Bobbin
- Design to meet UL/EN 62368 standards

TTLS05-15B12T transformer series feature with 4000VAC primary to secondary isolation, an operating ambient temperature range of -40°C ~ +110°C. It can be used with our control IC SCM1703ASA to achieve flyback power supply design with wide input volatge range and various protection functions and superior EMI performance.

Selection Guide								
Part No.	Input Voltage (VAC)	Output Voltage (VDC)	Output Current (mA)	Auxiliary Voltage (VDC)	Auxiliary Current (mA)	Typical Power (W)	Typical Operating Frequency (kHz)	
TTLS05-15B12T	85 ~ 264	12	420	21.33	20	5	100	
Note: Pefer to Schematic for pins and phase points of the transformers								

Electrical Specifications									
Part No.	Inductar		DCR(m \O) Typ	К					
	Input Inductance	Leakage Inductance Max.	N1	N2	N3	(Flux Density Factor) (Gauss/A)			
TTLS05-15B12T	952.56±10%	80.00	4180	180	1420	5911			

Notes: 1)The test signal of the inductance are 10kHz and 100mV, test the leakage inductance of N1 based on N2 and N3 are shorted; ②To ensure the transformer will not saturate in all of the applications and conditions, the peak flux density(Bm) should remain below 3000Gauss. Use the following formula to calculate the peak flux density: Bm=K*Ipk, Ipk stands for the peak current of input, which unit is A; ③Approximate transformer core loss(Pcv) can be calculated as following formula: Pcv=3.9E-14*f^{1.82*} △ B^{2.59}, the unit of Pcv is W, f stands for operating frequency, which unit is kHz, $\triangle B$ is the operating flux density, which unit is Gauss. $\triangle B$ can be calculated as: $\triangle B = K^* \triangle I$.

General	Specificatior	ns					
ltem		Operating Conditions	Min.	Тур.	Max.	Unit	
ladetion	N1, N3 to N2	Electric Strength Test for 1 minute, leakage current <5mA	4000			VAC	
Isolation	N1 to N3	Electric Strength Test for 1 minute, leakage current <1mA	1000			VDC	
Operating Temperature [®]			-40		+110) _ເ	
Storage Temperature®			-40		+110		
Storage Humidity		Non-condensing			95	%RH	
Reflow Soldering Temperature®			Peak temp ≤60s over	o.≪245°C,ı 217°C.	maximum du	uration time	
Creepage Distance			5.7				
Clearance			5.7			mm	
Notes: ①The t	emperature of the tra	insformer (ambient plus temperature rise) should be within the opera	tina temperatu	ure ranae:			

2 The storage temperature of the transformer only;

³We suggest that times of reflow soldering should not exceed twice.

④The isolation strap of the peripheral is designed to meet the clearance and creepage distance.

Mechanical Specifications									
Weight	TTLS05-15B12T		4.20g (Typ.)						
Material Certification									
Material		UL No.							
Bobbin		E54705							

MORNSUN[®]

MORNSUN GUANGZHOU SCIENCE & TECHNOLOGY CO., LTD.

2019.09.10-A/0 Page 1 of 3

MORNSUN Guangzhou Science & Technology Co., Ltd. reserves the copyright and right of final interpretation

AC/DC Transformer TTLS05-15B12T



Таре	E17385
Wire 1	E234867
Wire 2	E206440
Varnish	E317427
Glue	E250719

Schematic



Dimensions and Recommended Layout



MORNSUN[®]

MORNSUN GUANGZHOU SCIENCE & TECHNOLOGY CO., LTD.



Tape and Reel Info



Device	Package Type	Pin	SPQ	Reel Diameter (mm)	Reel Width W1 (mm)	A0 (mm)	B0 (mm)	K0 (mm)	P1 (mm)	W (mm)	Pin1 Quadrant
TTLS05-15BxxT	SMD	10	300	330.0	44.4	24.21	14.81	<mark>8.5</mark> 0	24	44	Q3

Notes:

- 1. For additional information on Product Packaging please refer to <u>www.mornsun-power.com</u>. Packaging bag number: 58220092;
- 2. Unless otherwise specified, parameters in this datasheet were measured under the conditions of Ta=25°C, humidity<75%, 10kHz and 100mV;
- 3. All index testing methods in this datasheet are based on our company corporate standards;
- 4. We can provide product customization service, please contact our technicians directly for specific information;
- 5. Our products shall be classified according to ISO14001 and related environmental laws and regulations, and shall be handled by qualified units.

Mornsun Guangzhou Science & Technology Co., Ltd.

Address: No. 5, Kehui St. 1, Kehui Development Center, Science Ave., Guangzhou Science City, Huangpu District, Guangzhou, P. R. ChinaTel: 86-20-38601850Fax: 86-20-38601272E-mail: info@mornsun.cnwww.mornsun-power.com



MORNSUN GUANGZHOU SCIENCE & TECHNOLOGY CO., LTD.



MORNSUN Guangzhou Science & Technology Co., Ltd. reserves the copyright and right of final interpretation