

EFD20, flyback non-isolated transformer

FEATURES

- 160 ~ 264VAC input voltage range
- EFD20 Bobbin
- Simple process, high consistency



RoHS



TTLHE10-22B12D transformer an operating ambient temperature range of -40°C to $+110^{\circ}\text{C}$. It can be used with our control IC SCM1725ADEB to achieve flyback power supply design with wide input volatge range and various protection functions and superior EMC performance.

Selection Guide

Part No.	Input Voltage (VAC)	Output Voltage (VDC)	Output Current (mA)	Typical Power (W)	Typical Operating Frequency (kHz)
TTLHE10-22B12D	160 ~ 264	12	830	10	100

Note: Refer to Schematic for pins and phase points of the transformers.

Electrical Specifications

Part No.	Inductance ^① (uH)		K (Flux Density Factor) (Gauss/A)
	Input Inductance	Leakage Inductance Max.	
TTLHE10-22B12D	1070.00±10%	100.00	5357

Notes: ①The test signal of the inductance are 10kHz and 100mV, test the leakage inductance of N1 based on N2 is 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: $B_m = K \cdot I_{pk}$, I_{pk} stands for the peak current of input, which unit is A;
 ③Approximate transformer core loss(Pcv) can be calculated as following formula: $P_{cv} = 3.9E-14 \cdot f^{1.82} \cdot \Delta B^{2.59}$, the unit of Pcv is W, f stands for operating frequency, which unit is kHz, ΔB is the operating flux density, which unit is Gauss. ΔB can be calculated as: $\Delta B = K \cdot \Delta I$.

General Specifications

Item	Operating Conditions	Min.	Typ.	Max.	Unit
Operating Temperature ^①		-40	--	+110	°C
Storage Temperature ^②		-40	--	+110	
Storage Humidity	Non-condensing	--	--	95	%RH
Soldering Temperature	Wave-soldering	260 ± 5°C; time: 5 - 10s			
	Manual-welding	360 ± 10°C; time: 3 - 5s			

Notes: ①The temperature of the transformer (ambient plus temperature rise) should be within the operating temperature range;
 ②The storage temperature of the transformer only.

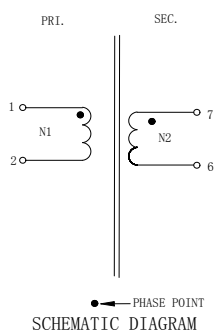
Mechanical Specifications

Weight	11.00g (Typ.)
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Material Certification

Material	UL No.
Bobbin	E41429
Tape	E17385
Wire 1	NA
Wire 2	NA
Varnish	E317427
Glue	E250719

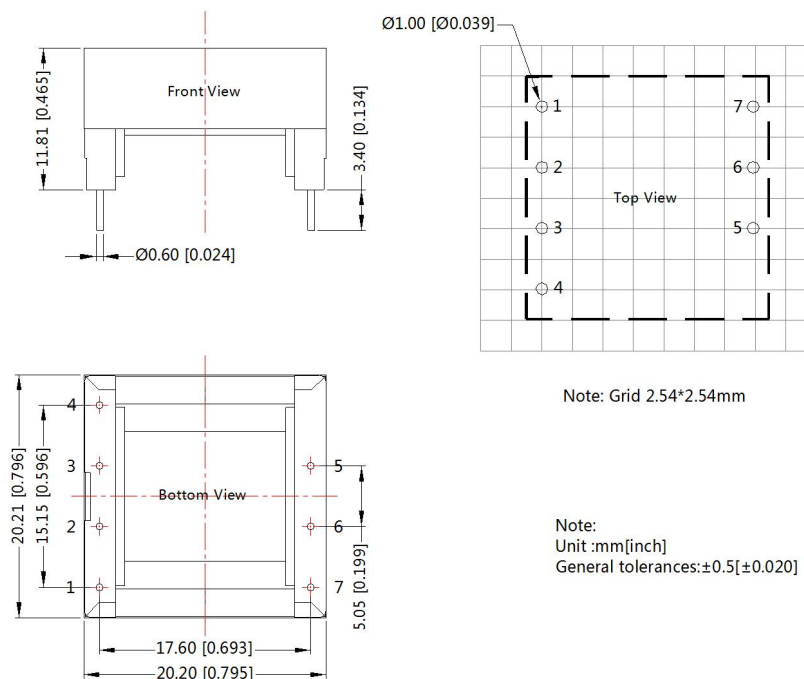
Schematic



Turns Ratio	TTLHE10-22B12D
N1: N2	100: 13
Note: Input: N1, output: N2.	

Dimensions and Recommended Layout

THIRD ANGLE PROJECTION



Notes:

- For additional information on Product Packaging please refer to www.mornsun-power.com. Packaging bag number: 58220093;
- Unless otherwise specified, parameters in this datasheet were measured under the conditions of Ta=25°C, humidity<75%, 10kHz and 100mV;
- All index testing methods in this datasheet are based on our company corporate standards;
- We can provide product customization service, please contact our technicians directly for specific information;
- Our products shall be classified according to ISO14001 and related environmental laws and regulations, and shall be handled by qualified units.

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